

---

## Survey response 13

### Contact details and treatment of confidential responses

Contact details: [Organisation][ <input type="checkbox"/>
---

Bundesverband Neue Energiewirtschaft e.V. (bne) / Association of Energy Market Innovators
---

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]
---

### CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?
---

First and foremost, digitalisation describes a technological change. In addition to the purely technical dimension, it also encompasses a multitude of other dimensions. From a technical point of view, digitalisation is the process of converting an analogue signal to a digital carrier system. Since the early 1990s, this change has been taking place more and more rapidly: computer performance, storage media and data transmission are becoming larger, faster and cheaper. Digitalisation has now found its way into almost all industries. It is therefore no coincidence that there is talk of a new industrial revolution - the "digital revolution". This revolution is accompanied by a profound cultural, social and economic change in circumstances that has far-reaching effects on every individual.

The complexity of digitalisation illustrates one of its typical consequences: Sectors that have had little or nothing to do with each other are converging. There are good reasons for this. In the past, energy business models were usually clearly defined in economic and legal terms. The value chain was more or less as follows: The electricity supplier buys electricity from the producer and delivers it to the consumer via the grid. This structure is linear; the interfaces at which the market players come into contact with other market partners are determinable and limited in number. The digital transformation in combination with the energy system transformation (power is no longer fully generated from centralized and conventional thermal power plants, but increasingly produced from a large number of variable renewable sources connected at distribution level) breaks through this linear structure.

Smart metering is becoming the core of the digital energy industry: Operating metering systems, particularly for most household and commercial customers (for industrial customers the case is slightly different), is changing from reading one data point once a year to managing large and constantly changing data clouds. The data streams need to be made available to third parties (companies such as energy service providers / aggregators / suppliers and others, prosumers and other final consumers).

For economic success of the digitalization in the energy sector, it is necessary to enable market actors to develop value-added services and create additional business opportunities. The basic challenge is this: Which economic advantages can be achieved by using the data streams in the core business of the market partners?

Network operators will benefit from new tools to manage their grids more efficiently and integrate increasing amounts of intermittent renewables into the system. In the long term, interaction between intelligent appliances, smart grids and home platforms will be key for unlocking consumption patterns based on automation and remote controls.

Obstacles related to the smart meter roll-out which need to be overcome include: data privacy and cybersecurity concerns, lack of standardization and interoperability, as well as data access organized in an efficient and non-discriminatory way for all authorized parties and market actors. Many of these challenges will only be mastered if the regulatory framework is fit for purpose and all types of data are covered by consistent and appropriate regulation. In this context, we strongly welcome CEER's consultation on the topic of digitalisation.

---

2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?

Generally speaking, bne agrees with CEER's perspective on digitalisation. We also believe that digitalisation has the potential to enhance productivity of the current energy system, offers the opportunity to develop new products and services, including greater variety of pricing models, and also may disrupt and transform the way the sector transacts.

a. bne supports the views presented in Chapter 2.1.1.

b. bne supports the views presented in Chapter 2.1.2.

c. bne supports the views presented in Chapter 2.1.3.

3. In your view, what are the most important value propositions for consumers, which should be prioritised?

bne fully agrees with the consultation paper's assessment that it is important to distinguish between different consumer categories, as indeed the level and possibility of engagement differs vastly between large industrial consumers, small and medium size businesses and household consumers.

With respect to household consumers, we agree with the analysis that the value proposition basically relies on either cost savings, convenience, choice, consumer participation or some form of combination of these four elements. Overall, we also agree with the description of issues and challenges related to these elements.

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.

In principle, we agree with the assessment and analysis presented in the consultation paper. Technological innovations and digitalisation are likely to stimulate consumers' interest and desire to actively engage and participate in energy markets. However, this is neither a causal relation nor a sure-fire success.

Especially, if consumers need help from 3rd-party service providers in order to realize any of the above mentioned benefits, they will not give consent to access their data if they are not well informed about the benefits of doing so. Equally important to technological innovations are information campaigns to consumers explaining the benefits and advantages of the new services available. In addition, trust of consumers in the new services must be build. In that respect, the public sector could lead by positive example and take a role model function.

## 5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?

•  An enabling smart grid infrastructure / smart meters with appropriate functionalities and the availability of real-time metering data:

Smart meters are an enabling technology that can be used to provide services that may result in a wide range of benefits for all parties across the electricity supply chain, including consumers. Advances in metering technology, and the energy products and services this technology enables, can give consumers more choice and control. With the right technology, information and price signals, consumers are better able to decide how and when they use electricity, and manage the costs of those decisions.

Common minimum functionalities as defined by the European Commission in 2012 (2012/148/EU) need to be implemented on national level. In addition, those functionalities need to be refined further, based on a reasonable balance between cybersecurity considerations; standardization and interoperability needs and market-driven technological developments while bearing in mind the costs and principles of proportionality.

In addition, it is important to bear in mind that different customer groups (even within the main categories of industrial, commercial and residential customers there are differences!) have different possibilities to participate in the energy market. This means that different offers are needed, e.g. smart meters have to be able to meet different requirements by offering differentiated technologies. The German example of “one-size-fits-all” is not an ideal approach since sufficient functions have to be available in order to be able to make a suitable offer (which currently is not the case). Key is a possible differentiation according to usability for different customer groups.

•  Effective Unbundling:

If DSOs are involved, appropriate unbundling will be essential. A true level-playing field should prevent cross-subsidization of energy supply or energy service activities by means of using profits or information advantages from regulated business activities as this leads to market distortions. Such unfair practices are extremely hard to control, even more so in Germany with the high number of not fully unbundled business entities. Currently, more than 90% of DSOs in Germany are not fully unbundled due to the high de-minimis threshold (- in the case of electricity that is 800 out of 875!). Most important is at least operational unbundling without any exemptions since violation of informational unbundling is extremely difficult to prove in court.

•  Market-driven electricity prices:

For producers and consumers to react increasingly flexible to the intermittent supply of electricity from renewable energy sources, it will be essential to allow for market price signals as undistorted as possible.

•  An innovation friendly regulatory framework:

An agile approach to regulation is a critical enabler of innovation. There is the need to ensure that existing regulatory frameworks evolve so that they do not hamper the development of technology or new business models. Furthermore, there is the need to ensure that where emerging technologies or business models create regulatory grey spaces, that regulators respond with new governance frameworks that address the issue, that business can practically apply and that can keep pace with technological development.

The regulatory framework needs to ensure well-functioning markets. This in particular means that all market players should compete on a level playing field, that freedom of contract should be respected and that technology neutrality needs to be respected. It also means that a stable regulatory framework which focuses on defining enforceable principles must be preferred over detailed and prescriptive rules.

6. What are the main risks for consumers arising from digitalisation of the energy sector?

• Being able to navigate complex markets:

Greater variety of (bundled) products and (personalized) services means more complexity that needs to be navigated by the consumer. Simple price comparison tools will not be sufficient anymore. However, we do not think that this is necessarily an issue. On the contrary, this shows that there is innovation in the market and competitive advantages are created – which is positive. From our market-driven perspective and experience, we strongly caution to aim for a fully regulated and pre-defined comparability of products, as this in the end would mean that companies will be forced to limit their offers to standard products, thereby discouraging – or even worse, entirely preventing – innovation.

Key in our view is that:

o Contractual terms and conditions are fully transparent and easily understandable by the consumer. They also need to be communicated in a transparent way.

o The terminology used in a bundled product offer, contract and bill is fully consistent, as it should be the case with any single product.

Under these conditions, the consumer should be able to take an informed decision.

• Data privacy & Data security:

Digitalisation of services leads service providers to process an ever increasing amount of data. Ensuring data privacy and protection is key and needs to be embraced by any energy market party or system operator. The recently adopted Data protection regulation (GDPR) provides a useful framework from this perspective. Protection of privacy is one important aspect of a secure infrastructure; another extremely important aspect is data security – also referred to as cybersecurity. However, "safety and security at all costs" should not inhibit innovation altogether. Regulators should therefore strive for a reasonable balance between security, costs and time to implement.

• Avoid lock-in by proprietary systems that are not interoperable with other systems:

Interoperability is one of the most critical aspects in a digitized economy and a not to be underestimated risk consists of consumers being locked-in by proprietary systems that are not able to communicate with other systems.

• Avoid social upheavals as a result of energy transition & digitalisation:

For the social acceptability of the energy transition enabled by digitalisation (as digitalisation is not a goal or end in itself, but rather a tool to support overarching goals such as decarbonization and competitive markets) it will be of utmost importance to avoid disproportional disadvantages by the digital divide. Equally important, the overall system must be kept fair to all customers, especially for those who cannot or wish not to take an active part in the market.

7. What would a “whole energy system” approach look like – would this unlock more benefits of the digitalisation of the energy system?

A “whole energy system” approach would support sector integration and apply digitalisation to enable services and bundled products, which may include electricity, heating & cooling as well as transport. For example, there are considerable efficiency potentials which could be exploited, if the consumption-dependent measurement and billing of heating, hot water and cold water costs for private and commercial properties (e.g. apartment buildings, office buildings, business premises or industrial parks) could be combined with digitalized electricity and gas metering.

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

In general, we applaud CEER for this work. The presented document is both, quite complete and extremely relevant regarding the challenges related to the digitization of the system. Furthermore, the document raises the right questions for regulators to provide appropriate answers for. As CEER points out, the key challenge for regulators will be to ensure that policy and regulation does not create an unjustified barrier to innovation while continuing to empower and protect consumers during the transition.

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

Regulators should pursue

---

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models (“sandboxes”). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Please explain your choices to the above question in the comment box below.

We would suggest focussing on the following topics and draft proposals:

•  Draft regulatory proposals 1 and 2 on data availability:

On March 20th, 2019 European Energy Retailers (EER) and ESMIG jointly organized a workshop on access to energy data to discuss what the current barriers are and how they can be overcome. The presentations and discussions revealed that the current regulatory environment on national level is not yet suited for an efficient introduction of energy / flexibility management. For example, in some countries there are delays in the access of consumption data by retailers of up to a week. Moreover, in self-consumption facilities retailers receive the consumption data but not the generation data. Therefore, retailers and other service providers cannot offer to consumers tailored services to enable actionable information. It will be crucial to define processes and procedures for sharing measurement data with all authorized energy market participants in an open and non-discriminatory manner. In case of deficiencies, it helps if the regulatory authority is imposing sanctions.

•  Draft regulatory proposals 7 and 9 on network tariffs:

The structure of network tariffs is key when transitioning to and achieving a future-proof energy system with high shares of renewable energy, enormous flexibility needs and crucial sectors such as transport and heating & cooling being electrified and decarbonized: The network tariff structure makes or breaks new business models!  Historically, tariff structures in most EU Member States depend on the consumed volume (volumetric charges > EUR/kWh). As consumed volume traditionally was correlated with capacity, the tariff structure used to reflect the users' imposed costs to the grid. However, with the introduction of prosumers and larger peak demand requirements from e.g. electric heating and electric vehicles, costs imposed on the grid are less and less linked to consumed volume.

For example, PV systems and batteries allow grid users to react to the way electricity supplied through the grid is priced. PV enables consumers to self-produce energy and thereby lowers the net energy need from the grid, while batteries enable self-producers to regulate both their grid energy flows and capacity parameters. These developments contrast the recent past, in which network tariff design did not matter much as low-voltage consumers had few substitutes for grid-supplied electricity.

The new situation implies a challenge on historic network tariff structures in that users are not always paying the costs that they inflict on the grid, while instead socializing this cost on the grid users leading to discrimination. This may be the case for resources that are exempted from network tariffs but still impose costs on the grid through e.g. reverse flows or continued reliance on the grid in some periods (as infrastructure costs are mainly driven by the topology of the network and by capacity). On the other hand, network tariff structures which address the cost socialization problem should not prohibit self-consumption (as this is an important pillar of the future energy system!). Though, one aspect in the whole discussion should not be neglected: the grid infrastructure still needs to be financed!

In addition to the discrimination / cost socialization problem, there are other challenges which need to be addressed in the network tariff design discussion: In terms of sector coupling and electrification (> transport, > heating & cooling), high volumetric charges discriminate the use of electricity against oil and gas. There is a systemic disadvantage in price which hampers the electrification of those sectors and thereby, prevents decarbonization.

In terms of flexibility, high volumetric charges can also be problematic as they prevent increased consumption which for example could help to absorb electricity in times of oversupply by RES (for example heating water with electricity). Rigid fixed capacity charges can also pose challenges to flexibility needs. In Germany for example, those providing demand-side flexibility may face higher network tariffs as the regime is incentivizing consumers to maintain a flat consumption profile, often removing any business case for demand response. We strongly encourage NRAs to review network tariffs to ensure they are fit for the future while making sure that all consumers are paying a fair contribution towards the fixed costs of the system.

In addition, we also strongly encourage NRAs to end the practice of individual network tariff and price structures of distribution network operators. Consequent and consistent standardization (at the very least at Member State level) is needed in order to be able to collect and process the required data for all kind of offers towards the end consumers. Digital data provision on part of the DSO should not only focus on the consumer, but all market parties. They should be able to receive the required data in a standardized, digital format (and not in pdf-format as it is currently the practice in Germany of 1.600 gas and electricity network operators that publish their individual network charges in all types of pdf-formats using their own style and layout on their homepages!).

•  Draft regulatory proposal 10 on market based procurement of flexibility services by DSOs:

Distribution System Operators (DSOs) are facing many challenges in adapting to the new reality of a highly digitalized, decarbonized and decentralized energy system. The main challenge is the occurrence of grid constraints / local congestion. Historically, congestion at the distribution level has been dealt with through planned upgrades of distribution system components. Such upgrades however, on the one hand are quite costly and on the other hand, cannot follow the fast uptake of distributed energy resources (DERs) in the distribution network in all cases. Therefore, active congestion management is becoming increasingly important.

The use of flexibility – i.e. adjusting the demand profiles to the supply peaks in renewable generation – can help DSOs to prevent local congestion and avoid power quality problems. In the short-term, flexibility can help releasing pressure on the distribution network and in the long-term, flexibility can serve as an alternative to network reinforcement when it is more cost-efficient than traditional reinforcement measures. These overall developments and the suggested use of flexibility put the role of the DSO in accessing flexibility services and the needed update of accompanying regulatory frameworks into the spotlight.

We fully support a regulatory framework that allows and incentivize DSOs to procure flexibility services through the market: Crucial is the question how tools and principles to enable flexibility use at the distribution level go hand in hand with neutrality on part of the DSO. Since, in order to avoid market distortions, it remains essential that DSOs are neutral when performing their tasks

and are sufficiently unbundled from the interests of flexibility providers. In addition, it will be crucial to set flexibility product standards for the low voltage distribution network at the very least on Member State level. Especially in Germany with 900 DSOs (and some of them being extremely small), it won't be an efficient solution to end up with each DSO defining its own product and qualification rules. Small-scale and patchwork structures create serious entry barriers for market participants, including high transaction costs and other business process risks. For reasons of efficiency and market liquidity, creating sufficiently large DSO areas for operating flexibility markets will be crucial. In particular in Germany with its special DSO structure, it must be ensured that sufficiently large areas for flexibility procurement are bundled and merged, so that prices can be formed efficiently and no market power problems arise.

• Draft regulatory proposal 6 and 7 on new market roles (intermediaries) and new business models:

The integration of new market roles and business models requires a fundamental rethinking of the regulatory framework. If regulators only focus on the new market roles and business models, there is the danger of a “two-tier regulation” approach. Therefore, we would like to stress the current opportunity to evaluate the existing requirements and to limit the future development of the regulatory framework to those requirements that must be met by both, classical existing market roles as well as by new market roles or respectively classical and new business models. This ensures that a balance is struck between responsibilities and opportunities for new and existing market roles alike. The financing of the default role could serve as a good example to illustrate the issue (in case something goes wrong, such as a new market actor going out of business, there is someone assigned to take over the risks and protect consumers in case of failure, company bankruptcy, etc.): If the default role is clearly defined, this opens up opportunities for new and innovative market actors while the regulatory authority can adapt the regulatory framework step by step and there is no overregulation against unknown risks which might prevent new actors from entering the market to begin with. However, those actors profiting from the new opportunities should also contribute in a fair way to the financing of the default role.

• Draft regulatory proposal 4 on cybersecurity:

We fully agree that cybersecurity is fundamental and critical infrastructure should be protected as much as possible to avert most threats. However, in all security efforts a balance assessment between hazard potential and expenditure for the suggested security measures is needed. A general obligation that all operators of non-critical infrastructures have to fulfill the same security levels and duties as the operators of critical infrastructure (as defined by the EU Directive on Security of Network and Information Systems and subsequent national regulation) is exaggerated and unreasonable, especially with regard to the overall costs and process-related delays in rolling-out new products and services. Obligations have to be designed according to the technologies in use and according to the potential risks involved. It will be important for national regulatory authorities to strengthen their expertise, skills and capability in the digital realm. However, as stated by CEER in its Cybersecurity Report published in October 2018, an excessively burdensome administrative approach should be avoided.

The following proposals seem less essential:

• Draft regulatory proposal 3 on data privacy:

We fully agree that data privacy is a fundamental issue. At the same time the EU has just adopted the General Data Protection Regulation (GDPR) which should tackle most of these concerns. Nonetheless, a meaningful examination of the applicability of data privacy and protection rules in specific industry areas or different sectors is required. Cooperation between different authorities is important and necessary, but not sufficient. Any general roll-out of data protection requirements must be critically examined for specific target groups. Digitalisation connects and interlinks areas that previously had nothing to do with each other. Institutions must review their proposals open-minded to see whether they may have negative effects due to “institutional unawareness” of the specific conditions in a certain sector or with specific user groups.

• Draft regulatory proposal 5 on consumer protection regarding new products (from dynamic pricing to bundles):

This is relevant and required by the Electricity Directive. We would agree that trying to maximise reliance on general consumer law will help. More cooperation between regulators across sectors is also crucial.

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 1]

Regulatory proposal 1

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 2]

Regulatory proposal 2

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 3]

Regulatory proposal 7

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 4]

Regulatory proposal 9



---

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 5]

Regulatory proposal 10

10. Do you have any other general observations to make on the topic of this consultation paper?

This CEER document is quite comprehensive and provides a relevant analysis of most key issues related to the digitalisation of the energy sector. The purpose of this document, however, and which concrete processes will result from it, could be specified in more detail. Some of the questions are extremely broad ("What impact do you consider that digitalisation will have on the energy system?") and it is difficult to give exhaustive answers.

Last but not least, it might be useful to link this work stream with the current discussions in the Smart Grid Task Force Expert Groups and in addition, with the study currently carried out by PWC and Tractebel on behalf of the European Commission an "Assessment and roadmap for the digital transformation of the energy sector towards an innovative internal energy market".

---

## Survey response 16

### Contact details and treatment of confidential responses

Contact details: [Organisation][[]]
-------------------------------------

Joint Radio Company
---------------------

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]
---

### CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?
---

At the core of the digitalisation of the energy system is the opportunity to increase the utilisation and productivity of the existing energy networks which is dependent on the introduction of enhanced operational telecommunications capability to allow the energy flows to be monitored and controlled in real time. The establishment of this capability is fundamental to enabling the other benefits of digitalisation identified. Furthermore the scale and potential of gains that can be realised as a result of such enhanced functionality are well understood and tangible. To support such developments it is imperative that due consideration be given to enabling access to radio spectrum for the Energy Utilities across Europe to allow enhanced operational control networks to be deployed to facilitate digitalisation. The UK Energy Network operators have identified the importance of spectrum access in their recent publication
--

<a href="http://www.energynetworks.org/assets/files/ENA%20STG%20Comms%20Brochure_TCL_Final%20v4%20issued.pdf">http://www.energynetworks.org/assets/files/ENA%20STG%20Comms%20Brochure_TCL_Final%20v4%20issued.pdf</a>
---

2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?
--

As noted in response to Question 1 we advocate an emphasis on the network gains both from a utilisation and productivity perspective that can be realised through digitalisation. We believe that the other benefits identified are secondary and dependent on enhanced network functionality and access to real-time data from the networks.
---

3. In your view, what are the most important value propositions for consumers, which should be prioritised?
---

No Comment
------------

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.
--

Yes digitalisation will lead to more consumer participation in Energy Markets.
--

The ability for network operators to better understand and control energy flows in the networks which is dependent on real-time monitoring and control of energy flows will inevitably inform the future interaction with consumers and embedded energy systems. This will inevitably result in a better informed and more engaged consumer who will be able to respond flexibly to market signals to their benefit.
--

5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?
---

As noted in our response to question 1 is access to real time data across the Energy Networks, currently very few of the assets within energy networks are active and subject to real-time control and monitoring. This real time data from network assets is crucial to realising the benefits of digitalisation and cost effectively facilitating embedded generation to develop over time. Without real-time data the opportunity to enhance network utilisation and productivity without significant infrastructure investment will not be realised. A key enabler of this enhanced monitoring and control is access to radio spectrum to facilitate the roll-out of active network management across the energy networks.
--

6. What are the main risks for consumers arising from digitalisation of the energy sector?
--

No Comment
------------

7. What would a “whole energy system” approach look like – would this unlock more benefits of the digitalisation of the energy system?

The 'Open Networks Project' being co-ordinated by the Energy Networks Association in the UK advocates a Whole System approach as it allows the energy market to leverage the investment across both Gas and Electricity Energy supply chains and recognises the complementarities of the two infrastructures / systems. Furthermore, there are developments underway in the UK to explore the decarbonisation of the gas network through displacement by Hydrogen which would allow the gas network to continue to contribute to energy supply over the long term and would allow the storage of electricity through the creation of Hydrogen utilising renewable energy sources.

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

Yes we support the identified key areas for the energy networks to focus. However we also advocate that Energy regulators need to better align their activities with other Industry regulators on which their initiatives depend. To this end, JRC encourage greater co-ordination / collaboration across regulators to ensure that market interventions by one regulator do not result in a market failure because of a separate but linked regulators duties. For example, in the future the operating model for Energy Utilities' will be increasingly dependent on robust and resilient operational telecommunications capability. If, however the Energy Utilities' are unable to deploy or procure optimum operational telecommunications system capability through spectrum access because the regulatory duties of the Communication Regulator are not aligned to this objective then it is likely that the anticipated benefits of digitilisation will not be realised.

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models ("sandboxes"). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Regulators should pursue

Please explain your choices to the above question in the comment box below.

No Comment

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 1]

Regulatory proposal 1

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 2]

Regulatory proposal 4

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 3]

Regulatory proposal 3

---

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 4]

Regulatory proposal 12

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 5]

Regulatory proposal 13

10. Do you have any other general observations to make on the topic of this consultation paper?

No Comment

---

## Survey response 17

### Contact details and treatment of confidential responses

Contact details: [Organisation][[]]
-------------------------------------

Edison
--------

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]
---

### CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?
---

As the consultation document correctly highlights, digitalization is going to have a relevant impact on the energy sector at various levels. An impact that will be probably greater in magnitude because digitalization is coming along with other primary changes that are characterizing the market and that will probably contribute to a massive reorganization of the entire energy system architecture, which will move from a hierarchical and centralized architecture to a decentralized one. In this evolving setting, traditional players will not only have to compete at all levels (from generation to supply) with new market actors, bringing in new way of doing business, but will also have to develop new services to address the evolving demand coming from customers who, thanks to digitalization, will become increasingly active.

However, the size of the impact generated by digitalization at downstream level in terms of customers' engagement with respect to the energy market will very much depend on the possibility for consumers to get a real and tangible benefit from their own activation and not to perceive the sector as too complex, as it is still often the case for the majority of customers with respect to their energy supply and bill.

The definition of an adequate and flexible regulatory framework will thus play a key role to ensure the development and diffusion of new services connected to digital solutions.

2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?
--

Edison agrees with the changes identified by CEER, as digitalization has indeed the capacity to impact at all levels of the energy value chain:

- increasing productivity and allowing for a more efficient energy dispatching and for an optimized management of transmission and distribution network,
- enabling the development of new products and services that will contribute to make customers more active with respect to the management of their energy consumption, eventually altering their demand in some cases.

3. In your view, what are the most important value propositions for consumers, which should be prioritised?
---

We think that the four value propositions proposed by CEER (Cost savings, Convenience, Choice, Consumer participation) well identify the priorities of consumers.

If a prioritization must be done, probably "Choice" is the value proposition that would better fit with the future landscape, where customers are increasingly evolving from being a mostly uniform passive customer base to being active players, with very differentiated needs in terms of energy and related services. This would also be consistent with the fact that the same customers to which energy regulators grant extensive protection, are considered perfectly able to make autonomous and sensible choices on other markets, such as telco, which nowadays have no less relevance than energy.

Any different prioritization will probably go to the detriment of another value proposition ("cost savings" to "convenience" and vice versa), whereas if there is "Choice", customers looking for cost savings will be able to focus their search for an energy offer mainly on price, whereas customers looking for convenience will look for solutions that, although being more expensive, could allow them to save time and complexity managing many services altogether with their energy supply.

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.

Certainly, technological innovations and digitalization, making new options and services available, are likely to stimulate customers' interest and appetite to participate in energy markets, but the extent to which this will happen and the number of customers involved will very much depend on the balance between the benefits that customers can get from it (both in terms of cost savings and convenience) and the complexity conveyed by this participation. Therefore, the design of smart, simple and flexible regulation plays a key role to ensure that digitalization in the energy sector is perceived as an opportunity and not as an additional complexity.

5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?

The creation of fully competitive and liberalised energy markets, where competition is not only based on prices, is certainly a pre-requisite for suppliers to engage into the development of different offers and services and therefore for customers to actively engage in choosing the most suitable offer.

Furthermore, the definition of an innovation friendly regulatory framework is of the utmost importance, as often barriers created by the obligation to comply with very detailed and over-prescriptive regulation, which does not take into consideration the possible evolution made possible by technological developments, are among the main obstacles for suppliers to develop innovative solutions. For this reason, we welcome CEER's proposals to move to a more "principle based" approach, leaving room for regulators to adopt a more agile approach, in line with the request for fast reaction coming from the market. More precisely, we support the use of the so-called "sandboxes" to allow for trials of new products and new business models, from which all relevant actors (regulators, market players and customers) can learn. Increased cooperation with regulators of other sectors, especially from sectors where digitalisation has a great impact (e.g. telecommunication) would also play an important role to share experiences and lessons learnt.

6. What are the main risks for consumers arising from digitalisation of the energy sector?

We think that some of the challenges (rather than risks) arising from digitalization and that will need to be properly addressed have been correctly identified within CEER's draft regulatory proposals of CEER. They are the need to ensure adequate protection to the vast number of customers' data that will be collected and processed and the need to manage the so called "digital divide", avoiding that some categories of customers are left behind. European regulation has already worked much to address these challenges with provisions such as the recently adopted data protection regulation, whereas more can still be done to ensure that all customers have a stable internet connection and digital education, making possible for them to take advantage of the opportunities provided by the digitalization.

Another very important aspect is related to the blurring of boundaries between different sectors, with new players, different from traditional energy suppliers, entering the market: in this respect, it is very important ensuring that all actors are subject to the same rules and that a level playing field is guaranteed. Adequate information and customer's education would also prove useful to help customers navigate an increasingly complex market.

7. What would a "whole energy system" approach look like – would this unlock more benefits of the digitalisation of the energy system?

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

We agree with the very comprehensive assessment conducted by CEER in the present consultation document, which catches the effects of digitalization at all levels of the market and the related challenges that regulation will have to face in the next years. We particularly welcome the acknowledgment that the traditional regulatory approach will have to evolve for regulation not to represent a barrier to innovation, taking into consideration that regulators will have to deal with new business models and new players, significantly different from the traditional energy supply approach that so far characterized the energy sector.

A change of mindset, as already has taken place in other sectors, is therefore required not only for customers and market players but also for policy-makers and regulators, to strike the right balance between ensuring customer protection and allowing for new services and opportunities to arise. An example on this is the regulation of energy billing, where too often the good purpose to provide transparency has led to very long and detailed documents discouraging any attempt to read and understand them, whereas consumers are only interested in a very limited set of information, provided that thanks to digital technologies they can get the remaining ones through other channels (apps, website, etc).

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

Regulators should pursue



9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models (“sandboxes”). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Regulators should pursue

Please explain your choices to the above question in the comment box below.

We think that the following proposals should be pursued:

a)  Draft regulatory proposal 14 on best practice approaches to enable trials of new products and business models:  
This proposal should be prioritized as we think that the “sandbox” approach could represent the right method to allow for innovative solutions to be tested. Indeed, it could avoid the typical slow down originated by an existing regulatory framework which is not “fit for purpose”, having been defined before new technologies and products were developed.

b)  Draft regulatory proposals 7 and 9 on the review of network tariffs  
The review of network tariffs considering the ongoing electrification and decentralization process is a key aspect on which further assessment and study will be needed in the next years. CEER’s work on this is therefore welcome as a valuable contribution to the debate.

c)  Draft regulatory proposal 10 on market based procurement of flexibility services by DSOs  
We support a regulatory framework where the development of flexibility services is left to the market and DSOs procure them with tendering procedures.

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 1]

Regulatory proposal 14

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 2]

Regulatory proposal 10

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 3]

Regulatory proposal 9

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 4]

Regulatory proposal 7

10. Do you have any other general observations to make on the topic of this consultation paper?

Prot AFIR-retail/EF-mi/13-19

---

## Survey response 18

### Contact details and treatment of confidential responses

Contact details: [Organisation][ <input type="checkbox"/>
---

Finnish Energy
----------------

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]
---

### CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?
---

Operating environment in the energy sector is undergoing a drastic shift. The inter-related phenomena that will have the strongest impact on the energy sector in the next few years are the climate change and the rise of renewable energy forms, digitalization, international competition, and the strengthening of customer roles. The energy sector plays a crucial part in the face of these changes. The shift is servitising the sector, and it may bring even radical changes in the logic of the energy system. Digitalization is one key enabler of this change.

Digitalization will f. ex. make it possible that

- In the near future, purchasing energy management or indoor conditions as an integrated service is becoming more common in both the housing sector and in large commercial and office buildings. In addition to energy, these service packages may extend to services in different fields, such as cleaning, security and wellbeing services.
- Demand response is gaining more importance in the energy system. Especially major actors in the service sector also operate in the production and storage of energy. The service building stock is taking extensive part in demand response.
- Storages will have an increasingly important role as part of the energy system. Storages enable more efficient use of the whole energy system. As a result, there will be cost savings that eventually benefit the customers.
- The electricity trade will operate in real time, and machines, devices and service providers will communicate with one another in an almost automated way, optimizing energy production and consumption. An undisturbed energy supply and operation of the energy network are critical in industrial processes.
- A networked and smart transport system seeks to increase mobility options, reduce the costs of customers' mobility, raise the utilization rate of transport modes, reduce the time spent in transport, and cut traffic emissions.

2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?
--

We agree with CEER view that digitalization of the energy system is an important tool that helps to implement the described changes. See also answer to Q1.

All a, b and c are relevant for providing a high-quality customer experience.

3. In your view, what are the most important value propositions for consumers, which should be prioritised?

Digitalisation enables to create various innovative services based on customer needs. This provides the customer the opportunity to make choices based on their values and needs. The customer can become an active player in the energy markets on their own terms.

Digitalisation provides tools to use the energy system in an efficient and optimal way. This will lead to better productivity and can decrease the costs, ultimately borne by the customer, compared to the situation where these tools are not available.

Customers' wishes, needs and safety give a direction to the shift in the energy sector. Currently, most people's energy choices are largely based on price, but we believe the customer categories will become more differentiated in the future. Some customers value effortlessness, some prefer a low price, and some want to put their values, such as eco-efficiency or self-sufficiency, into practice.

It is important that the customers' choices and needs can be answered to via open competition and level playing field among market actors. Regulation towards a subgroup of some actors would hamper this. Same rules and obligations should be set for market actors operating in the same business area. Regulation concerning contracting and billing choices should be kept to a minimum, to leave room for innovation.

It is important that regulation related to energy management and to the technologies and services built around it is sufficiently sustained while enabling new innovations, and that different guidance measures or regulation do not contradict each other.

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.

Customers can most easily become active and participate in the energy markets via easy to use and effortless services that provide value to the customer. These services are built upon digitalisation and digital solutions. Digitalisation provides tools for the energy markets to innovate products and solutions that lead into more customer participation (incl. consumers). Digitalization itself is not the driver of this change, but the tool and enabler. However, digitalisation as a tool, cannot be utilized and services will not emerge unless the regulatory environment provides room to innovate and doesn't unnecessarily restrict creating new services.

The customers, i.e. the service sector, the manufacturing industry, transport and rural actors, will reap the greatest benefits of the transformation of the energy system. The advancement of energy technology and services has an impact on the operation and energy use of various customer groups. At the same time, the customers influence the energy system through their own choices. The future energy system will be reshaped by smart solutions where the development of production, storage, information and communications technologies will be utilized in a sensible way.

5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?

The key to unlock the benefits is the emergence of easy to use and effortless services that provide added value to the customer. To introduce these services, the market need a regulatory environment that provides room to innovate and doesn't unnecessarily restrict creating new services. For example, regulation shall promote electronic customer relationship and new ways to communicate with the customer.

In addition to room form innovations, it is important that the roles and responsibilities of market actors are clear and fair. Market actors shall have same rights and responsibilities in order to promote healthy competition.

The energy sector aims to enable the success and wellbeing of various customer groups and to build a sustainable future together with various actors. Of the future change factors, disruption to the business models in the sector, energy storage and energy self-sufficiency, the price and price volatility of energy, the development of economy and the economic structure, and smart machines and appliances have been identified as factors of great impact and great uncertainty.

An important prerequisite is that the Clean Energy Package is implemented in it's approved form as it requires the Member States to ensure that demand response can enter the markets in a non-discriminatory manner alongside production on the basis of their technical capabilities. Non-discriminatory and transparent rules that clearly assign roles and responsibilities are important.

On the other hand, electrification and servitisation, urbanisation, integration of electricity, heating and cooling systems, digital transformation, improved energy efficiency, heterogeneity arising from individualism, and the growing significance of information security can be seen as high-impact change factors.

Key enablers can be simplified into competitive and liberalised markets, an innovation friendly regulatory framework and an enabling smart grid infrastructure.

6. What are the main risks for consumers arising from digitalisation of the energy sector?

The obvious risks emerging from more digital energy market are related to data privacy and cybersecurity. However, it needs to be noted that these are not sector specific risk, and digitalisation is bringing these same risks to almost all business sectors (e.g. banking, telco, industry, retail sales of other products...). We believe that the risks should be taken very seriously in all business sectors when it comes to data privacy and cybersecurity. However, we also believe that via good design, as already being done in the energy companies, the risks can be mitigated.

Another risk deriving from more digitalised energy market can be the segregation of customers. It is important that those customers who will not be active in the energy markets (by choice or by force) will not end up paying the cost arising from the creation of operational environment for active customers. This could happen if new services start including "free-riding" possibilities" e.g. in network tariffs. This risk can be mitigated by avoiding "free-riding" when designing new legislation and f.ex. implementing the Clean Energy Package. The overall system must be kept fair to all customers, including those who cannot or wish not to take an active role in the market.

7. What would a "whole energy system" approach look like – would this unlock more benefits of the digitalisation of the energy system?

We find it important that the whole energy system is considered and investigated as a whole when developing new regulation. The main point is to avoid optimizing only small sections while the affect on somewhere else in the energy system is unbeneficial. Different energy systems can support each other in the way towards a carbon neutral society in a cost-efficient way. Sector coupling between electricity, district heating and gas as well as transport is important and needs to be thoroughly assessed when drafting new regulation.

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

It is important that the roles and responsibilities of market actors are clear and fair. Market actors shall have same rights and responsibilities in order to promote healthy competition.

The regulators and Member States have also an important role in building the trust of customers to energy markets, thus making it easier for the customers to become active via services. One way of creating this trust for the regulators is providing neutral information to customers on e.g. benefits of demand response to the energy system.

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models (“sandboxes”). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Regulators should pursue

Please explain your choices to the above question in the comment box below.

#### Regulatory proposals 1 and 2

We believe the regulators should not pursue the proposals 1 and 2. These topics are already covered in the Clean Energy Package and in Commission Smart Grids Task Force Expert Group 1's work. There is no need for additional measures on these topics. Also, we want to emphasize that on these topics European regulation should remain at a high-level, and the details should be covered on Member State level, due to the differences in market models.

#### Regulatory proposal 3

The electricity markets are evolving into operating closer and closer to real time. This is a prerequisite to tackle the climate change via intermittent CO2 free generation. This on the other hand requires more and more real time metering of consumption and production. It is important that the energy regulators make sure that metering data can be used in both network operation and market actions (while respecting the GDPR of course). There shall be no excess requirements for approval of use of metering data beyond what is set in GDPR. Namely, there shall not be a requirement to ask for an express consent to use the metering data for purposes already grounded in the GDPR (as also stated in the Clean Energy Package).

#### Regulatory proposal 4

Cybersecurity regulation needs will be answered by the upcoming Cyber Security Network Code and the work of Commission Smart Grids Task Force Expert Group 2.

The role of CEER and ACER should be to monitor, guide and share best practices to parties involved. Partnerships and awareness campaigns are indeed recommendable.

#### Regulatory proposal 5

It is important that the roles and responsibilities of market actors are clear and fair. Market actors shall have same rights and responsibilities in order to promote healthy competition. No additional regulation is needed. However, it is valuable to monitor, collect and share best practices.

We consider this as one of the priorities.

#### Regulatory proposal 6

We found it practically impossible to answer this question, because it has put together two completely separate and totally unrelated issues which one is recommendable, and one is highly un recommendable.

We believe it's utmost important that all market actors have equal and uniform balancing responsibility. There shall be no free riding allowed in this respect.

We are strongly against introducing a default supplier in such national markets where one is not needed to provide appropriate level of customer protection. F. ex. the Finnish supplier of last resort model is very appropriate and functioning and provides customer protection without unnecessarily distorting the market.

#### Regulatory proposal 7

We find it important that NRAs on national level review the network tariff structures in order to ensure they are fit for the future. We believe it is justified that the network tariffs are evolved to be more capacity based. We believe that the basic structures of network tariff design and the transition periods to implement changes are harmonized on national level in legislation or ordered by the NRA.

We consider this a top priority.

#### Regulatory proposal 8

We welcome the monitoring of the development of platforms and market places.

#### Regulatory proposal 9

We support regulation that makes it possible and even encourages the DSOs to utilize flexibility as a tool comparable to network reinforcement. This requires changes in the regulatory models of NRAs. These changes however need to be done with caution and with thorough consideration in order to avoid insecurities in the investment environment of the DSOs.

We consider this as one of the priorities.

#### Regulatory proposal 10

We believe no added measures are needed if regulatory proposal 9 is fulfilled. If regulatory model incentivizes the use of flexibility as an alternative to grid reinforcements, efficient operation of the DSO's in the respect will follow by default.

Regulatory proposal 11

The Clean Energy Package already requires the development of these products. We believe no added regulatory measures are needed. Regulators have a role in monitoring that the provisions set in the Clean Energy Package are fulfilled by the DSOs and TSOs.

Regulatory proposal 12

The DSO-TSO co-operation in Finland is currently functioning well. We need to make sure this will remain the case also in the future with the changing operational environment.  
We consider this as one of the priorities.

Regulatory proposal 13

We fully support the proposal that NRAs strengthen their expertise, skills and capability in the digital realm.  
We consider this as one of the priorities.

Regulatory proposal 14

We support the proposal that regulators develop best practice approaches to enable trials of new products and business models ("sandboxes") and that CEER provides a forum for exchange of learning from trials and studies.  
We consider this as one of the priorities.

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 1]

Regulatory proposal 7

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 2]

Regulatory proposal 12

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 3]

Regulatory proposal 9

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 4]

Regulatory proposal 13

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 5]

Regulatory proposal 14

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 6]

Regulatory proposal 5

10. Do you have any other general observations to make on the topic of this consultation paper?

---

## Survey response 20

### Contact details and treatment of confidential responses

Contact details: [Organisation][[]]
-------------------------------------

GEODE
-------

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]
---

### CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?
---

GEODE, representing DSOs from across Europe, welcomes CEER's consultation on dynamic regulation (to enable the benefits digitalisation can bring to societies and to safeguard our systems against threats resulting from the large scale use of digital technologies).

Digitalisation is at the same time the cause of and the solution to many of the major changes now faced by the energy sector. We have impacts from climate policies and the increase of renewable energies, from the development of new business models and from increasing customer involvement.

To maintain security of supply in the future, traditional primary technology must be complemented by smart components. Monitoring and automation in the operation of the grid which in turn assists with network planning are central. Existing equipment can thereby be operated more efficiently (closer to its physical limits) and the role of the DSO as market facilitator met in an optimal way.

In today's energy systems, digital technologies are already widely used, improving their safety, efficiency, accessibility and sustainability.

Digitalisation is also opening the door to: new security and privacy risks; changing markets, businesses and requirements for employment skills; a new operating environment for DSOs, in terms of smart grid technologies, distributed energy resources, connecting those (renewable) energies, demand-side management, flexibility, e-mobility recharging infrastructure, system integration, thus creating a great number of opportunities and challenges.

Regulation can provide DSOs with the appropriate tools to make the best use of their expertise operating local infrastructure, while at the same time, regulation needs to address the challenges associated with preserving and further developing Europe's currently well functioning energy infrastructure.

Challenges for DSOs arise from: alterations in customer behavior (e.g. via price-signals, active customers who are selling flexibility), new customer requirements (e-mobility, heat pumps, home storage systems) and the constantly growing volatility (wind, PV) in generation. The DSO's main objective is to integrate these new customers and decentralized generators into the grid in a cost-efficient way by making the best use of the existing infrastructure.

In conclusion, from a DSO perspective, digitalization leads on the one hand to altered customer behaviour and on the other hand to more action needing to be taken by DSOs regarding monitoring, automation, data analysis etc. In addition, digitalization will be pivotal to realize sector integration, in particular when including the transport sector.



2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?

A) GEODE agrees that this chapter identifies the most relevant changes. To improve the productivity of the existing system while maintaining network stability, the DSO needs to significantly invest in digitalisation and new technology (RDD) that allow controlling, processing and automation of the energy supply. Digitalisation provides new tools to optimize the use of traditional DSO assets for improved operation, maintenance and grid planning.

It will be in any case necessary to upgrade the electricity networks and make them fit for dealing with the unpredictable renewable generation, new loads due to e-mobility, storage and further new technologies which are coming into the distribution systems.

However, in many European countries, there are still no incentive regulatory schemes supporting digitalisation/innovation. GEODE has long been advocating that regulatory frameworks need to provide better options for DSOs' investments choices, in conventional grid components (as parts of European distribution networks are aging and need replacement) as well as in innovative (and mostly digital) alternatives.

Good regulation will incentivize DSOs to seek out and adopt all the cost saving benefits that digitalization can offer. However, designing good regulation that actually achieves this is far from easy.

To conclude, in GEODE'view, it is most likely that digitalisation, if properly incentivised, will increase the productivity of the existing systems. For DSOs, this would potentially encompass:

- Reducing operation and maintenance costs
- Improving network efficiency
- Reducing unplanned outages and downtime
- Extending the operational lifetime of assets
- Improving customer service and customer experience

B) Digitalisation is a pre-requisite to enable new products and services. Digitalisation will have a huge impact on the electricity demand, in combination with higher penetration of renewable energy, demand-side management, electrical vehicles and smart grid technologies - with new services & products and business models emerging.

DSOs have been - and will remain - responsible for the successful design, maintenance, development, and operation of the distribution systems throughout Europe. At the same time, the transition to a decarbonised energy system as well as technological developments have led to changes in the activities carried out by DSOs, and brought on new activities, within or related to the energy system.

A great number of these new activities -- will be facilitated by DSOs, confirming their role as the "active and neutral market facilitator". The DSO will seek to ensure new products and services do not have a negative impact on our currently well-functioning energy systems, or on customers. Another challenge is how the new products and services need to be supported by DSOs, as well as more generally in the economy through energy and non-energy sector legislation and regulation, to support competitive markets. Also the way all of these, potentially millions of, devices interact is a new engineering challenge and the overall organization of all the energy industries and their interaction with customers and customers' own devices is crucially a regulatory responsibility.

All new technological developments, which are usually led by market actors and result in the altered behaviour of customers, will have direct effect on the close co-operation between TSOs and DSOs in networks operations.

DSOs must be provided with the right tools in order to avoid such situations (e.g. traffic light model) . DSOs as neutral market facilitators must have the ability to monitor and control the impacts of flexibility services on their network area. In this respect, DSOs have a key coordination role.

C) Among other main objectives, the Clean Energy Package is aiming to enable flexible, open and transparent energy markets, with equal possibility for all actors to participate. However, with new players and services entering, energy markets will need to adapt accordingly; while tariffs have to send the right signals, in order to maintain a well-functioning and efficient market.

DSOs will have to be actively integrated in the process when establishing local market platforms? Only thus it can be guaranteed that local grid requirements are sufficiently considered.

Furthermore, the focus should not only be put on organising the data exchange and deciding whether to establish centralized or decentralized data management models. At the same time, currently existing and functioning systems should be supported and further pursued.

The consultation paper explicitly mentions flexibility market places which are one of many options enabling DSOs to access locally offered flexibility solutions for grid operation purposes.

However, other options exist as well, such as traditional grid expansion, reinforcement and renewal, dynamic grid tariffs, non firm

grid connection agreements and the use of the DSO's own assets such as coils (inductor), for instance located in primary sub stations or adjustable transformers for voltage regulation purposes – (See joint DSOs report on flexibility markets ). Grid storage located in transformer stations can also be an important tool for DSOs. Market based solutions are only one option. For the successful accomplishment of future challenges DSOs must be allowed / able to access all available options.

**3. In your view, what are the most important value propositions for consumers, which should be prioritised?**

The greatest benefit for customers is still the reliable availability of energy supply 24/7 without any loss in comfort. We would like to emphasise that a great number of European customers currently free to consume electricity at affordable prices whenever they want. This should be kept in mind when looking at how to persuade customers to engage with emerging new products and options.

The most important value propositions for consumers are reasonable prices, convenience and potential for increased participation in energy markets - all of which are partly linked to each other and should hence be prioritized in parallel.

In terms of prices and increased participation, digitalisation contributes to making the energy system more efficient a, potentially decreasing overall costs – which will then be reflected in the customers' bill. At the same time, digitalisation brings a big opportunity for customers with comparatively new and more intensive uses of energy (EVs, new heating and cooling solutions etc), helping create a range of innovative services based on customer needs and values, enlarging the choices offered, including the option to become an active participant in energy markets and optimise consumption behavior – which in return can help achieving cost savings for them. However, even if good progress in this respect is being made, some consumers will wish to remain inactive. A resulting key challenge for policy makers will be ensuring that such customers are not disadvantaged by digitalisation. It needs to be ensured that all prices and charges are non-discriminatory and technology neutral.

In terms of convenience, we believe at GEODE that customer preferences will become more diverse in the future. Some will value simplicity, others prefer cost-efficiency, and again others will prioritise putting their values into practice, such as decarbonisation, eco- or self-sufficiency etc. So we should let innovation flourish and avoid overregulation to build a system in which customers can decide.

**4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.**

Yes, digitalisation will lead to more direct consumer participation, through use of solar panels, EV charging, as well as indirectly through aggregators and service providers – who can modulate the consumer's energy use on their behalf and through citizens' energy / renewable energy communities.

Digital solutions will also enable new easy-to-use and simple services providing value to the customer and result in increased participation. The growth of home energy management systems, digital assistants, smart thermostats, and EVs is already significant and is providing a platform for the management of the energy component of heating/cooling, mobility, as well as more traditional white goods usage. Also, more transparency in energy usage and billing can raise customer's awareness and impact their consumption behaviour, and even enhance the willingness to make contributions to greater goals such as reducing carbon foot prints and preventing climate change.

A few other aspects should be taken into consideration:

- Customers have different interests and needs. Electricity markets already offer a number of opportunities for active participation to large/industrial customers. For smaller/household customers, intermediaries such as aggregators or energy communities could play a more important role in offering easy and accessible ways of participation. The benefits, such as cost-savings for the customer, have to be clear.
- Digitalization itself is not the driver of this change, but rather a tool and enabler. However, it will not be utilised to the fullest extent and new services will not emerge unless the regulatory environment provides freedom for innovation.

**5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?**

Key enablers for consumers are smart meters, in combination with smart mobiles and IoT, including an effective use of network and system data, linked to significant new opportunities offered by whole system considerations.

Launching easy-to-use (same thing) services will provide added value to the customer. To do so, markets need regulatory environments that provide the freedom to innovate - for example, electronic customer relationship and new ways to communicate with the customer should be promoted. Also, roles and responsibilities of market actors need to be defined in a clear and fair manner, giving the same rights and responsibilities where they perform the same service to ensure undistorted competition.

In a nutshell, the following elements are key enablers for increasing "digital" customer benefits:

- Involvement of customers regarding digitalization projects with customer relevance
- Creation of customer-oriented solutions (design thinking)
- Recognition and consideration of the needs of different customer groups
- Individualization via automated solutions. Here, the question arises which prerequisites have to be created in the (home) installation of the customers (investments) in order to profit from the offered products (cost-benefit).

6. What are the main risks for consumers arising from digitalisation of the energy sector?

The main risks for consumers resulting from a digitalised energy sector are related to data privacy and protection, competition issues and cyber-security.

However, as much as the energy sector needs to address these risks, we should be aware that they are not sector specific, as digitalisation of almost all business sectors are confronted with comparable challenges (eg. banking, telco, commercial, retail sales of other products). Therefore, preventing damage should be taken very seriously in all sectors. Nevertheless, GEODE is certain that risks can be mitigated through reasonable and smart measures, as are already being implemented by energy companies.

We also would like to outline that “over-digitalization” might make systems too complex and increase costs for the provision, production and maintenance to an extent where it exceeds the benefits of digitalization.

7. What would a “whole energy system” approach look like – would this unlock more benefits of the digitalisation of the energy system?

The energy system should be considered from a whole system perspective when developing new regulation, with the main goal to avoid optimizing only small sections while causing harm elsewhere in the energy system. Different energy systems can support each other paving the way to a carbon neutral society in a cost-efficient way. Sector integration between electricity, district heating and gas as well as transport is important and needs to be thoroughly assessed when drafting new regulation. Also, taking such an approach is in line with the long-term European and national climate targets.

Certainly, taking a whole system approach when digitalising energy systems unlocks the greatest benefits. The challenges are far too complex and cannot be solved by one sector alone. Further, there are mutual dependencies between actors (suppliers, DSOs, TSOs, service providers, consumers) and the whole electricity system as transmission, distribution, generation and all the autonomous and smart devices installed in end-customers’ premises. Only a cross-sectoral approach is capable of creating the best results for customers.

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

In general, GEODE agrees with the analysis - decarbonisation, digitalisation and dynamic regulation are definitely important areas. The consultation paper is comprehensive and very relevant to the challenges related to the digitization of energy systems and society as such, and the answers to be provided by regulators.

GEODE encourages energy regulators to find the necessary balanced approach so that all key areas are properly addressed and taken into account. This is definitely not a request for more legislation and regulation, but recognizing that the future energy landscape is becoming more diverse, as compared to the one inherited from the last century, when the current regulatory structure was designed.

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

Regulators should pursue

---

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models (“sandboxes”). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Regulators should pursue

Please explain your choices to the above question in the comment box below.

1.

We suggest regulators should not specifically pursue this proposal. These topics are already covered in the Clean Energy Package and in Commission's Smart Grids Task Force Expert Group 1's work. There is no need in the short term for additional measures in this context. Standards might evolve in this area, and regulators will be able to impose compliance at national level, but it is critical that DSOs are still able to innovate.

Also, we want to emphasize that European regulation should remain at high level – just as the CEP does - while the details should be sorted out at Member State level, due to different market models. For instance, it is important that Member States can decide about their own data model – centralized (more present in the Nordics) or decentralized data hub, like the well-functioning Austrian EDA-platform (EDA – Energiewirtschaftlicher Datenaustausch / Energy-Economic-Data-Exchange).

2. We suggest regulators should not specifically pursue this proposal. Energy grids are defined as critical infrastructure. Therefore, it should be carefully considered what data and in how much detail DSO should have to provide data online. Security of supply is of utmost importance and must not be jeopardized

Also, we disagree with the example used by CEER. Storage, for example, should connect where it wants. If a DSO has a need, then it should be advertised as such. DSOs will only be able to create value for third parties where there is a need for a solution. DSOs might need to publish this appropriately but they should be incentivised to do so by a regulatory framework that values services at least as much as capital investment. That should be the focus of regulation, not the detail of how DSOs interact with the market. CEER's draft regulatory proposal according to which new market participants should obtain access to data goes too far as it does not take into account critical infrastructure that should be excluded. Compliance with GDPR and with the NIS-Directive should be ensured and is sufficient.

3. This is a key developing area and should be pursued by regulators. The electricity markets are evolving into operating closer and closer to real time, requiring more and more real time metering data of consumption and production. It is important that the energy regulators make sure that metering data can be used in both network operation and market actions within the framework of the GDPR, without imposing further requirements for approval of use of metering data. Namely, there should not be a requirement for express consent to use the metering data for purposes already established in the GDPR (as also stated in the Clean Energy Package).

4. Cybersecurity regulation needs will be answered by the upcoming Cyber Security Network Code and the continuing work of Commission Smart Grids Task Force Expert Group 2. The role of CEER and ACER should be to monitor, guide and share best practices with parties involved. Partnerships and awareness campaigns should be promoted. It has to be highlighted that distribution networks are part of the critical infrastructure and must be specially protected.

5. It is important that the roles and responsibilities of market actors are clear and fair. Market actors shall have same rights and responsibilities where they perform the same services in order to promote competition. No additional regulation is needed. However, it is useful to monitor, collect and share best practices. We consider this as one of the priorities.

6. We believe it is very important that all market actors have equal and uniform balancing responsibility. There shall be no free riding allowed in this respect. GEODE does not support introducing a default supplier in national markets where there is already a well-functioning level of customer protection. For instance, the Finnish model of the supplier of last resort is appropriate and well-functioning and provides customer protection without unnecessarily distorting the market.

7. We consider this the regulator's "day to day" job and a top priority that NRAs review network tariff structures in order to ensure they are fit for the future.

We believe it is justified that the network tariff structure evolves towards more cost-reflectiveness, for example by strengthening the capacity/power-component, as much for the benefit of DSOs as for the purpose of fairly redistributing the financial burden among customers.

We believe that the basic structures of network tariff design and the transition periods to implement any changes must be harmonized at national level in legislation or else mandated by the NRA.

8. We agree that regulators should monitor the development of platforms and new market places.

9. Adapting already implemented regulatory models has to be done carefully. It is important that DSOs are given the necessary means to tackle the upcoming challenges. Predictability is essential for DSOs who are operating an infrastructure with a technical life-cycle of many decades.

We support regulation that makes it possible and even encourages and incentivise DSOs to utilize flexibility as a tool comparable to traditional network reinforcement. This requires changes in the regulatory models of NRAs as besides the need of sufficient incentives for investment it will be necessary to consider the rising OPEX adequately in the regulation model (a pass-through approach might be appropriate).

---

These changes however need to be done with caution and with thorough consideration in order to avoid creating uncertainties in the investment environment of the DSOs. We consider this as part of normal good regulation activities.

10. We believe no added measures are needed if regulatory proposal 9 is satisfied. If a regulatory model incentivizes the use of flexibility as an alternative to grid reinforcements, efficient operation of the DSO's network will follow. We would like to emphasize that the market-based procurement of flexibility services is one option among many, giving DSOs access to locally available flexibilities for grid-operation. This point is essential since the problem-solving of DSOs often requires local action (e.g. on the low-voltage grid) and, consequently, the number of offers and the liquidity of market solutions can be limited.

In any case the costs for DSOs which arise by the procurement of the necessary flexibilities should be fully reflected in grid tariffification.

11. The Clean Energy Package already requires the development of these products. We believe no additional regulatory measures are needed.

12. The DSO-TSO co-operation is crucial. We need to make sure this will function well in the future with the changing operational environment. We consider this as one of the priorities.

13. We support the proposal that NRAs strengthen their expertise, skills and capability in the digital realm, which we understand has always been the case as a necessary requirement of regulators's work.

14. In a heavily regulated energy world, we consider "sandboxes" or innovation zones as important tools to create / enable innovation. Especially in new research projects and always under supervision of NRAs, it should be possible to implement existing rules in flexible ways or respectively to deviate from those. Only in doing so it is possible to unleash the innovation potential to the full extent, identify hampering market regulations and develop the legal framework further.

**10. Do you have any other general observations to make on the topic of this consultation paper?**

We would like to highlight that clear market rules and definition of roles and responsibilities of different market players (i.e. NRAs, TSOs, DSOs, aggregators, suppliers, ESCOs, others), are necessary to avoid obstacles (conflicts of interest or overlapping tasks) to a proper implementation of the Clean Energy Package.

The current regulatory framework and market design does not necessarily preclude the emergence of decentralised energy trading that digitalisation brings, but it should be questioned if it does enough to enable it and also if potential risks are properly mitigated.

DSOs are in fact the neutral market facilitator that ensure the reliability and stability of the system while facilitating the commercial activities of other market actors and above all, safeguarding the interests of customers, with managing Demand Response as part of its natural responsibility.

Therefore, we believe that a profound change in the electricity market is also needed, in order to develop a new decentralised scenario while maintaining the reliability and stability of the system. DSO tariffs should be cost reflective to include the massive investments needed, to ensure that prices are sending the right signals to the market.

---

## Survey response 22

### Contact details and treatment of confidential responses

Contact details: [Organisation][ <input type="checkbox"/>
---

EUTC
------

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]
---

CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System



## 1. What impact do you consider that digitalisation will have on the energy system and which are the most important?

### - Introduction

The European Utility Telecom Council would like to raise the attention of the CEER to underlying digital infrastructure required to continuously enable digitalisation of the energy system.

The European Utilities Telecom Council (EUTC) is a non-profit organization delivering education, collaboration, best practices and thought leadership in telecommunication technology to utilities, other critical infrastructure providers and regulators, ensuring efficient, secure, sustainable and affordable smart infrastructure solutions.

EUTC membership is comprised of major gas and electricity transmission and distribution companies from across Europe plus vendor partners representing telecommunications suppliers focused on utility telecoms provision.

### - The European Energy ambitions and goals necessitate a good and reliable communication infrastructure

In addition to the implications of digitalization for consumers various developments such as the increasing influx of renewable energy as well as the ambitions expressed in the Winter Package all have in common that reliable data about input, throughput and output of energy throughout the entire energy grid is needed. Without reliable data the foreseen role for energy consumers is not achievable. Reliable data is essential for realization of the ambitions expressed in the Winter Package, the same applies to transformation of the grids into Smart Grids. Having correct and trustworthy data available at the right place at the right moment is essential for all these developments. The EUTC believes that much more attention should be given to the quality of the underlying infrastructure which enables data communication. In line with paragraph 1.1 the EUTC would like to draw the attention of the CEER to reliable communication infrastructures as an important "enabler required to unlock the benefits of digitalization" and in particular the necessity of access to dedicated spectrum for utility purposes.

### - Requirements for a reliable communication infrastructure

The transformation of energy utilities as a result of digitalization and automation has resulted in an increased dependency on connectivity. The emerging smart grid as well as the obligation to introduce smart metering are fundamental for the efficiency and sustainability of the energy system. The fundamental role of digital connectivity for the core business of grid management means that assurance of connectivity has an increasing strategic value for utilities. These developments translate into requirements for the associated communication infrastructures of utilities.

Utilities throughout Europe have used all types of communication infrastructures (fixed, wireless, satellite) either through services offered by commercial operators or by organizing the connectivity themselves. Practically every known communication technology is used somewhere by at least one utility.

Control over the telecommunication infrastructure is one of the most important requirements utilities have. After all if the communication infrastructure plays such a pivotal role in the management, support and control of the energy system it is necessary to be in control of that specific element, hence the necessity to be in control over the communication infrastructure.

There are many different ways (and associated levels of) control can be achieved. For fixed communications ownership and management of a fiber optic infrastructure is often (but not always) used. The majority of wireless communication used until recent years has been based on services offered by commercial operators. Often these wireless services were not (yet) as important for the utility as the wired services used. As indicated the latter were often organized and managed by the utility themselves. The recent developments also lead to greater expectations of communication with (numerous and often decentralized) assets which are connected through wireless communication, hence more control over these wireless services is required. Experiences with using wireless services from commercial operators has taught utilities that the interests of the utilities are not always the prevalent interest, choices made by operators can seriously affect the long term interests of utilities (changes in QoS, phasing out of technologies (3G and GPRS for example). It is for these reasons that utilities in Europe wish to have direct access to spectrum. Other critical services in society (emergency services, meteorology, railways, etc.) already have such direct access, some utilities in Europe have such access (often very limited amounts of spectrum), the majority of the European utilities do not have such access.

### - Dedicated spectrum bands for utilities

Frequencies in the 450-470 MHz spectrum band are already used by some utilities as they are very suitable for utilities operations. These bands offer an ideal compromise between coverage and the limited bandwidth requirements of the critically important utility applications. A harmonised European spectrum allocation for utilities will facilitate synergies between utilities, bring industrial benefits, facilitate cross-border coordination, increase security of supply and lower energy costs to consumers. Simultaneously harmonised spectrum will help achieving the overarching goal to have a trusted mission-critical communication infrastructure supporting overall digitalization of the energy system, including digitalization in the consumer interest as well developments in the energy grids such as the smart meter roll-out, smart grid developments and facilitating increasing influx of renewable energy.

Dedicated spectrum for utilities helps achieving the best possible underlying infrastructure for supporting the digitalization of the energy system.

The above introduction is deliberately kept brief, the EUTC is more than willing to provide the CEER with more in-depth explanation of the necessity and requirements concerning the communication infrastructure supporting digitalization.

2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?

Digitalisation of the energy sector offers many opportunities for increases in the operational efficiency of the existing and new grid infrastructure. Thermal efficiency may be gained by improved load balancing and electricity generation and consumption within a smaller geographical area offers an opportunity to reduce transmission losses (if done correctly). Existing electrical infrastructure assets may have their serviceable lives extended by more closely monitoring their condition – saving on costly, often untimely and disruptive replacements. Additionally, monitoring and control to a highly granular level at the edges of the grid (an area where little or no visibility currently exists) has the potential for dynamic ratings of plant – potentially avoiding upgrades to substations and overhead lines and the associated impact to the visual environment. The ability to control demand very rapidly across a large population has the potential to offset some of the dynamic elements introduced to generating capacity through the adoption of large scale solar and wind capability. This demand side control would typically take place via connected domestic appliances – especially refrigeration systems, air-conditioning compressors, washing machines and dryers. The dynamic control of electric vehicle charging systems could also offer a significant degree of control over high power charging cycles. In terms of transactions by energy users, it is possible that digitalization will facilitate more active participation in trading by end users and co-operatives. However, as with smart meter deployments, technology must be implemented which allows participation to take place autonomously (many smart meter users are initially very interested to observe the variations in consumption during the day but the novelty soon wears off). The financial benefits of being actively involved in transactions currently might not be sufficient enough to encourage consumer and prosumers to monitor energy usage on an hour by hour basis during their busy daily lives.

3. In your view, what are the most important value propositions for consumers, which should be prioritised?

The ability to introduce and incentivize grid-friendly behavior, and as such requiring coordination of domestic appliances (in particular EV charging and heat pumps). This will require the integration of domestic appliances into the overall digitalized energy network with the ability of the energy supplier to remotely activate certain devices (with the agreement of their owners). Note that these types of systems (although less sophisticated) worked very effectively in the 1970s and 1980s – when electric storage heaters became popular along with insulated water heaters which were operated at off-peak night time tariffs via use of radio tele-switches or timers. The success of these systems was down to the simplicity of their operation, no inconvenience to the end user and visible savings in energy bills. Future time of use systems will need to be equally straightforward in their use if they are to gain widespread adoption.

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.

As indicated in the response to question 3, consumer engagement will crucially depend upon the simplicity of engagement (for instance by the introduction of smart phone apps which will seamlessly monitor and switch suppliers, consumption and storage) – without manual intervention from users. Very few members of society are likely to have more than a passing interest in constantly monitoring their energy usage.

5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?

In addition to the availability of simple, automated systems suggested above, a more fully integrated smart metering network would be an enabler and would encourage consumers to engage more fully. Many consumers have had smart meters installed in the last decade but are not really seeing benefits which are as significant as they would have hoped. There are major differences between European States on the implementation of smart metering which have diluted some of the possible benefits. Digitalisation needs to address these issues and provide clearly identified benefits for consumers.

6. What are the main risks for consumers arising from digitalisation of the energy sector?

There are several significant risks - firstly the increased amount of data being collected (even though apparently innocently) will concern many consumers with regard to privacy and their right to remain anonymous. This is closely connected with the small but real increase in risks associated with cyber security breaches and hacks. Secondly, if not carried out with sufficient care and attention, the increased digitalization of the grid risks the possibility of major outages on the network – and with a significantly more widely spread of responsibilities. I.e. if prosumer's behavior (and new third party facilitators of transaction) become increasingly influential in the grid overall then who will take ultimate responsibility for a highly secure, highly reliable grid with the levels of voltage and frequency stability which are currently enjoyed? Finally, the potential for new entrants to the energy trading markets who lack the expertise or credibility to sustain themselves in the long term is a risk. There is the potential for small on-line start ups to act as facilitators of trading but for them to rapidly get into financial difficulties leaving a large number of unfulfilled contracts and debts if they fail. (Note that this occasionally happens now with existing small-scale energy re-sellers)

7. What would a "whole energy system" approach look like – would this unlock more benefits of the digitalisation of the energy system?

A whole energy system approach would include the increased use of electrical heating (either directly or via ground source heat pumps). Additionally storage in both grid scale batteries and vehicle mounted batteries is also an important facilitator. The possibility to use some oversupply of electricity for creation of hydrogen through electrolysis of water is also important – especially if it can be successfully mixed with natural gas (this has been demonstrated in several European countries). Incentives for grid-friendly behavior and demand side control via smart meters (either current or next generation) will be critical to maximise the efficient use of variable renewables and reduce base-load generating capacity to an absolute minimum.

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

EUTC is broadly in agreement with the proposals presented with regard to the focus of energy regulators. We would comment that the importance of low cost energy and decarbonizing energy should not be at the expense of network reliability and availability – this will dictate that sufficiently robust, reliable and secure communications and IT systems are specified throughout in order that risks to supply reliability are mitigated (there is further comment on this critical element in the introductory section to EUTC’s response)

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models ("sandboxes"). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Please explain your choices to the above question in the comment box below.

EUTC is a membership driven organization with common interests in the betterment of communications infrastructure to support our member's core business activities. In this area we share best practice and expertise. Simultaneously many of our members are also member of other organizations as EDSO and Eurelectric, who are also likely to respond to this questionnaire which is why the EUTC refrains from answering this question.

10. Do you have any other general observations to make on the topic of this consultation paper?

This consultation is a timely reminder that a significant paradigm shift in energy generation and consumption is happening right now – the like of which has never been seen in over 100 years of mass adoption of electricity as a way to power industry, transport, IT systems and domestic activities. The changes are essential if we are to keep the effects of climate change to a minimum. Opportunities will emerge for new entrants to the energy market. Some additional risks will arise which need to be tackled collectively in order to maintain reliability of energy supply – without which the wellbeing of citizens and GDP of our collective economies would severely impacted. Some utility companies are clear 'thought leaders' and have already begun the journey to digitalization and are tackling the challenges in projects within their research facilities. Other utilities are further behind but will benefit from the experience of the first movers.

EUTC's members will play a pivotal role in digitalization of the energy sector and would welcome further engagement with CEER on this critical subject.

---

## Survey response 24

### Contact details and treatment of confidential responses

Contact details: [Organisation][ <input type="checkbox"/>
---

CEDEC
-------

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]
---

### CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?
---

<p>CEDEC believes digitalisation will bring a lot of changes in our lives, as energy consumers and as citizens. The smartening of the energy grids and of homes, along with the big amount of data coming from them, represents both an opportunity and a challenge for both the energy sector and citizens.</p> <p>On the one side, for the energy sector, digitalisation optimises operational management for local energy grid companies, by flexibility-based approaches for congestion management and by improved communication infrastructures. At the same time, it opens new possibilities for local energy generation and supply companies, allowing to develop new energy products and services. On the other side, for consumers, digitalisation through smart meters and smart appliances, gives the opportunity to become even more pro-active than already possible today. Ultimately digitalisation can facilitate the life of citizens through innovative data-based solutions, tailored to the local needs.</p> <p>But it will be crucial that the consumer can trust that his data remain private and secure. If the consumer ultimately owns his data and has to give consent for its use by market players, the data needed by the DSO for managing smart grids must however be kept available for the DSO unconditionally, at any time needed for grid purposes.</p>
---

2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?

CEDEC agrees that digitalisation has the potential to enhance productivity of the current energy system, to enable new products and services as well as to transform the functioning of the sector.

a)  Increases the productivity of the existing system;

CEDEC agrees with CEER that with digitalisation, better informed decisions on investments, operation and maintenance can be made. Digitalisation will have strong impacts on the optimisation of the networks. The increasing number of available data together with an optimisation of its exploitation will amongst others, allow for a better understanding of the use of the grid. To ensure real savings in the system productivity, the question of data management is key. The consultation document raises the question of who should have access to system data and how that could be facilitated – CEDEC believes that as neutral market facilitators, DSOs have a key role to play in organizing and facilitating data management.

b)  Enables new products and services that alter electricity demand;

CEDEC agrees with CEER's analysis that digitalisation enables new services and will impact energy consumption in buildings, use of energy for transport and will lead to new energy pricing models and products.

As the digitalisation of the energy business progresses, the amount and granularity of available data coupled with new technologies make it possible to develop a range of new commercial services besides plain energy supply. These include demand response, energy efficiency, home management programmes, mobility services and bundled products. The development of new energy services is conditional upon the availability of smart metering systems, consumers giving their consent to access their data on a more granular basis and/or to install additional devices.

c)  Brings new digital marketplaces that transform the way the sector transacts.

The consultation paper mentions flexibility market places. Many of these digital market places and enabling technologies are still in their early stages. They are likely to play an increasing role in the medium to long term, however as an option amongst others. There are other options available for DSOs to increase their flexibility such as classic grid-expansion – reinforcement and renewal -, grid tariffs, network codes, flexible grid connection contracts and the use of own assets in transformer stations or adjustable transformers for voltage regulation mentioned in the “DSO report on flexibility” .

Storage is also an important tool for DSOs.

Market-based solutions are one option among others. DSOs must be allowed to develop and use all available options for optimal grid management.

Regarding flexibility platforms, the key principles, as defined in the joint DSO/TSO report on “An integrated approach to Active System Management” (developed in common by CEDEC, E-DSO, ENTSO-E, Eurelectric and Geode) should be also mentioned:

-  Access should be easy for the customer;

-  Interoperability with other platforms must be ensured;

-  Platforms must avoid harmful interference and conflicts beyond their associated grids;

-  TSO – DSO coordination and mutual data exchange is an activity in the regulated domain;

-  Platform solutions should be technology agnostic.

3. In your view, what are the most important value propositions for consumers, which should be prioritised?

We agree with the distinction proposed by CEER between different categories of consumers – households, SMEs and large industrial consumer – since not only their level of consumption but also their possibility to engage in the market or the products they are interested in, vary a lot.

Regarding households' consumers, the greatest benefits of digitalisation are potential cost savings, the opportunity to actively influence their own energy consumption and the possibility to participate more actively in the energy market.

It should be emphasised that customers in most of EU countries today already consume electricity at affordable prices, at any time. Great efforts will have to be made in order to convince them to leave their comfort zone and engage with a high variety of new products and options, potentially also at higher risks.

For SMEs and especially for large industrial consumers, the transaction costs will be lower (compared to consumption level), which should result in a higher potential for engagement in new markets for these customer types.

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.

Consumers will profit from more transparency in their energy usage and billing thanks to technological innovations and the digitalisation of the energy system. With increased awareness and potential cost savings, consumers' behaviour is likely to change: it will encourage them to take up a more active role in the energy market.

Nevertheless, one should not forget that every customer segment has different interests and needs, and different views on (transaction) costs and risks.

5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?

For CEDEC, the following key enablers are needed to unlock the benefits of digitalisation for consumers:

- Recognition and consideration of the need of different consumer segments
- Creation of consumer-oriented solutions
- Individualisation via automated solutions
- Enabling smart grid infrastructure: smart meters with appropriate functionalities and availability of actual (up to real-time) metering data are key to provide innovative service to consumers.
- An innovation friendly regulatory framework respecting technology neutrality.

6. What are the main risks for consumers arising from digitalisation of the energy sector?

One risk could come from an over-digitalisation, where the whole system becomes too complex and the costs related to provision and maintenance exceed the benefits of digitalisation.

A vendor lock-in must be avoided.

One should also take into account consumers who are not able to automatically adjust their consumption behaviour and therefore cannot profit from the benefits provided by digitalisation such as dynamic prices. This category of consumers should not be confronted with higher energy prices, and additionally measures must be taken to protect vulnerable consumers.

On top of this, the increased amount of (personal) data released must be kept private and secure whilst allowing for innovation.

7. What would a “whole energy system” approach look like – would this unlock more benefits of the digitalisation of the energy system?

Digitalisation will be an important factor to realise sector integration. A “whole system approach” should not end at the borders of the electricity system but should encompass the potential contributions of sector integration (linking electricity, gas, heating & cooling and mobility). This approach needs to be in line with the long-term national climate targets. I

A “whole energy system” approach which includes sector coupling and e-mobility would make it possible for smart systems to unlock a higher potential of benefits.

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

CEDEC agrees with the analysis of CEER that the key challenge for energy regulators will be to find the necessary balanced approach to ensure that policy and regulation do not impede innovation while continuing to protect and empower consumers. More specifically on:

Data collection

We agree that smart metering is key to achieve digitalisation in the energy sector, however taking into account the costs and benefits for the different customer segments involved. In order to make the most out of the data, they have to be interoperable, and there has to be an interface that is capable of providing the data. However, it is important that member states can decide if they want the data to be collected and distributed via a centralised or decentralised data hub. Successful decentralised models such as the Austrian EDA-platform should in any case not be compromised.

The beneficial contribution of smart metering systems to grid operation and planning will depend on whether DSOs are allowed to use the (near-)real-time measurement of consumers for grid-related purposes (operation and planning). For example, in Austria, the consumer can decide if the measurement will be every 15 minutes, daily or yearly. This choice is not helpful as only a small percentage of the consumers chooses the 15-minute option.

DSOs, as neutral market facilitators, must monitor the consequences of flexibility services in their grid-area and possibly interfere. In this context the role of DSOs is a coordinating one. Pre-conditions are the following:

- ☑Comprehensive monitoring of the distribution grid (high, medium, low voltage)
- ☑Knowledge about the situation and capability of the flexibility sources connected to the grid (e.g. decentral feeders, storage, charging stations)
- ☑The right to intervene in the case of (looming) congestions in the grid.

Data Sharing

Energy grids are critical infrastructures. Therefore, it should be carefully considered which data and in which detail must be provided by DSOs interactively on the internet. Security of supply is the first priority and shall not be compromised by data sharing.

The draft regulatory proposal in which new market participants should get access to data goes too far as it does not consider critical infrastructure that should be excluded. Compliance with GDPR and with the NIS-Directive should evidently be ensured.

Cybersecurity

As operators of critical infrastructure, DSOs must protect themselves against hacker and terrorist attacks. It is important to know that DSOs can only guarantee and be held responsible for their own components (grid, meter).

Network tariffs (cost reflective, fixed costs of system)

CEDEC recalls the importance of the further development of the grid tariff structure towards more cost-reflectiveness, through the strengthening of the capacity-component. This is important not only for the DSOs but also for a fair distribution of the burden between different customer segments.

Moreover, future-oriented regulation must foster investment. The EU decarbonisation objectives call for comprehensive investments in grid-expansion and renewal, the roll-out of smart meters, grid-sensors and automation. In addition to that the use/application of flexibility services will be more and more important. Therefore, DSOs must dispose of the necessary toolbox to tackle the upcoming challenges.

Market-based procurement of flexibility

As mentioned in a previous question, CEDEC believes that market-based procurement of flexibility services is one option amongst others for DSOs to access locally available flexibilities for grid-operation.

Expenses of DSOs for the procurement of the necessary flexibilities must be completely acknowledged in the grid tariffs.

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

Regulators should NOT pursue



9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models ("sandboxes"). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Regulators should pursue

Please explain your choices to the above question in the comment box below.

Regulatory proposal 2: This draft regulatory proposal in which new market participants should get access to data goes too far as it insufficiently considers critical infrastructure issues. Compliance with GDPR and with the NIS-Directive must always be ensured.

Regulatory proposal 3: We fully acknowledge that data privacy is a fundamental element of digitalisation and data management. At the same time, the EU has just adopted the General Data Protection Regulation which should tackle most of these concerns. Cooperation between energy regulators and data protection authorities is therefore strongly advisable.

Regulatory proposal 4: As part of the critical infrastructure, DSOs must protect themselves against hacker and terrorist attacks. It is important to know that DSOs can only guarantee and be hold responsible for their own components (grid, meter). In the future, security of supply will have to be ensured by a close interaction between primary and secondary technology. ICT-systems failure will become increasingly system-critical in the energy sector.

Regulatory proposal 5: This is relevant and required by the Electricity Directive. Trying to maximise reliance on general consumer is helpful. More cooperation between regulators across sectors is also key. Before integrating lessons from other economic sectors (like telecom or finance), their relevance and applicability must be clearly proven.

Regulatory proposal 6: CEDEC agrees on the need for regulation of intermediaries. The focus should not only be on traditional players of the energy sector. Third-party players such as aggregators must have balancing responsibility.

Regulatory proposal 7: All new market actors shall be subject to an appropriate network tariff that reflects their use of the distribution grid. Currently the tariff structure does not provide incentives for new upcoming technologies to be operated in a grid-friendly way.

Regulatory proposal 8: Whilst monitoring digitalised platforms and market places as a way to encourage the participation of prosumers, CEDEC also encourages the recommendation to establish an adequate oversight and feedback from stakeholders. Setting up digitalised platforms should not be defined as a priority in itself but should be linked to the concrete added value brought to the grid.

Regulatory proposal 9: This means sufficient incentives for investments, sufficient financial incentives for innovation and acknowledgement of the foreseeable increase of OPEX in the future.

Regulatory proposal 10: To guarantee a stable operational management of the grid, DSOs must be able to locally access available flexibility services. Therefore all available grid management options have to be at the disposal of the DSO. If markets deliver flexibility services locally and at competitive prices, DSOs should procure these services on the market; if not, direct contracts with flexibility providers must be allowed.

Regulatory proposal 11: formulation of draft proposal is not clear

Regulatory proposal 12: TYNDP must be designed to involve both TSOs and DSOs to assess the optimal infrastructure investments.

Regulatory proposal 14: This would follow the spirit of "first innovate, then regulate". As an example, in the Netherlands it is possible to grant DSOs certain temporary tasks or activities, to scrutinise how new innovations may support grid management.

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 1]

Regulatory proposal 7

---

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 2]

Regulatory proposal 9

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 3]

Regulatory proposal 4

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 4]

Regulatory proposal 14

10. Do you have any other general observations to make on the topic of this consultation paper?

---

## Survey response 25

### Contact details and treatment of confidential responses

Contact details: [Organisation][[]]
-------------------------------------

Centrica plc
--------------

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]
---

### CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?
---

We agree with the CEER definition of digitalisation as including three core elements:

- the use of software platforms for the optimisation of generation, transmission and distribution;
- the increase in the number of connected devices, with faster and cheaper data transmission;
- and the exponential increase in data and advanced analytics.

Digitalisation is reshaping the energy system and is disrupting the traditional utility model: it has changed the relation between energy suppliers and customers, has opened competition to new actors (sometimes coming from other sectors), has enabled the provision of new products and services, and has created new opportunities to reduce carbon emissions.

New IoT product propositions allow consumers to gain greater control over their energy while smart meters generate the consumption data providing energy operators with a better view of what is happening and likely to happen on the grid. Through data management and artificial intelligence techniques we can generate insights out of the vast amounts of raw monitoring data within the grid, from the production sites to the customers' home appliances.

Digitalisation has brought fundamental changes on both the supply and demand sides.

On the supply side, digitalisation is crucial for the integration of more variable renewables, deal with their intermittency and improve their predictability. Demand-side response, battery storage, virtual power plants, grid optimisation services, are all technologies allowing to maximise the electricity available in real time, providing flexibility whilst meeting peak load demand. These technologies are ultimately reducing reliance on large-scale generation, therefore allowing emissions reductions in the energy sector.

Navigant's forecasts imply that distributed generation, energy efficiency, demand response, and e-vehicles could reasonably be expected to reduce the volume of electricity going through bulk transmission (and thus centralised generation) by half by 2030 .

For demand response alone, the implementation of its full technical potential (6 900 TWh) would result in about 185 GW of additional flexibility for the electricity system globally in 2040. This amount of flexibility would avoid a cumulative \$270 billion (in 2016 dollars) of investment in new electricity infrastructure (new power-generation capacity and transmission and distribution) .

On the demand side, depending on the interplay between technology, policy and behaviour, digitalisation will also impact the demand function of energy, in different ways across sectors. First of all, we can expect growth in power demand driven by electrification of transport, higher use of air conditioning systems, for data centres refrigeration for instance, and improved access to electric devices and electricity in developing countries, just to mention a few examples, which will be partly compensated by energy efficiency improvements. When talking about the structure of the demand, digitalisation creates new possibilities for residential and industrial energy consumers to engage in demand management activities, resulting in better awareness of consumers and new revenue streams opportunities for them. Digitalisation and energy efficiency naturally go hand in hand.

2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?

We agree with CEER that digitalisation increases the productivity of the energy system, enables new products and services that alter electricity demand, and brings new digital marketplaces that transform the way the sector transacts. In addition, we think that digitalisation is a key enabler of decarbonisation of the energy sector.

a. Digitalisation increases the productivity of the existing system;

Digitalisation is a source of system efficiency and productivity.

First of all, digital technologies allow faster fault detection and predictive maintenance of infrastructure, saving costs and improving production resilience. In its Distributed Energy & Power business, Centrica uses AI for predictive maintenance for cogeneration units and to determine the optimal position of batteries and solar panels on customer sites. This helps reduce development costs for renewable energies and optimise their production. In its energy supply business, Centrica offers “Boiler IQ”, a device to detect fault in customers’ boilers, give engineers an overview on the boiler’s condition before they intervene and therefore have them fixing the fault faster and more hassle-free.

Second, we think digitalisation brings significant added value in allowing to optimise the available amount of electricity and reduce the need for additional generation. Digital technologies provide data, in real time, on the condition of the grid, facilitating ancillary services and balancing. This results in reduced losses on the networks, while making the most of distributed generation and intermittent renewable sources.

Third, better integration of renewable sources and more efficient use of energy are not only factors of productivity, but also major routes to the decarbonisation of the energy sector. Cost-effective decarbonisation cannot happen without fully exploiting the benefits of digitalisation.

In this regard, we think that artificial intelligence has a huge potential in accelerating the digital transformation of the sector. For instance, many companies are already using artificial intelligence to analyse how their machinery operates and optimise it to use less energy (some trials have shown efficiencies of as much as 40%). Artificial Intelligence can also be used in power trading. Thanks to advances in algorithms the fluctuating power supply generated by renewables can be successfully integrated into the energy market, and most value can be extracted from renewable power. For wind farms, algorithms can predict when a turbine needs maintenance, and how fast blades will turn at different wind speeds. With ever improving weather forecasting, operators are getting better at predicting energy output as much as 36 hours in advance.

To conclude, we’d like to raise the issue of cybersecurity. Digitalisation generates new vulnerabilities for the energy system – and a major threat to productivity of impacted businesses and sectors. We would however flag that some technological solutions exist.

Notably, specific data analysis software can help detect attacks faster and improve resilience. In acknowledgment of cybersecurity concerns amongst its (business) customers, Centrica Innovation invested in Indegy, a leading industrial cyber security provider. Their software is used in critical infrastructures, such as energy and water utilities and manufacturing facilities. The solution can be deployed with no impact on customers’ operations and has been designed to detect anomalies on industrial control systems, using advanced machine-learning technology to analyse and alert users to suspicious activity on their network. It helps us explore ways to deploy distributed energy resources with the optimal security solution.

b. Digitalisation enables new products and services that alter electricity demand;

Digitalisation means that as a company we can offer new products and services to our customers. By giving them more information about their energy consumption and giving us more insights on appliances use, digitalisation results in changes in the electricity demand. The propositions differ from residential to commercial and industrial customers.

Thanks to smart meters, residential customers are provided accurate billing and detailed information about their energy consumption. As leading installer of smart meters in the UK, we have observed that reducing bills is the first driver for households to have a smart meter installed. Smart meters are also the enabling technologies for greater customer engagement, to become ‘prosumers’ or to move to dynamic, time-of-use tariffs. This greater visibility on their consumption is likely to encourage them to consume less energy and more efficiently. However, a smart meter cannot in itself lead to energy consumption reduction, unless it is accompanied by energy efficiency advice from the energy supplier, dynamic time-of-use tariffs (sending a price signal to the customer) and smart appliances (able to switch on/off in function of power prices).

In future, we see great potential in the development of home energy management propositions, a combination of several digital technologies to make homes smarter and connected with their environment: this is indeed a combination of hardware and software technologies that enable households to analyse and control their energy consumption, integrate other services such as battery storage, EV charging, security technologies, residential demand response, etc. Home energy management propositions are assorted with various pricing models to respond to customer needs (for example by offering specific price contracts for EV owners).

Industrial and commercial customers can also be given opportunities to engage more actively in the energy market and to offer their flexibility through demand-side response. Demand-side response is altering the electricity demand, with positive effects in terms of management of energy costs and grid flexibility for the TSO. Demand aggregation can often be combined with a series of solutions, from energy management to the installation of distributed technologies, including battery storage, solar PV, etc. By offering their flexibility on the market and reducing their consumption, industrial actors can effectively form part of Virtual Power Plants (DSR combined with generation and storage). As an illustration we could refer here to our project in Terhills park, in Belgium, where we have partnered with Tesla and Elia on a Virtual Power Plant combining generation from renewables, aggregated industrial loads and 18MW of batteries to provide flexibility to the TSO.

c. Digitalisation brings new digital marketplaces that transform the way the sector transacts

☑ Digitalisation provides also the platform and the marketplaces to effectively allow consumers to engage on the energy market as “prosumers”.

☑ A modern digital marketplace should offer customers products and services that are tailored to customers’ preferences and lifestyles using data-based insights and incentives to promote low carbon options.

☑ The energy that consumers produce with their solar panels, that they save in their battery, and that is not directly consumed, is potentially a source of flexibility for the system, a backup source for another consumer, and a source of revenue for them.

☑ Consumers can be involved in innovative flexibility projects, such as local energy markets and virtual power plants, or can engage in peer-to-peer energy trading with other consumers.

☑ Local flexibility markets offer great potential. As an example, in Cornwall, we are trialling a local energy market for flexibility to relieve pressure on the grid and allow a greater penetration of renewables.

☑ Moreover, energy customers can now sell power to their neighbours through blockchain-enabled peer-to-peer trading. At Centrica we are convinced of the potential of blockchain technologies to enable customers’ participation in the market, and we are testing it in a couple of our projects:

- ☑ in community energy schemes and in multi-dwelling homes with our partner LO3 Energy as part of a local energy market project in Cornwall;

- ☑ in the London Borough of Hackney, where Verv has executed the first P2P energy trading in the UK through blockchain in the Banister House Estate, which has solar panels installed on 13 of the blocks of flats, smart hubs in the residents’ flats and batteries in the communal areas. Elements of this latter trial are enabled by a regulatory sandbox with Ofgem.

### 3. In your view, what are the most important value propositions for consumers, which should be prioritised?

We agree with the value propositions for energy consumers that CEER considers in the paper, which focuses primarily on household consumers: cost savings, convenience, choice, consumer participation.

☑ We recently found a very accurate description of the most important value propositions for consumers in the work done by PwC for the European Commission’s “Assessment and roadmap for the digital transformation of the energy sector towards an innovative internal energy market” (2019). In its report PwC describes the most relevant use cases in the energy sector and value propositions emerging thanks to the digitalisation of the sector. We found that the following use cases were particularly relevant to us:

- ☑ On-site energy optimisation processes for commercial & industrial and residential buildings

- ☑ Energy aggregation

- ☑ Customers data analytics

- ☑ Smart charging of electric vehicles and EV fleet management

- ☑ Community energy activities

- ☑ Tracking of renewables origin

- ☑ Improved operation and maintenance with data analytics and digital services

- ☑ Flexibility platforms

☑ From a business perspective, we would prioritise the on-site optimisation and the energy aggregation use cases. We elaborate further on these two use cases below.

☑ On-site optimisation processes for C&I and residential buildings include the development of solutions that enable customers to reduce their energy consumption and allow energy operators to optimise energy flows. These benefits have been described in previous answers.

☑ Consumers will invest in this kind of services if they see an economic reason to do it (consistent cost savings or opportunity to generate additional revenues), if the support for upfront investments is sufficient and frictionless, and if they can trust the service providers for the data management.

☑ In this regard, regulation has a role in ensuring that customers: 1) see price signals, 2) are allowed to participate in the energy market as prosumers, 3) can access financial incentives for energy efficiency and 4) are free to choose their supplier or several if needed.

☑ Energy aggregation activities which combine consumers loads, power generation assets or storage in order to sell it on the market, allow to make the most of the energy capacity and contribute to the management of grid congestion. Aggregators contribute to lower balancing and overall cost of the provision of ancillary services, and to better and cheaper renewables integration. This can be linked to the proposition described above and bring added value to customers flexibility/energy savings in the case when on-site optimisation processes are accompanied by demand-side response contracts.

☑ Aggregators therefore need to be allowed to access the different markets across all timeframes and to offer flexibility where needed. As well, availability of real time data, both on consumers consumption and network conditions, are key to demand-side response valorisation.

### 4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.

We think that indeed, digitalisation will lead to more consumer participation in the energy markets. However, for this to happen, certain conditions should exist. Consumers will engage if they receive appropriate price signals, i.e. the possibility to reduce their energy bills, and to generate additional revenues from selling self-generated and un-consumed energy on the market. They would engage more if they had loads they can shift and technologies that enabled them to make different low carbon choices, i.e. an EV to charge, decentralised generation technologies, a smart meter.

We also believe consumer engagement will depend on whether technology solutions are easy to understand/manage and are not creating additional hassles. For this we need user-friendly apps, interoperable devices (i.e. EV charging points), and a good level of automation that would open these opportunities also to customers that are not active enough to engage directly.

5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?

- [X] Appropriate price signals: pricing signals that reflect not just how much energy is used, but when energy is used, are critical in incentivising customer choices that are beneficial both for customers and for the system as a whole. Customers will unlikely engage if they don't see a financial benefit in doing so. They need to see clear price signals, for example higher power prices at times of high demand through time-of-use tariffs. Regulated tariffs at retail level and the high share of policy costs in the composition of the final energy price prevent the provision of a clear price signal.

- [X] Access to data: We are the leading installer of smart meters in the UK (we have recently installed our six millionth smart meter). To those customers with smart meters, we can provide tailored energy efficiency advice. This is only possible if they consent to sharing their consumption data with us and the rest of the market. It is crucial to educate consumers about the environmental benefits of participating in smart energy programmes. Alongside customers' data it is crucial to access quality data from the network operators: the lack of visibility on what's happening on the low-voltage network prevents lots of innovations and benefits to the energy system, and so ultimately to consumers.

- [X] Safeguards for customers: Building customer trust in these new technologies is essential. Data protection measures and cybersecurity safeguards play a crucial role in this respect. We also see a need to avoid a two-tier energy market, leaving behind the most vulnerable customers that are unable to adopt these digital solutions. Finally, we need to anticipate situations where customers are exposed to much more volatile prices. It's important that any future initiatives do not lead to unsustainable price rises.

- [X] A suitable regulatory framework: In some areas, the regulatory framework needs to be adapted. First of all, the regulatory framework should ensure that customers data are protected and that customers are allowed to share their data when they can benefit from sharing them. In addition, P2P models are constrained by current licence conditions which do not allow more than one supplier relationship per household/meter point. For some projects, regulatory sandboxes are the only option to test their feasibility.

- [X] Interoperability of IoT and systems: It is key that digital products and systems can work and exchange information with other providers products or systems, in order to allow the customers to benefit from a new technology without restrictions. For instance, anyone who wants to charge his electric car can be prevented from doing it whenever and wherever he wants because of lack of interoperability of EV charging points.

6. What are the main risks for consumers arising from digitalisation of the energy sector?

We think the main risks for consumers from digitalisation of the energy sector arise from two key dimensions of digitalisation: first, the exponential availability and importance of data and second, the creation of new business models made possible by the digital revolution.

First of all, the need and availability of data brings risks in terms of cybersecurity and data privacy. As already mentioned, the exponential increase in the number of connected devices and electronic communication exchanges increases the number of access points for cyber-attacks. At the same time the huge amount of data available raises concerns about which type of customers' data we should consider as personal, to what extent an operator should be allowed to access it, and how we ensure these types of data are protected, anonymised and used for contractual purposes.

A second set of risks may emerge as a result of the emergence of new business models, especially in terms of consumer safeguards. As mentioned before, we have to avoid the creation of a two-tier energy market, where some vulnerable customers or those who are less able to engage in innovative offers, are left behind and end up paying higher bills.

A level playing field between suppliers and other providers of energy services is key to limit the risks for consumers. As new trends emerge on the market (with an increased number of small suppliers, new providers of energy services, etc), we believe that all energy suppliers should be obliged to protect vulnerable customers and that the costs of suppliers' obligations should be spread fairly across society. For instance, currently in the UK, smaller suppliers are exempt from obligations under the "Warm Home Discount" and the "Energy Company Obligation".

7. What would a "whole energy system" approach look like – would this unlock more benefits of the digitalisation of the energy system?

We think that indeed, a "whole energy system" approach would unlock more benefits of the digitalisation of the energy system. The energy system is now fundamentally connected with the transport system and the digital infrastructure. As a consequence, sectors are all starting to overlap, as it is the case of tech, communication and energy for connected home projects, smart cities etc. However, while we should be having a holistic view, policies and regulations are still defined in silos, which tends to generate inefficiencies. For example, data privacy measures should only be decided after close consultation of energy stakeholders, as they may have a major impact on smart energy systems. Another example is the role of EV batteries as a possible flexibility sources for the power system. Digitalisation leads to the multiplication of interconnections between systems and regulation should be defined following a holistic view of costs and benefits not just for one system but for the entire economy.

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

In general we agree with the analysis presented on the key areas in which energy regulators should focus on. More specifically we think that regulators should focus on making sure that third parties can access network data. Regulatory models should be amended so as to push market participants in making the most of it and not just using it as a means to gain their market share. Moreover, we think that in order to allow new products and new platforms, regulators should limit their intervention to ensuring a level playing field among suppliers.

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

Regulators should pursue



---

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models (“sandboxes”). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Regulators should pursue

Please explain your choices to the above question in the comment box below.

- Draft regulatory proposal 1 and 2: regulators should pursue

Lack of visibility on the situation of the low-voltage networks is preventing the introduction of new innovative services, and consequently their benefits. Without the appropriate visibility, investments in decentralised, flexible solutions (EV charging, wind, solar and storage) are more risky, but their business case could be strengthened if they could easily demonstrate their benefits (e.g. addressing congestion issues in areas of the distribution grid).

The quality of data is key for the DSOs to effectively manage the network, optimise the system and unlock new local markets. DSOs should be encouraged to invest in the appropriate technology, in different parts of the network, that would allow the collection of qualitative and accurate data.

The data should be used to stimulate innovation and therefore should be securely shared with third parties. These third parties could be aggregators and other providers that can offer the services needed to solve grid problems. They could also be direct consumers who might evaluate whether to buy their energy from the grid or from their neighbours, or whether to engage in self-consumption.

- Draft regulatory proposal 3: regulators should pursue

We need to work across sectors and across regulators to ensure that customers data are protected and that consumers are allowed to share their data when there could be benefits for them. The General Data Protection Regulation provides a very robust framework and there is no need for additional energy-specific regulation on data protection.

- Draft regulatory proposal 4: regulators should pursue

Digitalisation makes the energy system more and more connected, therefore appropriate cybersecurity standards should be implemented across all actors in order to ensure protection and a level playing field.

- Draft regulatory proposal 5: regulators should pursue

We have already outlined above that new developments on the energy market should not lead to the creation of a two-tier market and that protection should be guaranteed for the most vulnerable that are not able to engage in the market and reap the benefits of such engagement.

- Draft regulatory proposal 6: regulators should pursue

We do agree regulators should consider best model for regulation of intermediaries so that they can ensure an equal treatment between these intermediaries and the traditional suppliers.

However, we think regulators should not consider arrangements for a default supplier to inactive customers. We think fair competition will deliver the best outcome for the customers.

- Draft regulatory proposal 7: regulators should pursue

We support cost-reflective network charging, reflecting costs and benefits generated for the network depending on time and location. Any move towards fixed charges discourages energy efficiency and neutralise flexibility solutions like demand response. In the UK we are observing that tariffs are moving towards being more passive rather than more cost-reflective. We are worried about this trend, which reduces incentives for flexibility. To be fit for the future tariffs should be as reflective as possible, including appropriate safeguards for vulnerable customers.

- Draft regulatory proposal 8: regulators should pursue

Regulators should ensure a level playing field between different technologies. Where barriers are identified to the development of platforms and new marketplaces, regulators should evaluate how to remove them.

However, we need to highlight that platforms and marketplaces should be approached differently. For the development of platforms, preserving the level playing field and avoiding unnecessary regulatory burdens is very important. For the development of new marketplaces, on the other hand, the barriers are mainly regulatory, and regulators need to set up core principles on how these markets should develop, what are the responsibilities. They should also encourage regulated entities to trial these models.

- Draft regulatory proposal 9: regulators should pursue

As mentioned above, we support cost-reflective network charging, reflecting costs and benefits generated for the network depending on time and location, so that the right signals are sent to network users and flexible solutions are rewarded.

- Draft regulatory proposal 10: regulators should pursue

We are not fully comfortable with the formulation of this proposal. Regulators should ensure the DSOs do not run the marketplace, and that the market where they buy flexibility is independent, transparent, auction-based, and has as many buyers as possible.

On the other hand, regulators should ensure that on the sell side there are as many assets as possible, such as renewable generation, flexible generation, customers' aggregators, etc.

- Draft regulatory proposal 11 and 12: regulators should pursue

11: DSOs and TSOs should be aligned not only on product definitions but also on procurement timeline and methodology, as these differences impact the decisions of both actors.

12: DSOs-TSOs coordination is key and should be done through an independent platform, and the rules for coordination should be transparent.

-Draft regulatory proposal 13: regulators should pursue Digitalisation is there to stay, and NRAs should be equipped to fully understand its impact on energy market.

-Draft regulatory proposal 14: regulators should pursue Sandboxes allow innovation that may not comply with all current market regulations but can benefit customers. However, regulators should also consider how to go beyond the sandboxes, that are time limited and there is no plan so far to translate them into a longer-term regulation.

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 1]

Regulatory proposal 1

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 2]

Regulatory proposal 2

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 3]

Regulatory proposal 7

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 4]

Regulatory proposal 10

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 5]

Regulatory proposal 12

10. Do you have any other general observations to make on the topic of this consultation paper?

To provide more context, we wanted to provide CEER with additional information about Centrica's activities, which will provide more background about our positions expressed in this consultation.

Centrica plc is an international energy and services company, supplying energy and services to over 25 million customer accounts mainly in the UK, Ireland and North America.

Over 5 years Centrica is investing over £1.2bn to transition away from being a traditional utility provider to a technology-driven energy and services company. We are developing new and innovative products, offers and services for customers through our five growth businesses: Energy Supply Services, Connected Home, Distributed Energy & Power and Energy Marketing & Trading. Our approach is to empower customers by enabling and incentivising their low carbon choices.

Two of our businesses are particularly embracing opportunities offered by the increasing digitalisation of the sector - Connected Home and Distributed Energy & Power:

- In the residential sector, our Connected Home business offers IoT smart home solutions (available under the Hive brand in six countries globally) allowing customers to control their energy, save on bills and improve the maintenance of their appliances (through connected fault detection devices);
- For industrial and commercial customers, Centrica Business Solutions is deploying distributed energy solutions on-site to increase efficiencies and save on costs. This is done through the generation of data insights, the deployment of energy management solutions and the installation of distributed energy solutions (solar, storage, CHP, demand-side response).

In addition to these, as part of our supply business in the UK, we offer additional services such as "Boiler IQ", a smart and remote diagnostics of boiler faults made possible by IoT. We also created "Local Heroes", a kind of Uber of home services, and as part of our Energy Marketing & Trading business, we use algorithms to bring renewable electricity into the market.

In 2017 we also launched Centrica Innovations – a unit that aims to identify, incubate and accelerate new technologies and innovations that can help provide the right offers, products and services which benefit our customers. We are growing our innovation capability by investing £100m in new ventures over 5 years. For instance, in 2018 we invested in LO3 Energy, a New-York based start-up specialising in blockchain solutions for the energy market. We also have a partnership with Verv, a London-based start-up which using AI gives customers intelligent information about key appliances and electricity usage in their home, and that has executed the UK's first peer-to-peer energy trading through blockchain. Finally, we recently invested in Greencom Networks, a smart home services start-up, which has developed an IoT platform that enables consumers to save or earn money by reducing their energy consumption or providing demand-side response to the power grid. Centrica Innovations also invested in Driivz, a start-up offering end-to-end software solutions for EV charging.

---

## Survey response 26

### Contact details and treatment of confidential responses

Contact details: [Organisation][ <input type="checkbox"/>
Business Integration Partners S.p.A.
Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]
<input type="checkbox"/>

CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?

Bip agrees on the arguments exposed within the document regarding the impacts that digitalisation will have on the whole energy system, and identifies, as an additional effect, the favourable impact on the sustainability. Digitalisation contributes indeed the whole energy system to be more environmentally and economically sustainable for the following reasons:

— Increase of asset and field devices lifetime by reducing the replacement rate and, thus, minimizing on-field interventions and risks of accident (safety). These benefits will be achieved through power grid real-time monitoring and higher automation and remote control by the operators. In other words, these enablers will allow operators to have full observability on the network at different electric tension and to operate predictive maintenance;

— Significant reduction of network losses thanks to the improved integration of distributed generation, being essential to reduce the distance from injection and withdrawal of energy.

In relation to the sustainability, there is a point of caution that regards the potential increase of overall energy consumption due to the new services enabled by digitalisation (e.g. electrification of heating and transport), thus conflicting with the European decarbonisation targets. Thus, planning the development of digitalisation along with the increase of renewable energy sources is overriding in order for this sustainable power generation to cover the additional consumption.

As far as the impacts mentioned in documents are concerned, Bip highlights in the following paragraphs the most relevant.

"Dynamic regulation model evolution"

Bip agrees on the necessity to evolve towards a dynamic regulation model so as to respond quickly to the whole energy system needs induced by the digitalisation process.

Bip believes that the essential aspects of a dynamic regulation are the following:

— Prompt Intervention. To do so, it is necessary that the regulatory authorities start an adjustment process of their IT infrastructure, process framework, procedures and data analysis skillset to manage, elaborate and value data received from the other operators. This is essential to identify market trends and adjust accordingly their own regulation in a timely fashion;

— Capacity of operating at different level of pervasiveness depending on the to-be-regulated object. A binding and strict regulation should be preferred for themes related to the consumer protection, whereas a more flexible regulation should be opted for operator activities not impacting the consumer in order to avoid being an obstacle towards evolutions - not always easy to predict - of an energy market more and more liquid and dynamic.

"Optimisation and streamlining"

Digitalisation will bring to optimisation and simplification of some of the operator core activities thanks to the reduction of:

— Litigation or bills cancellation through the smart billing;

— Network losses and failures through real-time monitoring and automation, increasing efficiency and quality of service;

— Imbalance costs by leveraging advanced forecasting systems and new market mechanisms (e.g. flexibility market).

Digitalisation will enhance activities and process efficiency of the energy sector, leading to benefits for all the consumers which result in lower costs in their bills.

The simplification of the interface with clients over the sales and post sales phases (e.g. switching, power capacity increase, data uploading, etc.) will improve the client engagement, also facilitating the identification of client needs and the development of customised offers. Moreover, digitalisation will have positive impacts on the operators who will manage a diversified and complex active client portfolio (e.g. charging stations, PV combined with storage, micro-CHP, etc.). The operators, in short, will have to evolve in terms of organisation and technology to promote digitalisation within the energy sector.

"Increase in awareness and knowledge of the energy sector"

In relation to final consumers, digitalisation will represent – along with operator actions aiming at an awareness increase – an opportunity to increase the understanding of energy use habits, encouraging energy and economic saving through behavioural efficiency and/or providing ancillary services. The awareness of clients will increase thanks to the higher transparency and monitoring of energy costs (apps, online platforms, smart meters, etc.) as well as the access to energy services. Such aspects will translate to an increase in utility trust. On the other hand, the regulation should not discriminate and penalise the passive consumers not taking actions to participate to the new digitalised market, who risk not benefiting from advantages of digitalisation.

2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?

Bip believes that the three changes highlighted in the consultation paper are strictly interconnected. Nevertheless, from the operator point of view, bringing new digital marketplaces and market logics might be the most disruptive aspect as it will lead to a considerable evolution of the positioning and activities of the traditional operators along the energy value chain by encouraging the diffusion of P2P trading and energy communities. To measure this phenomenon, it should be considered that only the active consumers are beneficially impacted by digitalisation, but they represent a limited portion of population.

On the other hand, from the consumer point of view, the most relevant changes concern the new services and products which will involve both active and passive consumers; this will take place on condition that the digitalisation process promptly makes such innovative services usable and useful to improve concretely the quality of life, particularly for mobility and smart building.

3. In your view, what are the most important value propositions for consumers, which should be prioritised?

Bip believes that the importance of each value proposition is strongly dependent on the customer profile. The socio-cultural context, the financial resources and age class are elements which affect significantly the level of consumer awareness of the real value and benefits of digitalisation, influencing also their level of participation.

Based on the Market Analysis carried out by Bip in Italy, these factors are to be considered within an overall inertia of consumers to change. The growth trend of participation to the Free Market (from the Protected one) for residential consumers in Italy has been stable but very slow over years – 29% in 2014 and 46% in 2018. However, within this scenario, the age classes mainly oriented towards the Free Market are indeed 20-30 years (70% participation) and 30-40 years (60% participation).

Another element hindering this change is the low engagement of consumers in choosing their most suitable Utility provider. Based on the evidence of a survey carried out by the Italian Regulatory Authority (ARERA), it turns out that 40% of respondents declare not to gather any information about the electricity market and that only 6% do it by using the Internet. The knowledge of the Market is so limited that the survey results confirm that only 44% of the respondents is aware that their Utility provider offer different contractual options; even for most European countries the switching rate has been lower than 10% from 2012 to 2018. In this context, effective policy and instruments of raising consumer awareness are therefore necessary.

With regard to the value propositions exposed within the consultation paper, based on Bip analysis of the energy sector, the most prominent ones can be identified in analogy to the key drivers adopted by consumers when choosing their own Utility provider. Overall, residential consumers opt for high quality services where the reliability and transparency are as well considered as the environmental sustainability; the green option remains one of the most chosen added service to the commodity supply (46-49%). The mere economic convenience plays a secondary role for most of the consumer choices. In accordance with the mentioned considerations, Bip believes that among the ones suggested within the consultation the most important value propositions for the consumers paper are convenience, and then cost saving. Only at a second stage, when an adequate level of understanding and awareness of the energy sector is achieved, the other value propositions (choice and participation) will play an equivalent role.

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.

Bip, as highlighted in the previous answer, points out the evidence of poor consumer participation in energy markets. In Bip's opinion, this should be attributed to the following aspects:

- Improvable actions of raising awareness;
- Misperception of the real, achievable benefits by actively participating in energy markets;
- Poor trust in Utility providers in the switching (or analogue) process and the low transparency on the contract conditions.

These factors affect the choice of consumers, who, even when being led by the cost saving driver, are not effectively engaged because of the lack of trust in Utility providers;

- Diffuse perception that the energy sector is characterised by dynamics being complex to understand and not very oriented to the simplification of energy usage habits and personal needs.

Digitalisation will be able to boost the participation as soon as it overcomes the mentioned customer biases regarding convenience and cost saving. This can be done, along with the consultation paper and Bip considerations, through the following actions:

- Diffusion of software platforms to monitor and control energy consumption,
- Execution of remote commands to provide network services (field devices, actuators, etc.);
- Development of new services which enhance the quality of life: mobility as a service to sustain the environment in the urban centres, and providing a new way of conceiving mobility, while minimising the costs of investment;
- Increase of self-consumption with the possibility of valuing surplus production;
- Higher social interaction and enhancement of local relationships by the development of energy communities.

Lastly, the improved convenience being associated with transparency and clarity will bring to a higher awareness of the real opportunities and, thus, to a higher consumer participation.

## 5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?

Bip identifies some essential factors to enable a progressive, non-discriminatory and effective process of digitalisation and unlock the benefits for consumers.

"A non-discriminatory, simple and dynamic regulation"

Bip believes that the regulation can be a key enabler for digitalisation on condition that the following actions are taken:

- The regulation should promote and define an output-based approach for every European member state, with the aim of making operators adopt approaches based on the value of the provided service. This might bring, where it is convenient for the whole community, to investment in digital rather than physical assets and, consequently, to positive impacts on the sustainability and service quality. The integration between the existent local distribution network and the upcoming e-mobility infrastructure is an example of where this approach can be adopted. The output-based approach might incentivise the development of flexible smart charging solution (modulation of EV power according to the network requirements) with evident benefits in terms of sustainability, despite duplicating the existent infrastructure;
- The regulation should favour the interoperability between the operator IT systems and regulatory authority IT systems, through the definition of standard technological protocols;
- The regulation should provide incentives to operators and, particularly, Energy Retailers in order to promote (and not hinder) the creation and diffusion of energy communities and/or P2P marketplaces. Incentive mechanisms are essential to sustain Energy Retailers that will have reduced revenue due to the prosumer role;
- The regulation should allow DSOs to adopt instruments to prevent and manage DSO network congestion and other criticalities, thus avoiding postponing withdrawals and injections of electricity in the network – for instance, by dynamic tariffs and price signals to the consumers. Moreover, DSOs will have to be supported by IT instruments to gather, analyse and elaborate near real-time data. In this case, the output-based approach might guide the consumers to alternative solutions (e.g. Software as a Service);
- The regulation should ease the governance of energy markets and relative ancillary services as well as the adoption of user-friendly, enabling instruments to increase the consumer participation. This might also affect the markets by making them more liquid and reducing the system operating costs, which represent also a benefit for the consumer.

To summarise, the regulation should simplify the processes and relationships, while protecting all the involved actors by developing new ways of engagement, communication and support to the consumers – actors less informed and at a higher risk. Regulatory authorities should indeed be able not to penalise the consumers being less open to digital transformation by means of campaigns and incentive mechanisms in a transitional period where the digital services would not translate to economic disadvantage for the “digitalisation turtles”.

"Investment incentives and monitoring"

The operators should allocate investments to change drastically their organisation, IT infrastructure and process framework, being ensured to be able to pay them off also through funding or incentives. The regulatory authorities could incentivise such investments by defining digitalisation indexes and remunerating the operators once the pre-determined targets have been achieved; this is aligned with the previously mentioned output-based approach. The consumer, in turn, should perceive the advantages of the investments in terms of convenience, level of service, accessibility and user experience. The whole process may be supported by regulatory measures to evaluate and monitor the progress of the level of digitalisation of each single operator; for instance, regulated standard KPIs could enable comparison and incentivise fair competition among same categories of operators.

"Consumer awareness"

The consumers are very diversified in terms of their openness to the digital transformation. The main mistrust barriers for some of them are to be associated with:

- Poor knowledge and understanding of the energy value chain and its dynamics;
- Credibility and trust in Utility operators;
- Poor or absent perception of the benefits coming from an active participation.

The electricity market turns out to be difficult to understand for the largest part of the population, also including the functioning of the processes closer to the consumer (Power Retail). A survey carried out by the Italian Regulatory Authority (ARERA) highlights that 71% of the respondents do not know the components of their utility bills, and 70% is neutral or unsatisfied with the clarity and thoroughness of the information published on Utility provider websites. The general disengagement of consumers is also demonstrated by the current percentage (54%) of clients still in the Protected Market. The change should thus act at both cultural and generational level.

With the purpose of mitigating the highlighted risks, it is essential to carry out some specific initiatives, being listed below:

- Opting for a higher transparency in the energy service remuneration models, promoting campaigns of raising awareness, also through platforms to better engage the consumers;
- Extending to all the European Countries, at a national and European level, the best practice of some countries to share a Utility provider register on which customers can evaluate them based on ratings for each energy service provided. The rate should be given, not only based on the compliance level with the regulatory requirements, but also on technical, financial and respectability drivers. This will allow the consumer to have more reliable instruments to evaluate the trustworthiness of the providers, thus improving the general trust in the whole energy system;
- Conveying to the governmental entities the request of transferring some of the utility bill tax charges of general interests to some other forms of taxes (e.g. the Italian television tax, or the costs sustained for energy efficiency and renewable energy incentives at a national level). This measure will help reduce the absolute value of the utility bills, while increasing the relative value of the energy component on which Utilities really compete. In turn, the perception of the advantages generated by the

application of more convenient tariffs or other VAS service costs will also improve.

#### "Technological Adaptation"

The key enablers of digitalisation are the smart technologies which are necessary for the gathering, elaboration, management and communication of data within the whole energy system. This will speed up the development of a digital energy-oriented value chain, which, in the face of moderate investments, manages to provide flexible, customised solutions to easily integrate with the field devices and Market IT platforms. A point of attention is the low interoperability of smart solutions with existent infrastructure, which are often obsolete and rigid in their architecture.

#### 6. What are the main risks for consumers arising from digitalisation of the energy sector?

Bip agrees on the risks expressed within the DCO. In terms of priorities, the following factors are of primary importance:

- Digitalisation and technological innovation have exposed companies to other risks related to Cyber Attacks. The World Economic Forum, in its recent report "The Global Risk Report 2019" classifies Cyber Attack risks as comparable – in terms of probability and impact – to other global risks such as environmental risks. Cyber Attacks have been significantly evolving over the last ten years in terms of quantity and complexity. The Attackers are also far more organised and act with clear targets in mind and following schemes of traditional criminal organisation;
- Digitalisation within the industrial sectors as well as their Smart Grid interconnection expose organisations to attacks which can put at risk the operational service continuity and cause economic damages; the consequences are even worse in terms of reputation and trust. Cyber Attacks are indeed a "digital weapon" which can be used to compromise the social wealth of a country. To mitigate such risks, some regulation has been put into effect to oblige organisations being classified as "Operators of Essential Services" (NIS Directive) to control and manage Cyber risks, also in terms of procedures to respond to Cyber Attacks;
- Digitalisation is characterised by a massive gathering of data concerning behaviours, actions and habits of consumers using available services. This type of data (Personal Data, relevant to Privacy Protection) can undergo unlawful processing by the same companies offering services to be used for target-oriented marketing campaigns (also against customers' will). The same data can be also compromised at consumers' expense (Data Breach). In this area too, Authorities have made laws to protect the citizen rights. In Europe, the reference normative is the General Data Protection Regulation (GDPR) which obliges companies to operate risk analysis and adopt adequate protection measures;
- Market abuse risks or potential discriminatory mechanisms among operators and consumers can lead to negative impacts on the latter (low transparency, creation of monopolies with increase of sourcing costs, etc.);
- The regulation should be not a barrier but, on the contrary, an enabling factor. For instance, as it occurred for self-consumption in Italy (Sistemi Efficienti di Utenza, SEU), the new market dynamics had brought to new setups before an ad-hoc regulation took place;
- Protecting people from damages in multidisciplinary and integrated business contexts (diversified service and product portfolio) should pass through the definition of responsibility and compensation models;
- Increase of the gap between active consumers and passive consumers, which could generate a substantial difference of sourcing costs and penalise the least dynamic consumers;
- Potential increase of the Digital Divide at both European and National level. Therefore, it is necessary to continue to invest in connectivity infrastructure, supporting particularly whom operate in Areas of Market Failure. This is essential to grow the number of consumers accessing Internet at limited costs and with a good quality level, and thus making them participate in the digital process.



7. What would a “whole energy system” approach look like – would this unlock more benefits of the digitalisation of the energy system?

A whole energy system is defined and characterized by the features described in the following paragraphs.

#### ROLE INTEGRATION

##### "Consumers"

The traditional consumer will not be just a mere consumer as it has been so far, but it will evolve in the so-called prosumer, becoming producer and service supplier. This evolution will involve:

— An active participation in grid balancing services, making their own habits flexible and exploiting generation and consumption assets owned by the user (or provided on loan by market operator) such as FV combined with storage or EV charger infrastructure;

— The creation of energy communities, seen as energy microsystems in which the traditional activities of managing production and consumption flows are managed in an optimized way at the local level, also using assets held by consumers. In this context, energy retailers will have to be encouraged not to hinder the development of such communities, despite these configurations could reduce their core business revenues.

##### "Dso"

The increasing integration of delocalized and non-programmable production resources, in conjunction with final load electrification, entails for the distributor the need to manage active and “smart” networks -much more complex than the current ones - while maintaining the standards of safety and service quality. To this end, it is necessary that the DSOs collaborate and coordinate with TSOs to both plan new activities and manage the network. Consequently, with the purpose of having a greater awareness and visibility of the growing critical issues on their networks, the DSOs must invest in measuring tools, data management instruments and communication systems. These allow to increase the observability of their networks and the related resources connected to them (not only in MT but also in BT). Furthermore, to actively and independently manage the resolution of the identified criticalities (e.g. network congestion), “smart” tools are needed, such as dynamic tariffs, flexibility services and new market logics at local level, to reduce investments in network upgrading. In this context communication and cooperation between all the sector’ operators (including end users) are essential.

##### "Energy Retailers"

In relation to the evolutions described above (diffusion of the energy communities, increasing need for local flexibility, etc.), Energy Retailers will no longer be only commodity suppliers, but providers of extra-commodity products and integrated energy services (e.g. energy monitoring and/or domotics; electric columns for charging electric vehicles and participation in the flexibility market, etc.).

#### "TECHNOLOGICAL INTEGRATION"

The integration of the electricity market must be seen not just as sharing system management activities, but also as technological integration. This will include, in addition to the diffusion of production assets within the consumer’s premises, the transition of historically fuel-based loads (and therefore external to the electricity system) to power-based loads: first of all electric heating (HP) and transportation (EV).

To enable an integrated market for both roles and technology, an evolution and integration of the observability and management tools of the infrastructures is necessary, whose functions are shared and accessible to all the actors.

This translates into:

— installation of plug & play, flexible field equipment, being natively open to various technological configurations. Installation and availability of assets must be faster, more intuitive and affordable;

— both distributed and centralized Databases for the analysis and management systems which all operators and consumers can access for different purposes;

— communication infrastructure able to manage an increasing amount of data closer and closer to real-time at high granularity.

These widely accessible tools will make common and useful data available to all market operators, avoiding inefficiencies and duplication of investments.

Furthermore, the integration of the end users in the management of the system will make them aware and proactive, contributing to the creation of a pool of potential resources from which the operators can take advantage of to facilitate the operation of the networks.

The identified technological and role changes make it possible to unlock the main steps of digitalization, and, at the same time, digitalization will allow wide diffusion of these new configuration and roles.

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

Bip agrees on the analysis presented on the key areas. Based on the strong experience in the Energy and Utility Sector, Bip has also provided additional aspects to focus on in the answers to the other questions.

---

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models (“sandboxes”). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Regulators should pursue

Please explain your choices to the above question in the comment box below.

Bip agrees on pursuing all the draft proposals listed above because they are coherent and consistent with the topics treated in the consultation paper as well as in Bip’s consultation answers.

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 1]

Regulatory proposal 11

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 2]

Regulatory proposal 14

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 3]

Regulatory proposal 3

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 4]

Regulatory proposal 4

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 5]

Regulatory proposal 1

10. Do you have any other general observations to make on the topic of this consultation paper?

Bip does not have any other general observations to make.

---

## Survey response 27

### Contact details and treatment of confidential responses

Contact details: [Organisation][ <input type="checkbox"/>
---

T&D Europe
------------

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]
---

### CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?
---

Digitalisation is one of the key enablers for a successful energy transition towards a carbon emission free energy supply. With the right prioritisation, forecasting and anticipation based on data, digitalisation will lead to a better and more resilient electricity grid.

The new electricity system handles massive amounts of data on, for example, weather forecast, electric vehicle charging, traffic and security. This data from manifold sources, like households, buildings, communities and industry helps to control and forecast energy flows. The opportunity and the challenge is to manage all this data in ways that facilitates life for the users of the electricity system and avoid that the exchange of data is choking the system. T&D Europe members have participated with our customers in demonstrations on how to enhance the grid, increase its flexibility, and anticipate requirements through strong real-time software, analytics, combined with active software grid management from smart meters to power generation. We have derived new technical solutions from these experiences.

Considering this fundamental transformation, the present and future grid can't be operated in the same way as it was done in the past. Through digitalisation and communication we can manage the maintenance and modernisation of the grid and continue to enjoy a secure supply of electricity. This requires a special focus on the application interfaces and the underlying data models to achieve interoperability and to reduce the effort for setting up communication links, e.g. between a solar inverter or a smart home and a virtual power plant.

There are at least 8 ways in which digitalisation and data help the EU to achieve its energy and climate objectives:

1.  Increased transparency for energy prosumers, from residential to industrial sites, about their energy footprint and the usage of their energy profile data;
2.  Greenhouse gas emissions reductions due to an improved ability to accommodate renewable energy;
3.  Reliable and more efficient electricity grid operation by means of a better utilization of installed assets;
4.  Energy traders and retailers can more precisely forecast their balance group to minimize the need of ancillary services;
5.  Technology providers can receive feedback on the performance of the installed components, which helps to make the products more efficient, more reliable and to improve the overall sustainability of the energy system.
6. New sources of flexibility to enable innovative solutions to the energy balance;
7. Augmented cybersecurity surface where customer appliances might create grid issues;
8. New energy coupling opportunities for a further energy optimization.

For a full and quick digitalisation, the energy sector needs smart answers to questions about ownership, protection, liability and transfer of data. In the energy sector digitalisation is often only associated with smart metering and the management of meter data. Digitalisation will affect many more areas in the management of energy system, and therefore data management regulation has to address many more data types beyond those coming from smart metering.

2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?

In our view the changes in the energy system – driven by policy and regulation - should result in increased productivity, enable new products and services and lead to the development of new digital marketplaces:

- Regarding productivity and increased efficiency, there is a need for measures and incentives to introduce more sensors and artificial intelligence, which would raise asset availability.
- With regards to services we would like to raise the benefits of Microgrids-as-a-Service (MaaS). MaaS models offer a flexible asset ownership structure for utilities, retailers, communities and third-party financiers to strategically collaborate with end customers to diversify from traditional power service opportunities. MaaS is essentially a power purchase agreement financed through a combination of debt and equity. Unlike large scale renewable energy projects, such long-term contracts for microgrids have not yet been widely implemented. Standardization of business models and sharing and replication of best practices will be key to unlocking new sources of competitive financing.
- Regarding the marketplace, the development and implementation of an enabling regulatory framework for flexibility markets will enable grid operators to optimise the usage of their assets.

We would like to add that the energy transition should deliver on cost-effectiveness, sustainability and security of supply. We would therefore like to add the importance of increasing and sustaining the efficiency, reliability and transparency of the new energy system.

The Energy Transition is a process driven by the aim for more sustainable energy sources enabled by technological progress. The new energy reality will be increasingly decarbonised, digitised and decentralised. At the same time citizens will be able to actively manage their energy consumption and production as a prosumer, as part of a microgrid or otherwise engaging with a much more flexible electricity grid. New digital tools, data access and analytics will facilitate and enable this interaction.

The energy transition requires a fundamental re-thinking of how power systems are designed and operated. The new sources of energy are volatile, they may be geographically constrained, they are less controllable than conventional sources and they will result in a much more distributed and fragmented generation sector than in the past. Therefore, in addition to delivering on the three main expectations – cost-effectiveness, sustainability and security of supply – the modern electricity network also needs to be able to serve all types of users and needs to be accessible to all new users, some of whom may not yet be known today.

Electricity grids connect and coordinate all elements of power systems to serve their end users. Grids will play a crucial role in facilitating and enabling the energy transition to incorporate increasing levels of distributed generation, changing demand patterns and the implementation of new technology and solutions. As we move on from traditional energy systems, new, smarter solutions will be required to manage the changing generation mix, whilst maintaining affordability and ensuring security of supply. This means that not only the generation sector will have to undergo a fundamental transformation, but also the grids will have to change and deliver value and quality of supply to consumers.

3. In your view, what are the most important value propositions for consumers, which should be prioritised?

Society is increasingly becoming dependent on the internet and cloud-based IT services. As delivery of these relies on electricity this will further increase our reliance on the power infrastructure. While consumers are likely to value cost savings, convenience, choice and consumer participation, they will also expect that electricity networks limit power failures, are well protected against cyberattacks, can deal with the reduction of system inertia and enables them to rely on local energy sources. Some consumers may want to take back control from the grid operator by establishing citizen energy communities. Regulation should enable the interconnection of microgrids, which support these communities.

Consumers will expect to see well designed and managed 'black start' and system recovery plans after 'normal' faults as well as from cyberattacks. Another value proposition for a certain set of consumers is carbon dioxide reductions. This may well be achieved through for example choice or consumer participation, for a certain group in society it may be seen as a value in itself.

In the European Union consumers have benefited from a strong and reliable electricity grid with relatively few interruptions. The quality and reliability of the European grid is currently taken for granted, thereby undervaluing the importance of the network. As electricity is considered as something that is always available, there is a need to raise awareness of the importance of the energy system and the crucial role of infrastructure to ensure societal support for the necessary investments in future-proofing the system.

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.

The energy transition and digitalisation should enable more consumer participation for those who would like to become more active. The European Union places consumers at the centre of the Energy Union: all consumers in the EU will be entitled to generate electricity to consume it, to store it, to share it, to sell it and to switch supplier, etc. This is good news for who wishes to become a prosumer and be more in control of their energy production and consumption. Through the development of microgrids prosumers - individual citizens, but also buildings, industrial sites or communities - can take their place at the centre of the Energy Union and benefit from the new electricity system.

A microgrid is an actively integrated controllable energy system consisting of interconnected energy producers (e.g. wind turbines, solar panels, cogeneration), storage facilities, and consumers (households, industry, data centers, electrical vehicles charging points) in a geographical area (e.g. a village, town, business park, neighbourhood). A microgrid can operate as part of the main electricity grid, but is also able to operate autonomously (for example remote areas or islands).

There are four reasons why the implementation of microgrid technology in the EU is a good idea. First, microgrids will give consumers and communities the power to maximize the value of electricity they produce possibly by selling it to the market through an aggregator or by storing it into a battery when the market price is low and reduce the need to buy electricity. This gives them the opportunity to earn money as prosumers.

Second, microgrids help to better integrate the increasing production from renewable energy sources. by managing the necessary flexibility at the local level. Third, microgrids help to improve the energy efficiency of the network. Energy efficiency goes beyond the optimization of the electrical part and includes also other energy flows, such as heat (which cannot be optimized at grid level). Finally, microgrids can also help to increase the resilience of the electricity network against cyber-attacks and the spread of the impact of a black out.

In short, microgrids offer a technologically mature solution to the decarbonization of local energy systems while ensuring a positive impact on the existing energy infrastructure and the local economy.

Unfortunately, the EU is currently lagging behind. In 2017 there were 1,869 active projects in place across 123 countries and six regions, including Antarctica. Together, these represent 20,766.2 MW of operating, under development, and proposed microgrid capacity. However, Europe accounts for just 9% of the global microgrid capacity.

If the EU really wishes to place consumers and communities at the center of the Energy Union it needs to recognize the role of microgrids and put in place a regulatory framework that enables the members of a microgrid to be compensated for their contributions, such as electricity, flexibility, and grid services.

5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?

The three key enablers to unlock the benefits of digitalisation are policy & regulation, technology, and investments.

Policy & regulation

With the adoption of the Clean Energy package the EU has provided the policy and legislative framework for the EU's new energy system. The newly adopted legislation, inter alia, sets the rules for ensuring the modernisation of the electricity grid to ensure security of supply to consumers. Consumers will benefit from the assessment, monitoring and future-proofing of the grid, which is laid down in the new Electricity Directive. The increased transparency about the state of the grid will enable regulators and operators to plan the necessary investments in a structured and timely manner. The implementation of these key provisions will be crucial and European and national regulators will have a prime responsibility to maintain the momentum towards a modern electricity system.

Technology

Europe is home to both the world's most extensive, intricate and reliable electricity grid as well as to the world's leading technology providers for the electrical network. The necessary technology for the electricity network of the future is available. The crucial next step is to bring this innovation into the grid. This is where regulators have an important role to play, to incentivise the uptake of technologies and to drive innovation, for example by federating standard ontologies for data models in order to connect the dots for flexibility execution.

Investments

The Clean Energy Package aimed to unlock investments in the European energy system. The legislative framework is an important framework condition. However, regulators have the ability to remove some of the existing barriers that prevent the necessary investments, for example by a move from a CAPEX to a TOTEX approach for grid operators, which would facilitate the integration of software-based solutions and services.

Regulators can contribute to an improved investment climate by helping to increase transparency in the state of the grid. The electricity directive assigns an important role to national regulators to assess, monitor and future-proof Europe's electricity network.

A future-proof electricity network is a prerequisite for delivering value to consumers.

6. What are the main risks for consumers arising from digitalisation of the energy sector?

Digitalisation is an essential tool for the clean energy system. The electricity grid is transforming into a smarter and more efficient network using digital technologies. These smart digital grids provide bi-directional communications between generators, end-users and operators of various types of data, including customer and consumption data, status checks, instructions to execute and orders for devices to direct power flow. The new clean energy system offers many advantages for consumers and the environment. Digital technologies are essential for the management of this system. This brings potential vulnerabilities to cyber-attacks. It is therefore essential to protect the privacy of customers and prevent attacks, which could cause black outs, power overloads, device malfunctions, data tampering or even bring down the power grid in one or more countries.

The EU can be at the forefront and become a global leader for cybersecure energy systems. It is therefore essential to ensure a robust framework for cybersecurity based on international standards and a wholistic approach, which mitigates specific risks by a defence-in-depth approach while considering not only the product but as well the overall system with the different stakeholder such as suppliers, integrator and operator with appropriate cybersecurity measures in place. Pure product oriented cyber security certification will not be sufficient.

7. What would a “whole energy system” approach look like – would this unlock more benefits of the digitalisation of the energy system?

The global and European ambitions in the Sustainable Development Goals, the Paris Agreement and the Energy Union have inspired a broad alliance of EU stakeholders to develop a bold vision for the energy system in the year 2050. This common vision is a low-carbon, secure, reliable, resilient, accessible, cost-efficient and market-based, pan-European integrated energy system, paving the way for a fully CO<sub>2</sub>-neutral and circular economy by the year 2050, maintaining and extending global European industrial leadership in energy systems.

This Vision 2050 is a vision of a system of systems: The electricity networks at centre connecting to the gas, thermal and liquid fuel networks. This multi-energy eco-system, consisting of increasingly renewable generation, interconnects consumers, producers and prosumers. The electricity system can help the EU to achieve a decarbonisation target of up to 95% by 2050. This would require a direct electrification rate of 60% of the EU society and economy, nearly tripling the rate in 2015 .

The ambitions and the vision present the potential of a better future and a challenge for collective action to achieve the goals. How can we turn them into a reality? By creating opportunities for stakeholders to work together to drive the energy transition.

The European electricity grid needs to enable the entire power system to ensure cost-effectiveness whilst supporting the energy transition and security of supply as well as the participation for all users known today and in the future (e.g. generators, consumers, prosumers, aggregators).

Electricity grids connect and coordinate all elements of power systems to serve their end users. Grids will play a crucial role in facilitating and enabling the energy transition to incorporate increasing levels of distributed generation, changing demand patterns and the implementation of new technology and solutions. As we move on from traditional energy systems, new, smarter solutions will be required to manage the changing generation mix, whilst maintaining affordability and ensuring security of supply. This means that not only the generation sector will have to undergo a fundamental transformation, but also the grids will have to change and deliver value and quality of supply to consumers.

By 2050 the EU's electricity network will support and connect sustainable cities and communities, where prosumers can manage their energy production and consumption with microgrids, where transportation can be powered by electricity and where an increasing share of decentralised renewable energy production can be easily integrated. This requires a future-proof, smart, digital network with easy and cybersecure data interoperability and with the necessary interconnections to manage the seasonal fluctuations in renewable generation.

In our view, the necessary building blocks for a future-proof, smart, digital network with efficient and cybersecure data interoperability and with the necessary interconnections to manage the seasonal fluctuations in renewable generation include smart digital grids, microgrids, electro-mobility, cybersecurity, data interoperability and smart cities.

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

The CEER consultation provides a broad and coherent overview on the regulatory impact of the ongoing energy transition. In our view, however, the report emphasizes too much the role of smart metering data as key technology for digitalization. Other grid connected assets, like electric vehicles or batteries and IoT-enabled grid assets will also produce data, with similar or even higher value for the optimization of the grid. Regulation must provide a clear framework on how to use this data.

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

Regulators should pursue



9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models ("sandboxes"). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Regulators should pursue

Please explain your choices to the above question in the comment box below.

The proposed 14 draft regulatory proposals provide a good coverage of the current barriers that prevent the necessary investments to make the energy system ready for the energy transition. It is of great importance, that the regulations on European level and on national level are well aligned. Especially regulations which are relevant for technological design, like Cyber Security, should be harmonized on European level to assure cross-border interoperability of the technical and commercial processes in the energy system. We have a few comments on some of the regulatory proposals, but would first like to raise two key topics that appear to be missing from the list.

The two missing topics, which should be addressed by regulators (and therefore be added to the list) are:

1. The move towards a TOTEX model for network operators.
2. Following the adoption of the new EU Electricity Directive, monitoring and assessing the performance of the transmission system operators and distribution system operators in relation to the development of a smart grid that promotes energy efficiency and the integration of energy from renewable sources based on a limited set of indicators. The definition of such indicators or asset indexes will bring valuable transparency that will increase the capability of operators and regulators to properly plan and implement a maintenance and modernisation strategy for a future-proof grid. The network would benefit from a close coordination among Member States.

Our comments on the proposed draft regulatory activities:

Regulatory proposal 1: Besides their network data, DSOs also need to focus on their network. There is a need to model the grid and grid edge data in order to unlock flexibility. There is a need for standards to define the data models as well as the way in which to update and share them.

Regulatory proposal 4: It is very important to look at the beyond the meter DER, an area where there is currently a major gap that can endanger the grid.

Regulatory proposal 8: The regulator should facilitate the venue of flexibility market places and TSO/DSO platforms.

Regulatory proposal 9: If it contributes to reducing network tariffs, TSOs and DSOs should be allowed to manage storage.

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 1]

Regulatory proposal 12

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 2]

Regulatory proposal 1

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 3]

Regulatory proposal 9

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 4]

Regulatory proposal 4

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 5]

Regulatory proposal 2

---

10. Do you have any other general observations to make on the topic of this consultation paper?

Following the adoption of the Clean Energy Package, regulators will have a crucial role to play in the further development of a future-proof energy system. In our view, national regulators will need to maintain the momentum generated by the Clean Energy Package and drive the future-proofing of our electricity network, as a prerequisite for a successful energy transition to a low-carbon economy. While implementation of the new legislation is the responsibility of member states we believe CEER has an important role to play in ensuring that this happens in a coordinated manner and that best practices are shared.

T&D Europe and its members are available to assist in this process.

---

## Survey response 29

### Contact details and treatment of confidential responses

Contact details: [Organisation][ <input type="checkbox"/>
---

Association of Austrian Electricity Companies
---

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]
---

### CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?
---

The energy system in general and DSOs in particular are facing complex challenges evoked by the energy transformation.

- Altered customer behaviour (via price-signals, active customers who are selling flexibility at the markets, ...) new consumers ( e-mobility, heat pumps, ...) and the constantly growing volatility (wind, PV) on the generation side, put existing DSOs under pressure

- The objective is to integrate new customers and decentralized generators into the grid in a cost-efficient way by making the best use of the existing infrastructure.

o In order to guarantee security of supply in the future, the traditional primary technology must be complemented by smart components.

o Monitoring and automatization in the operation of the grid and foresightful network planning are central. Thereby existing equipment can be operated more efficiently (closer to its physical limits) and the role of the DSO as market facilitator (keyword: traffic-light model) is met in an optimal way.

From a DSO perspective, digitalization and de-carbonization lead on the one hand to altered customer behaviour and on the other hand to more action of DSOs regarding monitoring, automatization, data analysis etc. in order to tackle the challenges. In addition to that, digitalization will be pivotal to realize sector integration, especially with the inclusion of the transport sector.

2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?

The described changes are essential for the energy system. As already mentioned under bulletpoint 1, from a DSO perspective, the integration of (new) customers and renewable decentral generators into the grid (by simultaneously guaranteeing security of supply) is pivotal and should be done by making optimal use of the existing infrastructure.

Additionally, DSOs play an important role as market facilitators. In Austria, DSOs operate a the decentral organized data exchange platform(Keyword: Energiewirtschaftlicher DatenAustausch - EDA) and provide solutions for the practical implementation of renewable energy communities or rather citizens communities.

If local market places are to be established, DSOs will have to be actively integrated in the process. Only thus it can be guaranteed that local requirements of the grid (keyword: traffic light model) are sufficiently considered.

The key-question should not focus on the organization of the data exchange, i.e. centralized or decentralized. Moreover, currently existing and functioning systems should be supported and further pursued.

The consultation paper mentions explicitly flexibility market places, which are one option out of many that enable DSOs to access locally offered flexibility solutions for grid operation purposes. In one case study the Norwegian project of NODES is described. In the elaborations on the project it is explicitly mentioned that providers of flexibility solutions for local congestion management are often having difficulties to hedge their offers with alternatives. This point is essential since the problem-solving of DSOs often requires local action (e.g. on the low-voltage grid) and, consequently, the number of offers and the liquidity of market solutions can be very limited.

Against this background we would like to emphasize the significance of other options such as the classic grid-expansion, -reinforcement and -renewal, grid tariffs, network codes, flexible grid-connection contracts and the use of own assets such as coils (inductor) in transformer stations or adjustable transformers for voltage regulation which are also mentioned in the report of the DSO-committees on flexibility markets . Grid-storage which is placed in transformer stations can also exhibit an important tool for DSOs. Market-based solutions are one option among others. For the successful accomplishment of future challenges DSOs must be allowed / able to access all available options.

We want to add that through the newly collection of data especially in the realm of data-processing and data-provision (to authorities, public institutions, external service providers and customers) new business models might develop beyond the current energy sector.

3. In your view, what are the most important value propositions for consumers, which should be prioritised?

The greatest benefit for the customer is still the high availability of energy supply without a loss of comfort. Additionally, customers will have the opportunity to actively influence their own energy consumption and to participate actively on the energy market.

It should be emphasized that customers are in a comfortable situation at the moment. In most European countries, every customer can consume electricity at affordable prices at any time. Great efforts will have to be made in order to convince customers to leave their comfort-zone and engage with a high variety of new products and options.

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.

Customers will profit from more transparency in their energy usage and billing as a consequence of the digitalization of the energy system. Thereby, the effectiveness of behavioural changes of customers is better visible and understandable. This helps to raise awareness and conveys the impression of being capable of contributing to

It has to be taken into account, however, that every customer segmentation has different interest and needs. For larger customers, the electricity market offers already opportunities for participation at a relatively low threshold. For smaller customers, in the household segment for instance, intermediaries such as aggregators or constructs such as energy communities, will have to play a greater role in offering simple participation opportunities to them. The benefits such as cost-savings for the customer have to be evident / apparent.

5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?

- Involvement of customers regarding digitalization projects with customer relevance
- Creation of customer-oriented solutions (design thinking)
- Recognition and consideration of the needs of different customer segments
- Individualization via automated solutions. Hereby, the question rises which prerequisites have to be created in the (home) installation of the customers (investments) in order to profit from the offered products (cost-benefit).

6. What are the main risks for consumers arising from digitalisation of the energy sector?

A risk poses the creation of an “over-digitalization” in which the whole systems becomes too complex and the costs for the provision, production and maintenance exceed the benefits of digitalization. Additionally a vendor-lock-in risk has to be avoided.

Further, it has to be considered that customers, who are not capable of automatically adjusting their consumption behaviour and can, therefore, not profit from benefits such as dynamic tariffs (e.g. based on the prices on the power exchange) for instance, are not confronted with higher energy prices. Precautionary measures have to be introduced to protect vulnerable customers. It has to be prevented that well-off customers reduce their energy bill on the detriment of the community.

The precondition for new services, tariff products and the like is a holistic measurement of the consumption of the customers by means of smart metering – often the depiction has to be done in a very fine granularity (e.g. 15 minutes).

7. What would a “whole energy system” approach look like – would this unlock more benefits of the digitalisation of the energy system?

Without question, a holistic approach regarding digitalization provides the most benefits. The questions prove to be far too complex to be solved by one single sector alone. Further, there are mutual dependences between all sectoral participants (suppliers, DSOs, TSOs, service providers). Only a cross-sectoral approach is capable of creating the best optimum for the customer.

In this context, it has to be kept in mind that all measures, which are set by market actors and result in an alternated behaviour of the customer, have direct effects on the conditions of the distribution network and - in the worst case - might lead to an overload of the distribution grid. There has to be a closely coordinated approach between TSOs and DSOs. For instance, the demand of balancing power of a customer connected to the grid must not cause congestions in the distribution grid.

DSOs must be provided with rights and opportunities to avoid such situations (e.g. traffic light model). The traffic light model is a possible coordinating-mechanisms which states the following: a “green light” (everything OK in the grid) signals that the flexibility services of market actors can be used unlimited and a “red light” (critical grid situation) signals that the interests of DSO have highest priority and can overrule the market or rather refuse the activation of flex-services.

DSOs as neutral market facilitators must have the opportunity to monitor and control the effects of flexibility services in their network-area. In this respect, DSOs have a coordinating role.

A „whole system approach“ should not end at the borders of the electricity system but should encompass the potentials of sector integration (electricity, gas, heat, mobility).

A cross-sectoral and cross-energy source approach is needed, especially when it comes to the inclusion of decarbonised energy sources. This approach needs to be in line with the long-term national climate targets. In every step of this transformation, digitalisation will certainly play an important role along the way although clarification still needs to be done. A whole energy system approach – which includes sector coupling and E-Mobility as well – would make it possible for smart systems to unlock.

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

Decarbonisation, digitalisation and dynamic regulation are definitely important areas. When it comes to dynamic regulation, roles and restrictions for all the participants have to be well defined. Energy regulators need to find the necessary balanced approach so that all the key areas are properly adressed and taken into account.

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

---

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models (“sandboxes”). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Please explain your choices to the above question in the comment box below.

9.1.1:

We agree that smart metering is key to achieve digitalization in the energy sector. In order to make the most out of the data, it has to be interoperable or there has to be an interface that is capable of providing the data. However, it is important that member states can decide on their own if they want the data to be collected and distributed via a centralized or decentralized data hub. Success models such as the Austrian EDA-platform must not be endangered (EDA – Energiewirtschaftlicher Datenaustausch / Energy(-Economic-)Data-Exchange Austria).

The beneficial contribution of smart metering systems for grid operation and planning depends on the fact if DSOs are allowed to use the 1/4-hours measurements of customers for grid-related purposes (operation, planning) or not. In this regard the Austrian rule which leaves it up to the customer to decide if s/he wants a 1/4h, daily or yearly measurement of the data is not helpful as only a small percentage of the customers chooses the 1/4h-option. Therefore, the regulatory framework should be set in a way that DSOs can use the 1/4h-data for operational and planning purposes, by safeguarding the anonymity of the customers, as a matter of course.

DSOs, as neutral market facilitators, should have the opportunity to monitor the consequences of flexibility services in their grid-area and possibly interfere. In this context the role of DSOs is a coordinating one. Pre-conditions are the following:

- Comprehensive monitoring of the distribution grid (high, medium, low voltage)
- Knowledge about the situation and capability of the flexibility sources connected to the grid (e.g. decentral feeders, storage, charging stations)
- The right to intervene in the case of (looming) congestions in the grid

9.1.2:

This item of the proposal goes far beyond the intended purpose and should be deleted. One of the core tasks of the DSOs is to ensure a sustainable and economical grid reinforcement and secure system operation. These tasks will continue to be handled with high responsibility by the grid operators and new and additional requirements will be taken into account.

The draft regulatory proposal in which new market participants should get access to data goes too far as it does not take into account critical infrastructure that should be excluded. Compliance with GDPR and with the NIS-Directive should be ensured. Energy grids are defined as critical infrastructure.

9.1.4:

As part of the critical infrastructure, DSOs must be protected against hacker attacks and terroristic acts. In Austria an effective security system has been implemented, which is valued as benchmark for the whole of Europe (the Austrian Energy CERT (Computer Emergency Response Team)).

Thereby, it is important to know that DSOs can only guarantee and be hold responsible for their own components (grid, meter). Other installations, behind the handover point, are within the responsibility of the customer or rather the producer of electrical devices.

9.1.5:

Such comparisons should not be overemphasized; products, services and framework conditions are fundamentally different. In this context, we also reject the suggestion of establishing a flat rate for energy; network tariffs should always contain both components (energy and power).

9.1.6:

We support that regulators considering the best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers (S38)

9.1.7:

Here we would like to underscore the elaborations of CEER and emphasize the importance of the further development of the grid tariff structure towards more cost-reflectiveness, i.e. the strengthening of the capacity/power-component, for DSOs but also for the purpose of a fair distribution of burden through the customers.

Network tariffs, which include a cost-reflective consideration of active customers and energy- and power-based tariffs in general, are important for the successful integration of new technologies and future requirements.

9.1.8:

We support a level-playing field between all actors and, therefore, believe that the monitoring of new marketplaces / actors etc. is important. If necessary regulators should definitely include these actors in their regulatory activities.

Platforms and markets for new services and products are important elements in the interaction between customer, market and system operators. The development and design must be aligned to achieve the desired benefits. In the regulated sector, balancing platforms are an example of a platform ran by the TSO as single buyer. Platforms for congestion management are being created to widen the procurement of flexibility services and these platforms could be ran by TSO, DSO, TSO&DSO jointly, or a third party (e.g. a power exchange). These platforms could interact with market trading platforms or with the service providers directly. In



addition a platform can be a summary of decentralized data locations of the participants (e.g. like for blockchain or Energiewirtschaftlicher Daten Austausch-EDA) and a defined and secured data exchange between the decentralized platform participants.

In combination with the questions at Page 39, second paragraph: "Who takes responsibility for security of supply, who is responsible for damages, how are prices / conditions set? How are disputes resolved? ... " these topics have to be given high attention and may not lead to inadmissible situations of the energy system.

#### 9.1.9:

At the beginning, we would like to emphasize that future-oriented regulation models must contain pronounced incentives for investment. The set objectives for decarbonisation necessitate comprehensive investments in the grid-expansion and renewal (electricity grids were mainly built in the 1960ies and 1970ies), the roll-out of smart metering systems, grid-sensors and automatization. In addition to that the use/application of flexibility services will gain in importance. The adaptation of the implemented regulation models has to be carried out with care. It is important that DSO receive the necessary means to tackle the upcoming challenges.

The predictability is essential for DSOs who are operating an infrastructure with a technical life-cycle of several decades. The implemented TOTEX-regulation in Austria exhibits a good starting point for the upcoming challenges.

Besides the need of sufficient incentives for investment it will be necessary to consider the rising OPEX adequately in the regulation model (a pass-through approach might be a proper approach

In addition to the upcoming investments in the distribution grids, this is a necessary regulatory issue. DSOs have to have sufficient financial means to carry out all their obligations.

#### 9.1.10:

We would like to emphasize that the market-based procurement of flexibility services is one option among others to give DSOs access to locally available flexibilities for grid-operation. This point is essential since the problem-solving of DSOs often requires local action (e.g. on the low-voltage grid) and, consequently, the number of offers and the liquidity of market solutions can be very limited

Against this background we would like to emphasize the significance of other options such as the classic grid-expansion, -reinforcement and -renewal, grid tariffs, network codes, flexible grid-connection contracts and the use of own assets such as coils (inductor) in transformer stations or adjustable transformers for voltage regulation which are also mentioned in the report of the DSO-committees on flexibility markets. Grid-storage systems which are placed in transformer stations can also exhibit an important tool for DSOs. Market-based solutions are one option among others. For the successful accomplishment of future challenges DSOs must be allowed / able to access all available options in the tool box.

In any case the expenses of DSOs which arise by the procurement of the necessary flexibilities have to be completely acknowledged in the grid tariffs.

#### 9.1.14:

In a heavily regulated energy world, Austria considers „sandboxes“ or innovation zones as important tools to create / enable innovation. Especially in the course of research projects and under the surveillance of NRAs it should be possible to bend existing rules. Only by that it is possible to unleash the innovation potential to the full and possibly identify hampering market regulations and develop the legal framework further.

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 1]

Regulatory proposal 10

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 2]

Regulatory proposal 9

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 3]

Regulatory proposal 4

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 4]

Regulatory proposal 7

---

10. Do you have any other general observations to make on the topic of this consultation paper?

Implementation of the – politically motivated – turnaround in European energy policy, towards a sustainable energy supply, is taking place in distribution networks.

DSOs are strong committed to that objective! However they depend on the corresponding legal framework and instruments to be able to support these targets purposefully and implement them efficiently.

The integration of decentralised energy production, establishment of e-mobility as well as involvement of active customers happens in the distribution networks!

In order to create the energy transition, the DSO needs the corresponding independent rights (load-capping, establish e-charging, free choice of network components...)

The DSO is responsible for his grid and guarantees the appropriate network security and quality. As market facilitator he creates the necessary framework for a well functioning market.

DSOs are in fact the neutral market facilitator that ensure the reliability and stability of the system while facilitating the commercial activities of other market actors and above all, safeguarding the interests of customers, with managing Demand Response as part of its natural responsibility.

---

## Survey response 30

### Contact details and treatment of confidential responses

Contact details: [Organisation][ <input type="checkbox"/>
---

Eurelectric
-------------

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]
---

CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?

Technological advancements, telecommunications and data analytics are revolutionising almost all economic sectors. Digitalisation is bringing changes to the way we live, produce, and consume. Synergies between traditionally different sectors are developing (e.g. health and energy). Processes are becoming more efficient and new services and businesses are flourishing.

Today Europe is at a turning point. The pace of innovation, digitalisation and automation holds great promise. Artificial Intelligence for instance may be a major enabler for innovation, productivity and economic growth. It may help address societal challenges and deliver tangible benefits for citizens in areas such as healthcare, public security, transportation, energy or disaster management. Resilience to climate change related issues will also be increasingly important going forward and digital solutions can help make assets and infrastructure more robust.

In the energy sector, digitalisation is transforming the business architecture, redrawing boundaries and redefining relationships between consumers and utilities. Such an evolution has an even greater impact in our sector since it takes place in parallel with other profound changes:

- Power is no longer fully generated from centralised and conventional power plants. It is increasingly produced from variable (and mostly non-dispatchable) renewable sources connected at distribution level.

- Distribution system operators (DSOs) are facing significant challenges to keep ensuring secure and reliable operation of the system in such a changing environment. In parallel, they have a key role to play to facilitate the market uptake of new services, and by this, to promote active customer participation in the energy transition.

- Suppliers are no longer the only players serving consumers. With the liberalisation of end-user markets, new players (ESCOs, aggregators, technology companies, etc.) have progressively entered markets, competing to offer services to consumers.

- Consumers are evolving from a passive role of mere recipients and they are becoming more active and increasingly interested in value-added services and business models beyond energy.

- Technological advancements are enabling an increasing electrification of society (e.g.: EV adoption) and at the same time enabling flexibility from demand side.

The digitalisation of the energy system and the advent of smart meters and smart grids can bring benefits to all energy players.

- In the short term consumers will gain more control over their energy use and benefit from additional services. Suppliers will optimise their business, tailor new offers and improve their communication towards customers. System operators will benefit from new tools to manage their grids more cost-efficiently and integrate an increasing amount of variable renewables in the system.

- In the long term, interaction between intelligent appliances, smart grids and home platforms – mediated by or on behalf of consumers – will usher in a new era with radically different consumption patterns centred on automation and remote controls.

The road to digitalisation, however, is a winding one.

- The roll-out of smart meters at European level is taking place at a slower pace than expected because of varying cost-benefit analysis outcomes in different European countries as well as data privacy and security concerns.

- Digital appliances and services may not yet be attractive enough for many consumers and add complexity to the organisation of the energy sector.

- For businesses, a lack of standardisation and interoperability will, if not properly addressed, slow down the commercialisation of new appliances. Learning to process and convert reams of unstructured data into concrete action also takes time.

- Last but not least, potential misalignments between the needs of the system and the development of new services such as electric mobility or the use of DER are contributing to increasing the risks associated with the transition process in the mid to long-term.

Markets and innovation will solve some of these issues. However, many challenges will only be mastered if the regulatory framework is fit for purpose. In this context we welcome CEER's consultation. At a time where boundaries between sectors are getting blurred and ever larger sets of data are becoming available, the regulatory framework must ensure that all data and how it is transacted – be it energy related, telecoms-related or from online platforms – is covered by consistent and appropriate regulation. It also needs to make sure that commercial players compete on equal terms to access data and provide services to consumers. Moreover, regulation must ensure that DSOs have the right incentives and the necessary conditions to invest in/use smarter, digital solutions when cost-efficient and that privacy and security, including cybersecurity, are safeguarded.

2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?

We fully agree with CEER that digitalisation has the potential to enhance productivity of the current energy system, enable new products and services as well as to disrupt and transform the way the sector transacts.

a.  Increases the productivity of the existing system;

Eurelectric agrees with the integrated approach mentioned in the public consultation. Digitalisation has been directly impacting the optimisation of the network. The increasing amount of available data, together with an optimization of its exploitation, allow for example for a better understanding of the use of the grid and the changes in both supply and demand. As shown in the Eurelectric "Decarbonisation Pathway" study, digitalisation can contribute to decreasing future grid costs, which will prove very useful as peak loads are increasing. However, to ensure real savings in the system productivity, market developments should be better linked to system enhancement, and the framework for data management should also evolve. In this regard, Eurelectric agrees with the CEER's proposal in its "New Services and DSO involvement" paper to extend the role of DSO in Data management, while ensuring that they properly procure their needs from commercial service providers in the most cost-efficient way.

b.  Enables new products and services that alter electricity demand;

We agree with CEER's analysis and the various examples given regarding smart buildings and heating/ cooling services, mobility as a service and new energy pricing models and products. As the digitalisation of the energy business progresses, the amount and granularity of available data coupled with new technologies make it possible to develop a range of new commercial services beside plain electricity supply. These include demand response, energy efficiency, home management programmes, clean mobility services, self-consumers, tailored customer solutions and bundled products. The development of new services is often conditional upon consumers giving their consent to access their (smart) meter data on a more granular basis to enable energy management. A reliable and secure communication infrastructure is also crucial to enable these new services to be introduced and to function properly in an increasingly integrated energy system.

c.  Brings new digital marketplaces that transform the way the sector transacts?

Many of these digital market places and enabling technologies such as blockchain are still in their early stages but we agree with CEER that they are likely to play an increasing role in the medium and long term. As shown in our papers on "Blockchain in electricity", the development of local market places (e.g. through blockchain or equivalent platforms) could, with the right conditions in place, contribute to system operation - and thereby reduce network costs, improve the economics of small-scale renewables and DER, and give customers greater choice and transparency regarding energy supply. However, the deployment of new blockchain (or equivalent) implementations remain burdened by high costs, slow transaction indicators, and other technological limitations and risks, particularly regarding market regulation and user-friendliness. The use of P2P technologies in the energy sector should therefore be carefully monitored.

Regarding the impact of flexibility platforms, Eurelectric would like to highlight the following key principles for inter-alia congestion management, defined in the joint ENTSO-E, Eurelectric, E-DSO, Geode and CEDEC report on "An integrated approach to Active System Management":

- Access should be easy for the customer;
- Interoperability with other platforms must be ensured;
- Platforms must avoid harmful interference and conflicts beyond their associated grids;
- TSO-DSO coordination and mutual data exchange is an activity in the regulated domain;
- Platforms solutions should be technology neutral.

Detailed elements of Eurelectric position can be found in the other relevant publications on this topic .

3. In your view, what are the most important value propositions for consumers, which should be prioritised?

First of all, we agree that it is very important to distinguish between different categories of consumers as households, SMEs and large industrial consumers are completely different, whether it is their level of consumption, their possibility of engagement in the market or the type of products likely to attract them and fit their needs.

When it comes to households, we agree that the value proposition basically relies around cost savings, convenience, choice and consumer participation. Overall, we also agree with CEER's description of the main issues related to these four aspects. If a prioritization of the identified proposals was needed, "choice" is probably the value proposition that would better fit with the future landscape, where customers are increasingly evolving from being a mostly uniform passive customer base to being active players, with very different needs in terms of energy and related services. Any different prioritization will probably go to the detriment of another value proposition ("cost savings" to "convenience" and vice versa). If there is "choice", customers looking for cost savings will be able to focus their search for an energy offer mainly on price, while customers looking for convenience will look for solutions that, although being more expensive, could allow them to save in time and complexity managing many services together with their energy supply.

For SME's and large industries, the increase in energy efficiency, self-consumption and participation in existing and new energy markets will be crucial.

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.

We agree with CEER's analysis. Clearly, technological innovation and digitalisation – and the new products and services they make possible - are likely to stimulate customers' interest and appetite to participate in energy markets.

The extent of cost savings, the value of the convenience or comfort these products bring as well as whether the financing options facilitate participation will be key elements to trigger more participation from consumers. Furthermore, the design of smart, simple and flexible regulation will play an important role to ensure that digitalization in the energy sector is perceived as an opportunity and not as an additional complexity.

5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?

In our view, there are 3 key enablers to unlock the benefits of digitalisation for consumers:

- [2]1/ Competitive and liberalised markets: Increased competition on markets can allow customers to foster the development of a real diversity of offers and services and to make informed choices. Moreover, customers should be allowed to benefit from market-driven prices showing them the value of becoming more active. It is worth stressing that today, a large part of household electricity bills is regulated (taxes, charges). This part of the bill remains unaffected by changes in wholesale prices. The larger it is, the lower the signalling effect for customers, reducing the likelihood that customers' flexibility potential will be used. On top of this, several countries still apply regulated prices, with a high level of price intervention that extend also to the so called "energy component".

- [2]2/ An innovation friendly regulatory framework: This should start again by promoting competition and well-functioning markets as the most efficient way to enable innovation. It means in particular that all market players should compete on a level playing field and have equal access to data, that freedom of contract should be respected and that no mandate should be given to specific technologies. Such a regulatory framework should be stable and focus on defining enforceable principles over detailed and prescriptive rules. In this respect we welcome CEER's acknowledgement that "regulators need to adopt a more agile approach, rapidly responding to new products and service proposals and removing barriers where appropriate" as well as avoid "jumping to lock in solutions too soon". Innovation, piloting and demonstration, supported and monitored by regulation, are fundamental to anticipate future needs in a fast-evolving context.

- [2]3/ An enabling smart grid infrastructure: Smart grids and smart meters with appropriate functionalities and the availability of real-time metering data are of utmost importance for the market to provide innovative services to customers. Data management should be facilitated by a neutral party to ensure non-discriminatory access and a level playing field. Smart grids will also play a key role to coordinate system operation with market activities, fostering a cost-effective environment to enable customer active participation.

6. What are the main risks for consumers arising from digitalisation of the energy sector?

We would refer to challenges more than risks but indeed some key challenges need to be overcome.

With the digitalization of society, the boundaries between different industries are becoming much more porous and many service providers are now approaching consumers to offer them various products and services. Whilst this presents opportunities for consumers, helping them to navigate these complex markets has become a central issue.

Digitalisation of services leads service providers to process an ever increasing amount of data. Another challenge is thus to ensure data privacy and security whilst allowing innovation to shine. The recently adopted Data protection regulation provides a very useful framework from this perspective.

A third key challenge is to ensure that the energy transition benefit all customers. Many of today's benefits such as access to more competitive energy services or comparison tools hinge on a stable and consistent internet connection. Equally important, the overall system must be kept fair to all customers, including those who do not want to take an active part in the market or those who cannot afford to invest in distributed generation, and technologies and equipment's for smart-homes.

Last but not least, the net impact of digitalisation on the number of jobs is hard to predict due to the many unknowns: some jobs will disappear, while new ones will emerge. A focus on continuously developing the right skills and attitudes will however ensure people's employability throughout their careers.

7. What would a "whole energy system" approach look like – would this unlock more benefits of the digitalisation of the energy system?

Digitalisation will not only have an impact on the energy system but also on the new ways of producing and consuming energy. It will help to better understand and manage the energy usage in buildings; it will allow transport to be more interconnected; it will help optimize production, resorting (for instance) to artificial intelligence, with learning algorithms to allow for a better forecast of DER; it will enhance cross-border transactions optimization with cost-efficient gains.

In general, a whole energy system approach will lead to higher efficiencies at system level and avoid suboptimal solutions. Coordination between actors in the regulated (TSO and DSO) and market environments, as well as the secure and efficient exchange of data between authorised players, will contribute to the efficient operation of the whole energy system (e.g. a more efficient use of assets) and to the maximisation of the value for customers. Sector coupling between electricity, district heating and gas should also be thoroughly assessed when drafting new regulation.

Some speak of a 4th industrial revolution when referring to digitalisation since new technologies disrupt current business models and offer new opportunities:

- ☒ Generating, storing and analysing large amounts of data has never been so easy in human history.
- ☒ Objects and even living beings can be connected to exchange information and to act in an "internet of things".
- ☒ New high-speed fixed and mobile communication networks (e.g. 5G) enable a faster than ever exchange of data worldwide.
- ☒ Cloud computing makes data easily accessible from anywhere in the world at a low cost.
- ☒ New platforms connecting providers and clients of services and goods are boosting and create added value in new ways.

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

In general, we want to congratulate CEER on this document which is comprehensive and very relevant both to the challenges related to the digitalisation of the system and the answers to be provided by regulators. As CEER points out, the key challenge for regulators will be to ensure that policy and regulation does not create an unjustified barrier to innovation – but rather promote it - while continuing to empower and protect consumers during the transition.

Acknowledging the increasing role of digitalisation and new services for the business model of energy suppliers, Eurelectric recently established a dedicated working group, which has among its tasks the identification of the regulatory framework which could better support this evolution of the final energy market. This is because after having mapped some of the innovative offers and services provided by our members across Europe, one of the main findings was that unnecessarily rigid and pervasive regulatory rules in the energy sector are probably the biggest barrier to the development of solutions that would better answer customers' new requests.

Here are two examples:

1)  Billing: The very commendable original goal of providing complete transparency to the consumer has resulted in 8 or 10 page invoices in many countries that discourage any consumer from looking at them. In this respect, the Clean Energy package is unfortunately not going to improve the situation.

2)  Price comparison tools: Whilst it is certainly good to have certified tools helping customers to navigate the market, we should probably question whether focusing comparison on energy prices only still makes sense today as main driver of customers' choice. First of all more than half of the total energy price is made of components which are not related to the energy supply. Second, focusing the comparison on energy prices does not make it possible to bring out the value brought by the innovative services. Indeed it is impossible to convert the price of a service in €/kWh. Moreover, in some cases innovative offers cannot even be published on PCTs as they do not fit the comparison algorithm. Does this make sense in a world where consumers are increasingly willing to bargain economic saving with other important values, such as simplicity, time-saving or sustainability?

If we want the energy market to keep pace with other markets and offer innovative services which better answer customers' various needs, the change of mindset should involve not only suppliers, but policymakers and regulators as well. It is striking to see how consumers who are considered perfectly able to make autonomous and sensible choices on other markets (such as telco, pay-tv, etc.) are seen as unable to do the same for energy and thus requiring extensive protection. Is this really needed for all customers?

Too often the typical path of a new commercial offer stops when the business and marketing people come and knock on the company's regulatory office door. Too often companies are faced with situations where the lack of coordination between different regulatory institutions and other entities in charge of different subjects lead to unclear regulation, hampering innovation (most recently see the proposed E-privacy regulation which, if it remains as it stands, would make it very difficult to process customer's data to offer energy services).

On the DSO side, we agree that NRAs should review network tariffs and ensure that they properly fit the ongoing challenges and the ones ahead. NRAs should assess whether the regulatory framework addresses new issues such as the market-based provision of flexibility for grid services in a way that is aligned with economic and efficiency principles. It should also encompass the need for DSOs to rely on toolboxes of solutions which are to be designed in the best interest of society and of the energy transition process. We welcome the focus on DSO-TSO relationships, notably in a changing distributed system where dynamics between central and regional/local operation require further cooperation between system operators.

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

Regulators should NOT pursue



9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

---

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models (“sandboxes”). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Regulators should pursue

Please explain your choices to the above question in the comment box below.

We would suggest to focus on the following topics and draft proposals as the top 5 priorities for action:

-  Draft regulatory proposal 6 on the regulation of intermediaries:

We would agree that regulation of intermediaries is something that regulators could look into in the future. Too often policy makers and regulators tend to focus on traditional players such as suppliers. Promoting competition on a level playing field is the most efficient way to enable market innovation, especially at a time where service providers multiply. In this regard, Eurelectric regrets the outcome of the new Electricity Directive, which is lacking relevant provisions regarding obligations of aggregators and third-parties towards consumers on billing and switching as well as data security and data protection.

We also want to highlight that introducing a default supplier may not be needed in all national markets as long as appropriate level of customer protection is provided.

-  Draft regulatory proposal 7 and 9 on network tariffs :

We agree with CEER that all new market actors should be subject to an appropriate network tariff reflective of their use of the distribution grid. When a new actor, for example an energy community, is connected to the grid and uses their services, it should contribute to its costs, encompassing distribution costs, policy costs, taxes and levies. There should be adequate incentives for actors which bring potential benefits and services to the main grid through a non-discriminatory, clear and transparent scheme.

As CEER describes in the context of new business models, there is a risk that network users reduce their grid usage and thus their grid tariffs whilst still relying on the grid for back-up. Regulators together with network operators and network users have to find the best solutions to ensure that network operators can cover their costs. We would not exclude a change to tariff structures which rely more on kW or fixed elements. Instead, the effects of different approaches on the different grid users and on the predictability of the network operator's income have to be analysed carefully.

Concerning incentives for system operators for efficient grid operation and sustainable investment decisions, it is indeed essential not to create a bias towards specific solutions or types of costs. However, it is also important to emphasise that not all regulatory frameworks are biased towards capital intensive solutions. Many regulatory frameworks already incorporate technology-neutral elements, such as a TOTEX-benchmark or output-based elements

-  Draft regulatory proposal 8 on regulation of platforms and new market places.

While Eurelectric agrees with the wish of CEER to promote digitalised platforms and markets places as a way to encourage the participation of prosumers, we also welcome the recommendation to establish adequate oversight and feedback from stakeholders. Setting up digitalised platforms should not be defined as a priority in itself but should be linked to the concrete added value brought to the grid.

Regarding the impact of flexibility platforms, Eurelectric would like to highlight the following key principles, defined in the new joint ENTSO-E, Eurelectric, E-DSO, Geode and CEDEC report on "An integrated approach to Active System Management":

- Access should be easy for the customer;
- Interoperability with other platforms must be ensured;
- Platforms must avoid harmful interference and conflicts beyond their associated grids;
- TSO-DSO coordination and mutual data exchange is an activity in the regulated domain;
- Platforms solutions should be technology neutral.
- Market power and liquidity should be monitored carefully in order to avoid the risk of gaming.

Detailed elements of Eurelectric position can be found in the other relevant publications on this topic.

-  Draft regulatory proposal 10 on market based procurement of flexibility services by DSOs

We support a regulatory framework that allows and incentivises DSOs to procure flexibility services through the market (e.g. based on a tendering procedure) and permits ownership and operation of storage devices only under certain circumstances, except if these devices are defined as "fully integrated network components" and the NRA has granted its approval. i.e. when needed for the efficient, reliable and secure operation of the networks - or when the market fails to provide a cost effective solution.

The Clean Energy Package specifies the conditions under which a DSO is allowed to provide the needed flexibility with its own assets and can operate storage devices:

- if following an assessment of the market the NRA concludes that no tendering procedure is needed and gives its approval or;
- if following a tender/market test performed in an open and transparent manner under the NRAs' supervision, no market parties have expressed interest to own, develop, manage or operate the storage facilities.

We support the inclusion of this and flexibility solutions more generally in the network development plan to be produced on a cycle determined by the NRA. The national regulator should consult system users on the network development plan, and publish the results of the consultation process

-Draft regulatory proposal 14 on best practice approaches to enable trials of new products and business models:

This proposal seems absolutely essential and the “sandboxes” method could represent the right way forward to allow for innovative solutions to be tested. Indeed, it could avoid the typical slow down originated by an existing regulatory framework which is not “fit for purpose”, having been defined before new technologies and products were developed. Moreover some regulators have good practices to promote. A few years ago Ofgem for example allowed some suppliers to temporarily derogate from the regulatory rules on billing to be able to test new innovative bills.

The following proposals seem less essential:

-Draft regulatory proposals 1 and 2 on data availability:

We fully agree that it is relevant to make sure that all market players have non-discriminatory access to grid data and consumption data when customers consent. At the same time the Recast Electricity Directive contains a number of new provisions which should improve the situation: Art 24, Art 34. In addition, data hubs are being set up in a number of European countries and will make data access smoother for all players.

-Draft regulatory proposal 3 on data privacy:

We fully agree that data privacy is a fundamental issue. At the same time the EU has just adopted the General Data Protection Regulation which should tackle most of these concerns. It is probably worth waiting before taking additional action. Besides, should further steps need to be taken, this would need to be done at horizontal rather than sectorial level.

-Draft regulatory proposal 5 on consumer protection regarding new products (from dynamic pricing to bundles):

This is relevant and required by the Electricity Directive. We would agree that trying to maximise reliance on general consumer law will help. More cooperation between regulators across sectors is also key.

#### 10. Do you have any other general observations to make on the topic of this consultation paper?

This CEER document is generally very well documented and proposes a relevant analysis of the issues related to the digitalisation of the energy sector. The purpose of this document, however, could be clarified and the questions may have deserved to be more specific. Indeed, it is difficult to give exhaustive answers to questions as wide as “what impact do you consider that digitalisation will have on the energy system?” Last but not least, it might be useful to link this work to the study in progress by the European Commission – commissioned to PWC and Tractebel - on “Assessment and roadmap for the digital transformation of the energy sector towards an innovative internal energy market”, in particular the 3rd objective of the study which will focus on analyzing the interaction of the different sectors in a “digitalized energy sector” and the regulatory challenges stemming from the increased cross-sectoral environment.

---

# Survey response 31

## Contact details and treatment of confidential responses

Contact details: [Organisation][ ]

ORGALIM - Europe's Technology Industries

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]

## CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?

Digital technologies are developing at very high speed in sensors, communication, big data, artificial intelligence, IoT etc., and all these developments impact the energy system and the EU economy as a whole. As to the energy sector, several applications and pilots are under deployment at all levels, in generation plants, in distribution grids and at end use and smart energy systems; and they are progressively becoming realities.

Not only do digitally enabled technologies make the energy system ever more connected, intelligent, efficient, reliable and sustainable, they particularly help to manage the increased complexity of the future energy system and thereby support system stability and security of supply, especially through:

- more automation and control to better manage processes.
- more use of software and data analytics ("big data") to increase overall efficiencies and system stability, or
- through empowering consumers so that they can self-produce, self-consume, aggregate, trade and sell energy. As so-called "prosumers" they can manage their own energy consumption, be efficient and optimise their overall carbon and environmental performance.

As digitalisation breaks down traditional boundaries between demand and supply, it will change the roles of different actors in the energy chain and the way how these actors operate, communicate, cooperate and interact with each other. New platforms and market places are developing and ultimately allowing peer-to-peer trading and flexibility marketplaces.

As the energy system will be based on ever more variable, decentralised renewable energy sources, these impacts will be most prominent at the level of the distribution grid. Investments into smart grids at all levels but the distribution level in particular, will therefore be most important to tap the opportunities that digitalisation can bring on the energy system.

Finally, digitalisation will bring the potentials of interconnecting the main energy end-use sectors – buildings (heating and cooling), industry and transport – with the power sector ("sector coupling") to a new level.

Overall, digitalisation therefore offers new sustainable growth opportunities and supports the EU energy policy objectives of security of supply, competitiveness and environmental protection. It allows new services and business models to develop and to accelerate a clean energy transition to climate neutrality that is cost-efficient.

2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?

Chapter 2 of the consultation paper in our view provides a clear and concise description of the changes occurring in the energy system, including the increase of productivity of the existing system, the enabling of new products and services that alter electricity demand and the stimulation of new digital market places that transform the way the sector transacts. Productivity increases in our view represent short term, low hanging fruits in the traditional top down energy system that are being tapped. Enabling new products and services altering electricity demand and new digital marketplaces however will transform the existing market more fundamentally and more long term. Smart, connected, buildings as part of the energy system boosting demand side flexibility and energy management, sustainable mobility, smart charging of e-vehicles and sector coupling, new retail pricing models and products are all very important and future oriented use cases. Entries b and c of chapter 2 are therefore in our view most relevant to successfully implement the UN Sustainable Development Goals and Paris Agreement and in the light of a long-term forward-looking EU industrial policy agenda to the benefit of consumers and industry alike.

3. In your view, what are the most important value propositions for consumers, which should be prioritised?

There is no one size fits all value proposition, as priorities, attitudes, mindset and living situation of individual citizens are different and all play a role in the consumer's decision whether or not to engage in the energy market. Value propositions for consumer can develop around cost savings through efficiencies, increasing well-being, comfort, convenience or choice or ultimately increasing energy independence from traditional supply routes. We see most promising potential in the following cases:

- Buildings: Energy management and demand side management (flexibility) solutions bring particular value for consumers as immediately translating into monetary savings and increased well-being and comfort. Besides, overall system costs are leveraged and import dependencies reduced, which all add on value for consumers indirectly (whether being active themselves or not). Coupled with dynamic tariffs consumers can generate further monetary savings. Ultimately, digitalisation enables peer-to-peer trading of self-generated electricity or peer-to-community platforms allowing consumers to engage directly in a shared economy to buy and sell their own services,
- Transport: Secondly, sector coupling of energy-transport-buildings bears most important value propositions, such as through vehicle to grid communication (demand side response) or through increased independence and reward for providing flexibility (vehicle batteries as storage facilities for excess electricity) or improved convenience (offering optimised travel routes). New platforms and marketplaces can indeed provide the data and connectivity for active prosumers, consumers who produce electricity from solar panels and potentially store it in batteries, to sell electricity and become active in balancing the supply and demand of electricity.

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.

Yes, Orgalim believes that digitalisation leads to more consumer participation in energy markets, in particular as soon as coupled with the right incentives. Digitalisation enables consumer participation in energy markets. It enables consumers to self-produce, self-consume, aggregate, trade and sell energy. As so-called "prosumers" they can manage their own energy consumption, be efficient and optimise their overall carbon and environmental performance, which is one driver for consumers to participate in the energy markets. By giving a value to the flexibility offered to the grid, consumers will be truly incentivised to actively participate, either directly or via aggregation, in the energy market.

Energy bills will be reduced stimulating further active participation. Therefore, Orgalim believes that digitalisation leads to more consumer participation in energy markets as soon as the flexibility the consumer provides to the system is appropriately valued and monetised. The proper implementation of the respective provisions of the clean energy package will be critical in this respect.

5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?

Sufficiently dynamic regulation, innovative governance and co-regulation will be needed. Concrete steps for creating value for citizens and business, thus for unlocking the benefits for (private and professional) customers, include the following:

First, the underlying high tech infrastructures, such as 5G, fibre and smart grids need to be put in place

Secondly, in the implementation of the clean energy package:

- o Ensure that DSOs operate as neutral market facilitators and align network tariffs and DSO remuneration with the new situation to stir investment into smart grids, in particular at distribution level
- o Give price signals reflecting actual scarcity and value flexibility at a fair price through well-designed dynamic retail tariffs
- o Increase trust and confidence by tackling data privacy and cybersecurity properly
- o In respect of EU data privacy rules, grant fair access to data for new market entrants
- o Encourage integrated system planning and operation
- o Ensuring interoperability and common standards
- o Substituting the most polluting energy carriers and opting for more electrification and alternative fuels deployment in the transport, buildings and industry sectors.

And in all of this, continuously building the necessary skills, attracting talent, train and upskill personnel are fundamental for success.

6. What are the main risks for consumers arising from digitalisation of the energy sector?

Dynamic tariffs can entail more risks for consumers as consumers could at certain times be exposed to higher energy prices. Managing the risk for consumers will be an issue, such as through offering different dynamic tariff models allowing the consumer to choose the level of risk he/she is prepared to take. Proper information and warning systems when peak times occur can help manage the risk.

Issues around data privacy and data protection are a second area of possible risks for consumers. Here, compliance with the GDPR will be a precondition (data are the property of the consumer and they control how it is shared), while fair access of non-personal data for new entrants will be essential for the development of new services and business models. As regards the B2B area (which is outside this consultation however of critical importance for Europe's global leadership), the freedom of contract and free flow of non-personal data are essential.

7. What would a "whole energy system" approach look like – would this unlock more benefits of the digitalisation of the energy system?

The sustainable growth potentials of digitalisation should be tapped throughout the entire energy value chain, thus from generation to transmission, distribution and end use.

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

CEER's analysis tackles important aspects and is pointing in the right direction. The focus on a timely, complete and ambitious implementation of the clean energy package should in our view be strengthened. The next decade is critical and the implementation of the 2030 clean energy package through its transposition by member states as critical vehicle to accelerate digital technology deployment and reap its benefits. The success of the 2030 package transposition will in our view depend on adapting member states regulations to the irreversible trends of Digitisation, Decarbonisation and Decentralisation arising for the period 2020-2030, and especially in the following respects:

- ☐ Preparing Europe for successfully managing the coexistence of centralised and decentralised energy production.
- ☐ Enabling Europeans to manage energy according to real time information with prosumers at the core and resolves pending questions regarding data handling and data processing.
- ☐ Organising an ecosystem with the necessary flexibility to allow this modernisation to happen in Europe.

Specific attention, gap analysis and potential adaptations should be made as follows:

As far as demand side transition toward active prosumers is concerned:

- ☐ Dynamic tariffs with significant spread (not just on energy part only)
- ☐ Self-consumption (including collective-community self consumption) should be authorised and not made complicated or costly through unnecessary burdening regulations
- ☐ Generation surplus (including locally stored one) should be allowed to be traded under fair conditions
- ☐ Demand side flexibility should be allowed to be traded in all electricity markets and in a fair way to generation flexibility

As far as the distribution grid transition is concerned:

- ☐ The DSO role and responsibility has to be aligned as a market facilitator for renewable integration and flexibility orchestrator
- ☐ Network tariffs and DSO remuneration should be aligned with the new situation, which requires rebalancing CAPEX-OPEX remuneration, taking into account IT investments needed and rebalancing Energy versus Capacity in tariffs
- ☐ Integrated Planning and Operation new approach shall be encouraged

As far as data management and platforms are concerned:

- ☐ Increase trust and confidence by tackling data privacy and cybersecurity properly
- ☐ Need for interoperability and common standards
- ☐ Need for skills (new skills and competency to be built)

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models (“sandboxes”). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Regulators should pursue

Please explain your choices to the above question in the comment box below.

Among the draft proposals suggested by CEER, Orgalim recommends prioritising the following five, since facilitating the development of new services and business models enabled by digitalisation and supporting a fair level playing field and fair coexistence of centralised and decentralised energy system (Draft proposals N° 2, 7, 9, 10 & 14)

However, to maximise benefits from digitalisation of the energy sector for consumers and industry, more would be needed. Our concrete additional suggestions are outlined in our response to question 8.



---

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 1]

Regulatory proposal 2

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 2]

Regulatory proposal 7

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 3]

Regulatory proposal 9

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 4]

Regulatory proposal 10

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 5]

Regulatory proposal 14

10. Do you have any other general observations to make on the topic of this consultation paper?

Accelerating digitalisation is a prerequisite for achieving the climate goals: it allows new services and business models to develop and a clean energy transition to climate neutrality that is cost-efficient. Furthermore, Europe has an opportunity to lead in the race of digitalisation of the business-to-business sector, including on the proper management of arising new challenges, such as cybersecurity or data management. We invite European energy regulators to tap into these opportunities.

---

## Survey response 32

### Contact details and treatment of confidential responses

Contact details: [Organisation][ <input type="checkbox"/>
---

EPEX SPOT
-----------

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]
---

### CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?
---

Digitalisation already has an impact on the energy system, and has been well identified by CEER. Increasing computing power and larger amount of data available to analyse enable to better predict behaviours along the value chain improve efficiency and energy usages, optimise investments, adapt production to customer behaviour, empower customers to follow and act on their consumption patterns and to become “prosumers”.

Digitalisation is a catalyst for the decentralisation of the energy system and links this decentralisation to the decarbonisation goals. Digitalisation provides the necessary connections for these trends to complement and reinforce each other. Digitalisation allows to provide more fair grounds to the evolving electricity trading community, enabling new players to benefit from participation to the market on a level playing field with “traditional” market participants: digitalisation opens energy trading to a greatest number of market players.

From EPEX SPOT’s perspective, one of the most important impact of digitalisation is the emergence of new business models and markets on a decentralised and more “local” level. New digital tools can facilitate distributed energy resources such as household solar PV panels and storage, by creating better incentives and making it easier for producers to store and sell surplus electricity to the grid. New tools such as blockchain could also help to facilitate peer-to-peer electricity trade within local energy communities / prosumers. Digitalisation has been ongoing for quite a few years for the traditional market players, and EPEX SPOT’s markets are already fit to welcome new digital trading solutions.

In the context of a widening of the electricity trading community, EPEX SPOT sees an increasing role for Power Exchanges to provide a reliable and transparent price for all trading members – capitalising on the experience gained over the past decade as the liberalisation of the electricity system has triggered an increase in the number of market participants.

2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?

EPEX SPOT largely agrees with the changes highlighted by CEER. Regarding new digital marketplaces, EPEX SPOT would like to highlight the benefits brought by these marketplaces taking the example of the Enera project launched in February 2019.

Case study: Enera local flexibility market:

The Enera project is the most advanced pilot project for local flexibility markets. It was launched in February 2019 at the annual E-World Congress in Essen. Enera is part of the development program Smart Energy Showcases – Digital Agenda for the Energy Transition (SINTEG, “Schaufenster intelligente Energie”) led by the German Federal Ministry of Economic Affairs and Energy. The project assembles around 30 partners from various sectors: a TSO, DSOs, Universities, IT and industrial companies.

Enera offers a local flexibility platform for market-based congestion management that will efficiently centralise flexibility offers that system operators can activate to alleviate grid congestions. The Enera model region covers the region of Ostfriesland in North-Western Germany, right at the North Sea at the border to the Netherlands. The region is characterised by decentralised generation of large quantities of wind energy from onshore and offshore wind farms. A share of around 235 percent of renewable energies is already flowing through the electricity grids in the model region, creating significant amount of local congestions and triggering costly system management measures.

Enera enables to alleviate these local congestions through a market-based mechanism. It relies on locational order books that continuously and efficiently provide competitive offers to the System Operators for congestion management. Enera bears all the characteristics of a marketplace, allowing multiple players and types of actors to participate in the market. EPEX SPOT acts as neutral intermediary between flexibility demand from system operators (TenneT, Avacon, EWE NETZ) and suppliers active in the region, supervises price formation and guarantees a high level of transparency for this new market. All processes necessary and on the side of flexibility suppliers and system operators to act on the market will be set up in the project. This will allow for a demonstration under real conditions. The products currently listed on the Enera market platform are downward and upward flexibility (increase or decrease of power production or consumption) for multiple local market areas, for all 15-min and 1-hour delivery periods of the day until 5 minutes before delivery.

The local flexibility platform is complementary to the wholesale power market. Trade is organised in parallel with the cross-zonal intraday market, thus providing market participants with an additional opportunity to value their flexibility, on a locational basis, beyond existing mechanisms (e.g. intraday timeframe).

The Enera local flexibility platform went live in February 2019 for a 2-year demonstration period until the end of 2020. Since the go-live of flexibility trades, the trading activity is picking up steadily as the market participants set up or adapt their systems to this new market mechanism. At the end of the demonstration period, a comprehensive report will be written by the project parties to reflect on the experimentation and propose relevant regulatory adaptations.

Local flexibility marketplaces bring undisputed advantages:

1. They offer an efficient, market-based tool to reduce congestions and minimise the costs of system management.
2. The Enera model can serve as a blueprint for implementation in other regions in Europe, taking into account regional specificities.
3. Local flexibility marketplaces bring further clarity and transparency: they create a clear market mechanism with transparent price signals. These price signals will be used for an optimal activation of the local flexibility resources for congestion management.
4. Local flexibility markets help to unlock the potential of distributed flexibility. This market mechanism will foster the development of distributed flexibility and make good use of the new technologies: smart metering, demand response, batteries, aggregation. The locational market can become the short-term flexibility activation platform for congestion-management.
5. Local flexibility markets facilitate the necessary coordination between TSOs and DSOs. The goal is to avoid inefficient or counterproductive flexibility activations by organising the activations with clear coordination processes. Building on its knowledge and experience in operating power markets, EPEX SPOT acts as neutral party to organise the coordination between different system operators that could share flexibility resources.

Peer to peer trading:

Flexibility is needed, and used, at different levels. Peer to peer trading responds to consumer needs on a “micro” level, and encourages consumer empowerment. New technologies such as blockchain can allow system operators to unlock flexibility at the level of the prosumer or of an energy community. The development of this flexibility on a micro-level can also reinforce the need for

local flexibility markets (valuing flexibility) but also its complementarity with the wholesale market (valuing energy).

EPEX SPOT has already initiated projects to connect decentralised microgrids to the wholesale market, to ensure additional opportunities and securities for prosumers and members of these microgrids. The connection of the microgrid with the wholesale market provides market opportunities, an outlet in case of overproduction on the micro level as well as access to the resources of the wholesale market in case of a production shortage on the microgrid, all with the benefit of a reliable reference price as basis for all trades. As an example, EPEX SPOT has partnered with LO3 on a project to allow microgrid participants to value their netted energy load, benefiting from a transparent and trustworthy price signal.

Such project strengthens the overall energy resiliency and security of supply. Peak consumption and production periods could then be handled more efficiently. Consequently, in the longer run, this will support the integration of decentralised renewable energy sources, and working together with industry players such as grid operators could help balancing and congestion management.

3. In your view, what are the most important value propositions for consumers, which should be prioritised?

The priority should be to allow consumers to procure energy more easily, e.g. by giving them the opportunity to become member of a renewable and/or citizens energy community. In particular, consumers should be given the possibility to manage their own energy consumption, the source of their energy, adapt their consumption behaviour etc..., and potentially even to become their own energy supplier. It is also essential to manage the impact of these evolutions on the network.

Consumers should benefit from additional energy security. For example, enabling local microgrids to connect to the wholesale power market would offer consumers an outlet in case of overproduction on the micro levels, as well as access to the resources of the wholesale market in case of a production shortage on the microgrid. Connecting local microgrids to local flexibility markets would also give consumers the possibility to value their flexibility and support grid stability.

Transparency is central to the future power market design and to consumers. Consumer empowerment should come alongside easier access to transparent and reliable price signals, to ensure optimal consumption decisions.

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.

Digitalisation will, indeed, provide more consumers with the tools and opportunities to participate in energy markets, thereby allowing a certain "democratisation" of market participation. This increased participation will benefit existing market participants and the system as a whole, provided that fair market access is ensured.

5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?

6. What are the main risks for consumers arising from digitalisation of the energy sector?

7. What would a "whole energy system" approach look like – would this unlock more benefits of the digitalisation of the energy system?

EPEX SPOT's main role as a power exchange is to connect all levels of the power system, and to determine reference prices that benefit the system as a whole. All our markets have been developed in a way that we can integrate new, decentralised players. Adaptations are needed to take into account new business models, but the current set-up is resilient and already fit to integrate decentralised assets.

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models ("sandboxes"). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Regulators should pursue

Please explain your choices to the above question in the comment box below.

Proposal 2: Local flexibility markets are one of the possible tools to create a level playing field between new entrants and existing players. Through these markets, flexibility providers have access to price signals which are key for investment decisions. Local flexibility markets provide the necessary incentives for flexibility assets to be activated while ensuring security of supply through cooperation between a Power Exchange, TSOs and DSOs.

proposal 3: Transparency is key to well-functioning power markets. As Power Exchange, EPEX SPOT's main role is to provide transparent price references formed on the basis of market participants' trading. Data transparency with respect to power system and market data is a prerequisite for fair and efficient competition between market participants and is the only way to ensure that market participants are able to make informed decisions. Sufficient transparency can and already is suitably ensured through a combination of the publication of market data on EPEX SPOT's website and on the ENTSO-e Transparency Platform.

As regards local flexibility markets, the objective is to publish the price for flexibility in a transparent manner, as EPEX SPOT already does on the other markets. Discussions are ongoing with partners in the Enera project (see above) to determine the most adequate way of providing that information.

Concerning data privacy in the context of a microgrid, some solutions are already being developed. As a further step in EPEX SPOT's partnership with LO3 Energy, we are working together to further develop the Exergy platform, a global, energy data standardisation initiative and blockchain data exchange and warehouse. Using standardised data related to electricity production, use and transmission, Exergy will enable energy producers and consumers – from utilities to individuals – to take ownership of their digital energy data and create digital assets that can be monetised, i.e. traded on EPEX SPOT markets.

Proposal 5: NRAs should indeed be prepared to monitor the developments of local markets, including initiatives taken around local flexibility markets, and microgrids. Best practices should be shared between regulators and regular exchanges of views with stakeholders should be organised on these fast-moving issues. If requested, we are happy to support NRAs in setting up the appropriate regulatory framework in line with the concerned national legislation.

Proposal 7: It should be noted that, beyond network tariffs, consumers also need to have access to other price signals – in particular a clear and reliable price for explicit flexibility and energy valuation.

Proposal 8: We encourage regulators to monitor the development of platforms and new marketplaces and seek to establish a level playing field for the procurement of flexibility, to fully unlock the potential of flexibility.

Proposal 9: EPEX SPOT believes that grid expansion is necessary, however other solutions must also be considered. Therefore, EPEX SPOT agrees with the need to remove the capex bias and to provide TSOs and DSOs with incentives to make the most of flexibility and local flexibility markets, as an alternative to building new cables to reduce and eliminate non-structural congestions.

Proposal 10: EPEX SPOT supports this proposal in light of the pilot project Enera launched with German TSOs and DSOs in February 2019. (Please see above).

Proposal 11: Power Exchanges already offer neutral and transparent platforms to ensure optimal use of flexibility services. A clear definition of roles is necessary.

Proposal 12: There is a growing need for TSO-DSO cooperation, as underlined in the Clean Energy Package. In the context of local flexibility markets, Power Exchanges such as EPEX SPOT facilitate this cooperation and coordination by offering a neutral interface between TSOs and DSOs. We believe this coordination can be achieved efficiently through the market.

Proposal 14: EPEX SPOT supports the development of best practice approaches and regulatory sandboxes. Such approach has allowed EPEX SPOT to pioneer the launch of a local flexibility market (Enera) in the framework of the SINTEG programme. The results of the pilot project should contribute to shape the future regulatory framework for these new business models.

---

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 1]

Regulatory proposal 5

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 2]

Regulatory proposal 14

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 3]

Regulatory proposal 8

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 4]

Regulatory proposal 10

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 5]

Regulatory proposal 3

10. Do you have any other general observations to make on the topic of this consultation paper?

---

## Survey response 33

### Contact details and treatment of confidential responses

Contact details: [Organisation][ <input type="checkbox"/>
---

NODES AS
----------

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]
---

### CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?
---

Digitalisation of the energy system will bring the opportunity to make the energy market a normal market. For more than a century the energy system has been based on large, central production units and many small and uncontrollable consumption assets/customers. This history has formed the foundation for the current legislation all over Europe. That is why electricity never has been considered as an ordinary good, but more like a common infrastructure where all consumers can consume whatever they like whenever they like. On the other hand, these consumers have never really had the opportunity to respond to market signals and to contribute to solve any problem for the energy system.

Digitalisation will change this, together with moving much of the production from the central to the decentral level.

In a normal market, you will not receive a good if you don't pay. In principle you could be disconnected from the grid when you do not pay the bill, but then an electrician had to be sent out to disconnect you physically from the grid. And vice versa when the customer should connect you again. On top of the high costs, electricity is often seen as one of peoples' "human rights", and disconnection from the grid is considered a violation to these rights

With the modern metering and control equipment, connection and disconnection is just a mouse-click away. One could even choose to give the customer a minimum "virtual fuse" if access to a minimum of electricity is considered as part of the customer's "human rights".

On the supply side, in a normal market, the physical delivery is the seller's responsibility. If anything goes wrong and the good is not delivered, it is a matter between the buyer and the seller. Before deregulation 25 years ago, the electricity suppliers in most countries had an obligation to supply also during periods of energy or capacity shortage, and therefore they had the duty to invest also in capacity.

After deregulation, the seller's responsibility has been more unclear – at best this responsibility is a financial responsibility, while the TSO is facilitating any physical imbalance. The "adequacy" issue has received an increasing attendance over the past years. During some winter weeks with a high pressure over Central Europe, the market could face energy shortage, with coal and a lot of nuclear capacity phased out, little wind and solar production and high demand due to cold weather. The retailers will in such situations have difficulties to buy enough amounts of power in the spot market to fulfill their normal obligation to supply customers with unlimited quantities of electricity. In fact, retailers can sell this good even if they know that they cannot always deliver. This possibility to in fact short-selling electricity is may be one of the largest challenges in the electricity system. In other markets short-selling without the underlying assets is forbidden.

Digitalisation will give the sellers the opportunity to monitor and control their customer' load in a way never seen before. It is a political question to what extent the sellers will be forced to reduce its customers' load when they detect a shortage compared to what they produce or are able to buy at any given moment. But digitalization will give them that opportunity. It will be important to incentivise customers to participate in demand side response, but in the end the value of this flexibility will depend on the physical responsibility the seller has when he supplies a customer with energy. Again, that is a regulatory issue.



2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?

2.a) Increases the productivity of the existing system

DSOs will have the opportunity to monitor all sections of the grid, from the individual customer, via feeders and to transformers and lines/cables. The combined information from all these grid parts will have a huge impact on operational and investment costs. Digitalisation, in this case monitoring of all assets in the grid and big data analytics, will enable the DSOs and TSOs to more actively use market mechanisms to optimize their grids.

We do agree that the DSOs will have the tools to reduce costs through digitalization and using flexibility markets. But, they will not necessarily have the incentives to use these tools. In many countries there are better incentives to use less efficient grid tariffs and investments instead of buying flexibility services on a market even if this should reduce the overall grid charges.

2.b) Enables new products and services that alter electricity demand;

It is hard to see how the future energy system will work without an active participation from the demand side. A lot of new intermittent production capacity together with an electrification of transport and other sectors will challenge the way we operate the system. The question is who should take the first step to make it happen. In 2a) we discussed the regulatory framework, but the next step will be to give flexibility providers and asset owners an incentive to participate with flexibility.

If retailers and others should offer flexibility, they need to see a business opportunity. The consumers and asset owners need to understand the consequences of being flexible and the cost saving they can make, and the aggregators need to see a buyer willing to pay for these services. As described in the paper, there are many interesting concepts being tested for the time being, but few of them are making money. Few DSO have a short-term incentive to buy flexibility services. Those who are participating do that because they want to be first in the line when the regulatory incentives change.

2.c) Brings new digital marketplaces that transform the way the sector transacts

NODES operates one of the few market platforms that exists for distributed flexibility in Europe. Such market places that integrates with the other physical markets will be an important option for the DSOs in order to reduce costs. A lot of the planned grid investments are necessary for the electricity system, but many can be postponed or deleted if there is a market for flexibility available.

3. In your view, what are the most important value propositions for consumers, which should be prioritised?

The electricity bills are high for many European customers. It is a common goal to minimize this bill.

When customers are invited to participate in the flexibility market, there should always be an economic incentive to participate. However, there might be different approach towards the different customer groups.

Professional customers will typically be most concerned about the net cost savings. Household customers will often be more focused on the inconvenience of leaving the optimization of assets to the retailer or aggregator. The challenge is for the aggregator to understand the approaches needed for individual target groups.

Direct participation in the different markets is probably only an option for large, professional consumers. For all other customers optimization of grid charges and use of flexibility will be left to an aggregator. But the option for a consumer to choose whether to participate in markets for flexibility can be important.

NODES believe that the largest challenge when it comes to mobilising decentral flexibility is how to make business models towards the end consumers that convince these customers that it is smart to leave control over EV-charging, PV batteries, boilers, heating and other devices with long time constants to an aggregator, and that the cost savings are sufficiently large.

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.

Digitalisation, understood as monitoring load, data analytics and controllable assets, is a prerequisite for customer participation in energy markets. How fast the development will be depends on the regulatory incentives for the DSO and the roll-out of smart meters and smart and controllable assets.

5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?

Digitalisation is a tool for the consumers to enter the markets. Visualisation on smart devices of consumption, energy and cost savings is also important and will give trust that something actually happens with costs. It also must be easy to "take back control" for the customers in certain situations, like charge the EV car right away instead of waiting till the cheaper hours during night time if the car is needed during the evening.

6. What are the main risks for consumers arising from digitalisation of the energy sector?

The main risk for consumers is data protection. Protection from unauthorised use of historical data, and protection from anyone else than the power supplier/aggregator to control devices.

7. What would a "whole energy system" approach look like – would this unlock more benefits of the digitalisation of the energy system?

NODES believe that integration of flexibility markets with the existing energy markets is the best way forward. Grid companies and energy suppliers all use the same assets to deliver energy, solve grid congestions and other grid related issues. A consequence of this is that also the market interface should be as simple as possible for aggregators and retailers. If a particular asset has no value for the local DSO, it might be of interest for the TSO's operations or other BRP's balancing purposes in the ID market.

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

We agree that the major issues for regulatory issues are covered in the paper. The paper gives an excellent overview of the complexity in the tasks to be handled by regulators in the years to come. We share CEER's intention behind the proposals, but some are more important than de others at this early stage of development. Implementing new regulations now in several of these fields might be both premature and counterproductive. In 9. we therefore focus on the five areas where we think NREs should act already now.

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

Regulators should pursue

---

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models (“sandboxes”). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Regulators should pursue

Please explain your choices to the above question in the comment box below.

1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.

If DSOs are to participate in market operations, it will be important to develop new tools to analyse their grid so they can express their need for services in a market. Like what the TSOs do today. DSOs need to know on a far more granular level than today what congestions there might be in the different parts of the grid in the future. Also optimizing of losses and voltage problems can be solved by using a flexibility market. NRAs should consider new incentives for DSOs to innovate their operations by using market mechanisms.

For many DSOs communication with a market is something new. The communication will be on where in grid there are expected to be problems. If incentives are right, aggregators and power suppliers will look for flexibility in this area. DSO might want to secure access to flexible resources through availability contracts – similar to what they do today with interruptible tariffs. On top of this DSO pay for activation from the activation list on the marketplace.

3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.

If consumers shall participate more actively in the existing and new markets, access to data for monitoring and control is essential.

To maximise the value of the customers' flexibility, aggregator/retailer need to use smart algorithms for analysing how much flexibility is available at any given moment, and what the cost for that flexibility is for the aggregator. Such analysis will be vital for developing business models towards the consumers, and therefore in the end also decisive for the bids that can be sent to the market.

Ownership to the customers' data will be important for improving competition in such markets. In many countries the data collected through the official smart meter are defined as the customer's property, but there are many data behind the meter that is vital for understanding the customer's needs and capabilities when it comes to providing services to the electricity system. We see that many data remain with the manufacturers or existing aggregators. New entrants should, through the customer, be given full access to all data for EV-cars, batteries and household appliances. This is necessary for new entrants to compete on a level playing field with existing service providers.

When power suppliers and aggregators are given such insight in consumers' power consumption and have the ability - with the customers' consent – to also control devices in the customers' house, it is of vital importance that data security is well taken care of. NRA should develop clear rules for this in compliance with GDPR and other regulations.

9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.

Many countries use interruptible grid tariff to get access to customers' flexibility. The DSOs' incentives for using such tariffs are often favorable compared to buying services in a market. In other cases investments – capex - also are more profitable for DSOs than buying services that increase opex. NRAs should ensure that such inefficiencies are taken away.

10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.

Network tariffs are often general rules that apply regardless of whether there are operational challenges in the grid or not. It often applies the same rule for the entire grid, and the grid company pays for flexibility regardless of whether there is a need or not.

Interruptible tariffs can be compared to an option with a high upfront premium (discount on the tariff) to the customer, and no compensation when it is activated. It would be a pure coincidence if this was an optimal design for the customer.

The flexibility is also often only available for the DSO (or the TSO) and not for the rest of the market. By establishing an integrated marketplace, like NODES do, the flexibility is available for DSO, TSO and other BRPs. This will reduce costs for all of them over time; through an integrated marketplace both DSO, TSO, BRP and the consumer will benefit from more flexible use of flexibility than what we see from traditional use of discounts for interruptible load.

14. Regulators develop best practice approaches to enable trials of new products and business models ("sandboxes"). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.

The regulators' role will be important to facilitate innovation through establishing "sandbox" environments. Here regulators also can test their own rules and regulations by giving exemptions from or amendments to existing regulations for a limited area or point of time.

One issue will be to develop new tools for the regulator. When markets become more granular, the discussions around market power among fewer market participants than in the ID or DA markets. It is important to take these concerns seriously, but through new ways of analyzing the new inflow of data through REMIT we consider it likely that abuse of market power will be difficult.

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 1]

Regulatory proposal 1

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 2]

Regulatory proposal 10

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 3]

Regulatory proposal 9

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 4]

Regulatory proposal 3

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 5]

Regulatory proposal 14

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 6]

Regulatory proposal 2

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 7]

Regulatory proposal 7

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 8]

Regulatory proposal 6

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 9]

Regulatory proposal 11

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 10]

Regulatory proposal 4

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 11]

Regulatory proposal 5

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 12]

Regulatory proposal 8

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 13]

Regulatory proposal 12

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 14]

Regulatory proposal 13

10. Do you have any other general observations to make on the topic of this consultation paper?

---

## Survey response 34

### Contact details and treatment of confidential responses

Contact details: [Organisation][ <input type="checkbox"/>
Naturgy
Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]
<input type="checkbox"/>

CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?

- Digitalization can support the decarbonisation of the energy sector
  - Integrates more effectively gas and electricity energy sectors. Generally speaking, digitalization will facilitate the integration of gas and power markets, in particular for gas-to-power and power-to-gas technologies to provide better services to the electricity system, coping with the variation of increasing intermittency of generation.
  - Facilitates customer empowerment
  - Reshapes customers and utilities' relationship
  - From the view of an integrated gas and power company, the most expected impact of digitalization is a facilitator of an efficient energy services sector
  - Digitalization, instrumentation and control can decisively facilitate the integration into the distribution networks of the small renewable generation facilities that will be developed.
  - Digitalization will allow a more efficient use of electricity networks, since smart meters can be used to incorporate capacity terms in the tariff schemes. These capacity terms would give economic signals to users, in addition to energy, as the use of power requires investments that have a cost that must be carried by the system.
  - It should enhance productivity (and thus lower system costs) both in electricity and gas value chains :
    - System power loss reduction (fraud prevention and improved revenue assurance)
    - Increased system availability through predictive asset maintenance
    - Reduced System operational costs (OPEX) through cost optimization
    - Improved system capital costs (CAPEX) through improved asset allocation
- Furthermore:
- Distributed energy: smart grids, prosumers, renewables and power storage working together reshaping the system completely
  - In the short term consumers will gain more control over their energy use and benefit from additional service
  - System operators will benefit from new tools to manage their grids more efficiently and integrate an increasing amount of variable renewables in the system.
  - The digitalization and implementation of smart electricity meters in Spain has allowed consumers to access their hourly consumption data, or even consult their maximum power demand, offering the appropriate price signals so that they can modify their consumption patterns.
  - These devices allow the electricity DSO to detect the problems in the networks in real time, including fraud, decreasing the response time to address breakdowns and emergency situations, and improving the quality of service to consumers.
  - Additionally, these devices allow to act remotely in real time, being able to respond to any supplier request in a few minutes after the order is received and approved. For instance, Naturgy is developing a blockchain-based remote accreditation system to accelerate deployment of field operators on the ground.
  - Power loss reduction through smart meter data analysis and related improved field operations. The vast amount of daily signals emitted from UFD's smart meters (more than 3.6 million currently installed) provide relevant information to reduce power losses, prevents fraud and assures revenues. The vast amount of information provided by the smart meters (Big Data), combined with Machine Learning Techniques, are already showing a positive impact for the company by increasing the accuracy of fraud inspection campaigns and detecting operational incidents"
  - Gaining the trust and confidence of customers on the new evolving markets is critical for the successful deployment of novel services. Thus, we support a strong and robust data protection environment for all operators that should cement the credibility of the sector.
  - Regarding regulated dynamic variable rates, it is considered that although these smart meters allow their use, the current tariff structure in Spain is sufficiently advanced to give the appropriate signals to the market without the need to enter into a dynamic tariff structure. A dynamic tariff would unnecessarily complicate the billing mechanics and the benefits to DSOs, suppliers and consumers are not immediately obvious.

2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?

We'd like to highlight that digitalization applied to the monitoring, control and management of distribution networks is the only effective way of absorbing the production of a significant number of distributed and fragmented generation facilities based on intermittent energy sources.

a) Increases the productivity of the existing system

There are examples of productivity increase of existing assets, both in electricity generation and energy distribution, in gas and electricity. The access to the hourly data of consumption of all the users of the networks and the current treatment possibilities of this information allows to act on the different origins of the energy losses in the distribution networks, which are the technical losses, the errors of measurement and fraud. By acting on these elements, the networks losses are reduced, so that these infrastructures are more efficient and represent lower costs for their users.

A key element of this will be smarter and more flexible grid operations. Without the smart meters the electricity distribution companies only noticed the problems in their network by means of the telephone calls of complaint from the users. With these new equipment, the electricity distributors can know the origin of the problem and the scope of its effects instantaneously, so that when the users call they do not report the problem, and they are directly provided with an analysis of the problem and they are offered an estimation of resolution of the incident.

Particular focus should be paid to peak load management and how to better manage it. By analyzing the hourly data of the electricity meters, forecasts of future power demands can be made in the different elements of the distribution network, so it is very easy to compare these forecasts with the maximum capacities of the network and to program actions of preventive maintenance and infrastructure expansion investments where necessary.

b) Enables new products and services that alter electricity demand

Indeed, because the underlying ultimate objective is to reduce the carbon-intensity of the European economy while maintaining our standard of living; this can only be achieved by enhancing energy efficiency.

Live information available to customers on immediate consumption should lead to smarter energy use. Not only is the possibility of consulting instant consumption useful, but above all, knowing consumption patterns allows for more responsible consumption, especially if these consumption patterns are related to the cost of energy.

Smart buildings and heating/ cooling services. In certain buildings, automated decisions can be made regarding the operation of air conditioning systems that can represent important savings, thanks to the thermal inertia of buildings.

Electrical mobility, smart charging, ...

There will be inevitably new energy pricing models and products. The time structure of the wholesale market prices can easily be transferred to electricity consumers, so that these consumers have the signals of the market energy prices. Consequently they could adapt their consumption patrons to the fluctuation of that prices

c) Brings new digital marketplaces that transform the way the sector transacts

Digitalization will support the development of:

- new services for customers, enabling them to have a better understanding of their energy use, and participate more efficiently in the market.
- decentralized energy solutions.
- Smart homes and workplaces.

Digitalization opportunities will enable energy customers to be empowered in their whole energy management, shaping a market for services, involving demand side response, aggregation, prosumers etc. It embodies aspirations of a fast-moving millennial customer, but in practice it affects all other customers too. Therefore, the role that digitalization plays for consumers is also important in contributing to the delivery of the energy transition. Suppliers, therefore, should promote and support digitalization.

Customers can benefit from more (digital) control over energy use.

In terms of market coupling of electricity and gas, for instance, the information to allow customers to arbitrage, even at residential level, is already available. Smart programming could automate the best source of energy, gas or electricity, for a given energy need. In Spain the hourly electricity prices are known the day ahead, on "D-1". A customer with dual system installed could combine smartly the electricity and/or gas systems, for example, even a day in advance.



3. In your view, what are the most important value propositions for consumers, which should be prioritised?

Value propositions may vary depending on the type of customer. Therefore the overall value contributed by digitalization should enable the delivery of tailored products for specific segments, micro-segments and customers.

- Cost savings

- Arguably reducing consumption is more important for business as cost-efficient energy use maximizes profit, whereas well-off households give priority to comfort and needs of family members.

- Concerned and sophisticated energy consumers could be more interested in the development of renewable solutions (such as decarbonized gas or renewable electricity) in their supplies and innovative “green” packages.

- Digitalization allows to make a better forecast of the demand which involves cost optimization that is translated in a reduction of cost for the consumers.

Additionally, if the digitalization of the meters is used to include or strengthen capacity terms in the tariff systems, the contracted domestic demand may include the activation of the request of an increased power demand. This could yield significant savings in the development of distribution networks, from which consumers can benefit by saving on their bills.

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.

-  Digitalization will bring opportunities for more consumer participation, but it is not evident that customers will always respond to the opportunities as policymakers would hope.

-  The suppliers of the new energy-related services must lead in the role of educating current and future customers; education on the purpose and benefits of digital opportunities, including support for those customers who find a digital world daunting. Furthermore, customer education will be key to prevent unwanted data leakage and data abuse.

-  The reduction of time and effort in the processing of switching requests would allow for a more efficient retail market.

5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?

- Access should be easy for the customer;

- Interoperability with other platforms must be ensured

- Platforms must avoid harmful interference and conflicts beyond their associated grids

- TSO – DSO coordination and mutual data exchange is an activity in the regulated domain

- Platform solutions should enable gas-electricity coupling and synchronization. Generally speaking, digitalization will facilitate the integration of gas and power markets, in particular for gas-to-power and power-to-gas technologies to provide better services to the electricity system, coping with the variation of increasing intermittency of generation.

Education on the purpose and benefits of digital opportunities, including support for those customers who find a digital world daunting. Furthermore, customer education will be key to prevent unwanted and harmful data leakage.

Investments should be supported in new metering services to be offered by distributors, since they will be essential for the development of independent platforms that suppliers, aggregators or other agents will then use in the market. For example, distributors can provide metering services beyond the consumer's “border point” (“behind the meter services”), to improve their network management capabilities, something that clearly benefit consumers.

There is already a growing competition in energy management tools, mostly software-based, available in the European market.

6. What are the main risks for consumers arising from digitalisation of the energy sector?

The CEER Report identifies several data use and abuse threats arising from cyber security, as well as data privacy and anonymity.

In the energy sector, companies operate daily with such a vast amount of data that is paramount to adhere to the recently approved data protection regulation (GDPR).

This regulation helps the companies to prevent, protect and implement contingencies in order to minimize risks and enhance data protection. Some of the risks and threats identified range from identity thefts, fraudulent data switching or inaccuracies and low quality data

It is therefore paramount to develop in those companies an intensive and compulsory training program for enhancing capabilities and increasing awareness towards personal data protection. Naturgy has been proactive in this regard implementing an ambitious training plan for its employees regarding data protection.

In such a competitive and dynamic sector, an increasing number of fraudulent operations based on identity thefts, with persons purchasing products and/or services under stolen identities. As a side note, Naturgy, in collaboration with the National Gas Association of Spain (Sedigas), has launched a blockchain-based certification process for remote accreditation of field personnel.

Additionally, cybercrime reports have been growing during the last years supported by technology and increasing data vulnerability. Consequently, it is also essential to allocate resources and develop a robust investment plan to update and improve systems mitigating those risks.

In order to tackle those problems, Naturgy has developed a comprehensive Data Security & Protection Policy, implementing a communication plan for employees and third parties in order to increase awareness while complying with regulation and best data protection practices.

Customer education will be key to prevent unwanted data leakage. In Spain, consumers are the owners of their data which is guarded by the distributors, and guarantees that this custody is done efficiently and without interfering with the market securing their availability to all suppliers who must preserve the confidentiality of the information.

We consider Data Protection and Consumer rights an essential regulation, but they also provide relevant benefits for DSOs, as they enhance data quality and consequently result into improved operations. These rights are not perceived by Naturgy as cumbersome and/or ineffective, but as an opportunity for improving both customer engagement and data management, and for gaining operational efficiencies.

Independently from being a highly regulated sector, at Naturgy we reckon that operating under these regulations should be not relativized and full compliance must be observed. These obligations should not in any way relaxed.

Data Protection and Consumer rights are essential to respect citizen's privacy. In a heavy digitalized society, it is essential that relevant stakeholders are able to control and decide about the use of their personal information

From a market efficiency point of view, risks related to competition policy remain when the business are digitalized. Despite an initial impression of an increased number of new players and competition, digital platforms exhibit relevant economies of scale that might lead to concentration and de-facto monopolies after a relatively short period of time, as seen in other sectors, namely mobility, financial services and telecommunications. Controls associated to competition policy, data privacy, etc. should be maintained and even strengthened in this context. A light implementation of these may lead to a very concentrated market, which is very difficult to restore back to a competitive situation ex-post; in our view, this is probably one of the most prominent risks related to digitalization.

Another risk that should be avoided is discriminatory or asymmetrical access to information. Many sensitive consumer data have been marked as confidential, and we welcome an iron-clad protection. However, these data may have been protected in an asymmetrical way, so that a particular datum is available for gas marketers but not for electricity marketers. A level access to information in a homogeneous manner in all energy markets is paramount to grant fair competition among markets and energy vectors in a given jurisdiction.

7. What would a "whole energy system" approach look like – would this unlock more benefits of the digitalisation of the energy system?

Yes, an economy- system-wide holistic approach, including mobility, district heating, etc should prove necessary to yield the maximum benefits for all stakeholders.

In our view, sector coupling should be given priority in the successful transformation of Europe's energy sector into an optimized modern market. It would illustrate that the integration of seemingly disparate sectors can be done and shows immediate measurable benefits.

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

We welcome the thoroughness of CEER's report. It has highlighted exhaustively the opportunities and threats that sector is facing in the digital space and its intersection with the physical asset dimension.

The electricity distributors have a great capacity for reading efficiently and managing these consumption devices at very competitive costs thanks to their economies of scale. These advantages can be use in the metering of the energy generated and consumed as self-consumption, electric mobility, charging services for electric vehicles or energy storage in the low-voltage network. In these cases, a sophisticated and very low cost measurement service should be seen as an opportunity, and not as a barrier to the development of these new businesses. Therefore, we propose the "behind the meter" services as a segment for regulators to focus on.

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being "left behind" by developments.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

Regulators should pursue

---

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models ("sandboxes"). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Regulators should pursue

Please explain your choices to the above question in the comment box below.

Proposal #1 (AGAINST):

It does not seem necessary, since currently the DSOs (in Spain, at least) already ensure requirements of sufficient information supply so that the market offers its services to the small generators. All operators that are entitled to access information already do so in a non-discriminatory basis.

Proposal #2 (AGAINST):

It does not seem necessary, since currently the DSOs (in Spain, at least) already ensure requirements of sufficient information supply so that the market offers its services to the small generators. All operators that are entitled to access information already do so in a non-discriminatory basis.

Proposal #3 (AGAINST):

It is not necessary, since currently the distributors safeguard and protect the data of the consumers in a safe and efficient way, without any incident reported to date.

Proposal #5 (AGAINST):

In line with supporting Proposal #14, we believe NRAs should be more focused on fostering the ecosystem that leads to innovation, rather than in the actual elaboration of new products and offerings.

Proposal #6:

It is necessary to ensure a level playing field where all operators share obligations and benefits. The digitalization of other industries such as banking and mobility have created winners and losers where, more often than not, the owner of the traditional assets has been forced to forego part of their business for the sake of a well-meaning but misguided market opening. Fostering innovation should not be confused with clearing new entrants from fundamental obligations such as security of supply, balancing, ...

Proposal #7:

Full agreement with the statement. Regulators must ensure that in all Member States the network tariff structure reflects accurately all system costs, and that all consumers bear responsibility for payment for all network services they receive. The development of distributed resources and the empowerment of consumers critically depend on the development of tariffs that create the right incentives and at the same time avoid inefficient systems. Since most of network costs are caused by fixed investment costs, tariffs that include terms of capacity that reflect these costs should be developed, thus providing adequate economic signals to consumers.

Proposal #12:

It is fundamental that the roles of all stakeholders, especially those of DSOs and TSOs are well defined to provide long-term visibility and predictability.

Proposal #14:

We agree there's innovation beyond the business itself, also on the regulatory framework. An agile transparent exchange of best practices could help accommodate better and faster to the new models arising.

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 1]

Regulatory proposal 7

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 2]

Regulatory proposal 6

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 3]

Regulatory proposal 12

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 4]

Regulatory proposal 14

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 5]

Regulatory proposal 13

10. Do you have any other general observations to make on the topic of this consultation paper?

Digitalization will accelerate the coupling of the gas and power services and would allow for enhanced efficiency in both sectors. Taken as a whole, the provision of energy services will be less costly than if they were to be supplied from independent segregated operators.

It would be critical that the consumer reaps some of the benefits of this seamless integration in the form of measurable savings. At the same time, utilities and other stakeholders need a solid investment framework where they can commit resources (R&D, financial, managerial attention) without hurting its shareholders. Striking a fair balance between these two goals will be the role of the NRAs and will necessarily entail tailored and agile solutions in diverse and fast-moving markets.

On a side note, reflecting on the potential proliferation of new threats that may arise from a digitalization, we would like to highlight that the speed and scale of the punitive measures should also be adapted to the new operating environment, from both a regulatory and a judicial point of view. Furthermore, some threats may emerge from beyond the traditional jurisdictions where NRAs are used to supervise.

-----

NATURGY is a leading multinational energy group, a pioneer in integrating gas and electricity sectors.

We operate in more than 30 countries, manage 18 million supply points and have an installed capacity of 15.5 GW and a diversified generation mix.

We operate in regulated and deregulated gas and electricity markets, with a growing contribution from International activity, mainly in Gas and Electricity Distribution; Electricity Generation and Marketing; Gas Infrastructure, Procurement and Marketing. Our Strategic Vision is aimed at strengthening our current business model and establishing the foundations for continued growth on three pillars:

- Growth driven by emerging markets
- Evolution of power generation mix towards renewables and natural gas
- Emergence of new business models in the energy sector

Please find more information on our company in: [https://www.naturgy.com/en/get\\_to\\_know\\_us/the\\_company](https://www.naturgy.com/en/get_to_know_us/the_company)

Naturgy, through its subsidiaries, has been managing data from its early beginnings leveraging on its different systems along its complete value chain and related business units. Our data management experience ranges from data collected from SCADAS in our power plants, to data from customer engagements as well as, of course, operational data from power and gas distribution assets.

UFD (Unión Fenosa Distribución), the electricity distributor of the Naturgy group in Spain, manages more than 3.6 million smart electricity meters. Additionally, between UFD and Nedgia (natural gas distributor of the Naturgy group in Spain) they operate 23,000 remote energy meters.

---

## Survey response 35

### Contact details and treatment of confidential responses

Contact details: [Organisation][[]]
-------------------------------------

Iberdrola, S.A.
-----------------

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]
---

### CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?
---

<p>Today Europe is at an inflection point. The pace of innovation, digitisation and automation holds great promise. Artificial Intelligence for instance will be a major enabler for innovation, productivity and economic growth. It will help address societal challenges and deliver tangible benefits for citizens in areas such as healthcare, public security, transportation, energy management and disaster management. In the energy system, the impact of digitalisation is materialised as follows:</p> <ul style="list-style-type: none"><li>-Digitalisation allows the empowerment of consumers and facilitates their active participation in the energy markets.</li><li>-Digitalisation is a necessary tool to reach the objective of a flexible and sustainable energy system.</li><li>-Digitalisation will contribute to the development of the role of regulators and TSOs/DSOs by increasing availability (lower cost) of data, which could be more readily analysed (becoming information) and then transmitted/communicated to give effect to actions.</li><li>-Digitalisation will facilitate the electrification and decarbonization of the economy through:<ul style="list-style-type: none"><li><input checked="" type="checkbox"/> Smart recharge of the electric vehicle</li><li><input checked="" type="checkbox"/> Flexible use of the heat pump</li><li><input checked="" type="checkbox"/> Management of demand flexibility</li></ul></li></ul> <p>All of the impacts above are mostly relevant and also interconnected but it is absolutely necessary that regulators, working together with TSOs/DSOs, guarantee that advances in digitalisation bring altogether the correspondent regulatory changes.</p>
--

2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?

The principal changes that digitalisation brings to the energy system are:

a. Increasing the productivity of the existing system

As it was said by CEER, the availability of more and better data can be used by regulators and TSOs/DSOs to make better informed decisions which improve the efficiency and productivity of the grid assets and procedures and, at the same time, reduce risks. These are some of the key factors:

- Sensorization: the intelligent network now can provide more data to optimize the operation and reduce risks.
- Reduction of losses (technical and non-technical) with the deployment of Smart Grids, where data on network flows and voltage can be analysed.
- Resilience and system reliability with the help of real-time information.
- Optimal planning and operation (demand forecast).
- Resilience against cyber-attacks.

However, more digitalisation in the network requires an additional investment effort, as well as maintenance, so it must be conveniently considered to make it sustainable.

b. Enabling new products and services that alter electricity demand, being the most important:

Hosting capacity: making available to users the capacity that they need to generate or consume.

Electric vehicle: recharge is a flexible demand that allows multiple possibilities.

Battery storage.

Demand response: to price signals as a possible source of flexibility.

In general, the “digital revolution” is facilitating the deployment of tailored solutions for different types of customers and making possible the integration of sophisticated demand management programs, green mobility services and distributed resources. However, regulation must ensure level playing field among all market participants in order to avoid inefficiencies and distortions.

c. Bringing new digital marketplaces that transform the way the sector transacts

Again, setting up regulation is important to maintain the stability of the system.

Being the three relevant, the first one (increasing the productivity of the existing system) is currently taking place, so it is important to learn from its experience to highlight the benefits of digitalisation on this specific issue. The last one will need further development to really get a good knowledge of its advantages. In particular, risks, costs and opportunities of technologies such as blockchain and the use of P2P platforms in the energy sector should be carefully evaluated and the pilots monitored in detail. That said, regulation should encompass the introduction of new trading platforms aiming to enlarge energy market base and market liquidity. This conveys several implications. Among the most relevant, 1) DSOs should have the correct tools to act as independent market facilitators, enabling multidirectional transactions and 2) government interventions in electricity prices should be phased-out

3. In your view, what are the most important value propositions for consumers, which should be prioritised?

The value propositions for consumers to be prioritised are:

- Availability of smart meters that facilitate the exchange of information regarding the state of the network and also the active participation of the consumer in the electricity market, which is why it is considered the basis for the development of future smart grids as well as potentially contributing to the improvement of efficiency energy. The deployment of smart meters is a no-regret measure: cost-benefit studies would not have been necessary since many of the benefits that smart meters bring are intangible and are yet to be discovered. The function of smart meters is to measure energy and not to control the domestic devices of the customers (neither in the future). It would be a mistake if meters become control devices since their functions should be universal for all consumers. Even more, it would be unmanageable for TSOs/DSOs to try to develop digitalised home appliances or home energy management systems (home assistants) that are already being developed by another type of industry different from the energy sector and at very competitive prices (with economies of scale).
- Cost savings: Digitalisation creates the potential for increased efficiency and better information. Any cost savings from the efficiencies in the current system will lower bills for consumers if they are passed on. Regulators have a role in setting or approving the charges incurred by network operators. It will be important to ensure that investment is made to maximise efficiency from a whole-system perspective.
- Quality of supply: Smart networks improve the quality of supply.
- Customer participation: Digitalisation makes it possible to manage domestic demand and allows prosumers to trade their energy

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.

We agree with CEER that digitalisation leads to more consumer participation in energy markets. It facilitates product comparison and switching decisions for consumers. Digitalisation also facilitates direct engagement by active customers in digital marketplaces and, in future, potentially wholesale markets.

On the other hand, and as it was mentioned in the answer to the previous question, the flexibility markets should become very competitive in short with potentially little margin for consumers. Therefore, the tools that consumers can use must be of low cost. That is to say, home assistants devices supplied by companies different from those of the energy sector can offer greater participation to the consumers.



##### 5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?

The key enablers needed to unlock the benefits of digitalisation for consumers are:

- Making the Data Available: the most obvious enabler for digitalisation is smart meters (the data to be held in a way that is efficient and secure, compliant with the General Data Protection Regulation). More important than the organisational approach is the requirement for appropriate accessibility and interoperability.

TSOs/DSOs need the necessary data to allocate and activate the flexibility whereas the network user needs the data to participate in a non-discriminatory way in the market to offer his flexibility potential.

Markets as society in general would benefit of data openness of key Government sources. The availability of public data (e.g. geographic, social, weather, etc.) and scientific research for reuse in innovative services (Open Data) should be facilitated under specific conditions.

The proposed ePrivacy Regulation needs to strike the right balance between protecting the right to confidentiality and stimulating innovation by better aligning the strict rules on processing of communications metadata to the more flexible approach of the General Data Protection Regulation (GDPR).

-New Products and New Platforms:

Price signal and Intermediaries. Typically, such new products may require consumers to have smart meters, so where consumers do not yet have smart meters installed, the products cannot be deployed. Policy-makers should promote digital fairness and openness across platforms. Competition policy must ensure fair competition and environments open to new entrants and products.

- New Business Models:

Alternative business models may increase competition, but rules (regulation) have to be set to prevent businesses from failing (consumers being protected). Responsibility for energy imbalances also cannot be avoided. Being this so, regulators will need to consider how to regulate appropriately new platforms and players with impartial rules that guarantee that there are no winners and losers. These rules must not follow a particular type of model: the first step is to establish them under principles of equity, and then the new models can be developed.

- Facilitation of Grid Services from Distributed Energy Resources:

Regulators should ensure that network price controls encourage DSOs and TSOs to take advantage of new sources of flexibility where they are more efficient than investing in new network capacity.

TSOs and DSOs working together should ensure that efficient options are taken forward, whether for grid reinforcement or for procurement of flexibility

##### 6. What are the main risks for consumers arising from digitalisation of the energy sector?

The main risks for consumers arising from digitalisation of the energy sector are:

-Privacy and data protection: the rights to access smart meter data should be governed by the General Data Protection Regulation and TSOs/DSOs and Regulators have to be committed with best practices.

In the global scope of data protection, consumers' energy consumption data are not the most relevant in relation to privacy if we compare them, for example, with the data exchanged in the communications business. In the application of the General Data Protection Regulation, it must be ensured that in areas which are in the interest of society as a whole, pseudonymised personal data can be accessed and used in innovative ways, with due respect for data protection (e.g. applications in the field of medicine, smart grids or smart mobility).

-Cybersecurity risks (increasing). Energy systems are more resilient to cybersecurity threats than other types of systems. This is because the electricity industry (TSOs / DSOs) deployed its own communications before the global development of the internet. The fact that the communications of the smart meters are controlled by the DSOs under the supervision of the regulator offers greater guarantees of resilience against cyber-attacks.

- Indirectly, when access to data allows the entry of new players, it must be guaranteed the responsibility for security of supply, and assigned responsibilities in case of damages.

•The risk of additional complexity could result in customers who are in vulnerable circumstances or less able to participate in the market being left behind.

•Customers who are unable to engage or who choose not to engage could be at risk of paying more than their fair share of costs.

And finally, the net impact of digitalisation on the number of jobs is hard to predict and remains ambiguous due to the many unknowns: some jobs will disappear, while new ones will surface. A focus on continuously developing the right skills and attitudes will however ensure people's employability throughout their careers.

7. What would a “whole energy system” approach look like – would this unlock more benefits of the digitalisation of the energy system?

From the perspective of the “whole energy system”, digitalisation is supporting the gradual electrification of the EU economies in the path towards 2030 targets and beyond. Electrification is the cost-effective path to decarbonisation. The electrification of the energy generation and of other sectors such as transport, heating & cooling and advanced applications in industry is the way to introduce renewable in the whole energy system winning large efficiency vs. other energy carriers and reducing GHG emissions. Digitalisation should support the advanced integration of utility-scale and distributed generation and storage resources and very specifically, a smart integration of transport recharging and P2x facilities.

Digitalisation would impact not only on the all energy system but also the new ways of living, producing and consuming energy. It will help to better understand and manage the energy usage in buildings and for transport to become more interconnected. Some speak of a Fourth Industrial Revolution as new technologies disrupt current business models and offer opportunities:

- ☑Generating, storing and analysing large amounts of data has never been so easy in human history.
- ☑Objects and even living beings can be connected to exchange information and to act in an “internet of things”.
- ☑New high-speed fixed and mobile communication networks (e.g. 5G) enable a faster than ever exchange of data worldwide.
- ☑Cloud computing makes data easily accessible from anywhere in the world at a low cost.
- ☑New platforms connecting providers and clients of services and goods are boosting and create added value in new ways.

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

We agree with the fact that digitalisation is bringing important changes to the energy system and it provides the opportunity for increased productivity of the existing energy system. As it was said, smart meters should be considered as a first step, but further progress is needed to unlock the value of the data and ensure that consumers are empowered and adequately protected.

Therefore, regulation must adapt to the new environment that digitalisation is featuring.

In particular, the following aspects should be emphasized:

1.☑It is mentioned in the text that “energy companies are not the most trusted”. This cannot be delinked from the fact that according the updated report of the Commission Energy prices and costs in Europe COM(2019)1 final, EU electricity customer bills are 40% burdened with “taxes and levies”, unrelated with the cost of supply (50% in certain countries) and from the persistent intervention of EU MSs in electricity prices. Moreover, in the Trinomics report accompanying the previous one (Study on Energy Prices, Costs and Subsidies and their Impact on Industry and Households) it is addressed that: “Consumer satisfaction scores are higher in Member States without price regulation and dynamic price offers are almost exclusively available in Member States which phased out price regulation (between 2008 and 2016, or before)”. In fact, over 10 EU countries have today regulated prices for 95-100% customers, challenging or directly hindering, market development. Any steps on increasing price transparency, better customer services and obviously a strict application of Data Protection Regulation should also come better regulation, letting the market work and eliminating costs unrelated with the supply from the electricity bills.

2.☑Regarding competition concerns, we agree with CERRE opinion that says that consumers may lose competitive advantage (Empowering electricity consumers in retail and wholesale markets, 2017). The market rules or new markets that are designed on the basis of digitalisation must avoid introducing elements or intermediaries that do not add value to the final product. This was also pointed out in the MIT Energy Initiative report “Utility of the future”, 2016, with an example of inefficient aggregation.

As an example, there are some business models which introduce a fixed payment as exchange of a service (i.e. Flipper). In some cases, consumers will end up paying more.

3.☑It is also mentioned in the text that “there is some reluctance in the industry to share information once cyber-attacks have occurred”. In particular, utilities, as providers of essential services, have protocols to avoid cyber-attacks that are coordinated by entities established for this purpose. As a result, there have only been serious impacts on the electrical system in Ukraine in 2015. The rest of the attacks were physical (vandalism), the reason for which is that the electricity system does not provide direct economic advantages for potential attackers, as it does the banking sector and IT companies.

4.☑On flexibility, as it is stated in the last paragraph on page 36, we agree that the potential benefits of certain flexibility models are marginal, while the latent problems related to the loss of supply are very serious.

5.☑We agree with the analysis made in the document about new models in relation to concerns about Energy Communities and Peer-to-Peer approaches. As a general rule, it is important to consider whether the benefit they provide is partial and the overall effect is negative. In that case the model or service should not be interesting for the electricity system.

6.☑As stated in the first paragraph on page 40, we agree with the need to regulate platforms. Many platforms that request a fixed price from the consumer have costs that exceed the benefit provided.

7.☑Regarding to incentive schemes for regulating DSOs, including for innovation (page 40), we also agree with the fact that the bias should be avoided but taking into account that flexibility services are not always substitutes for the assets they replace. Some decisions taken between procuring flexibility or building assets are perceived as bias even when they are not: for example, when comparing wired assets with non-wired services (e.g. batteries) with different reliability.

8.☑We recommend that sandboxes be established to test new regulatory proposals before changing the rules (results cannot be known in advance).

In this challenge, the participation of regulators and TSOs/DSOs is key to achieve the objectives.

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models (“sandboxes”). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Regulators should pursue

Please explain your choices to the above question in the comment box below.

1. The deployment of smart meters in Spain is a success used as a special example of improvement of operation and quality of supply.
2. There should not be any kind of disadvantage vis-à-vis network connection or planning information. DSOs, as independent market facilitators, should be encouraged to improve their planning and therefore make available the information that is necessary (e.g. hosting maps). In the same way, speculation should be avoided, especially in renewables with high development potential
3. The energy industry use is probably not the most problematic in terms of Cybersecurity challenges although there is no doubt on its critical position
4. - NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities.  
- TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data.  
The example of Iberdrola in the smart meter deployment has had a key importance and the System is cybersecure because the information is encrypted and travels in safe ways
5. We welcome this initiative. From Iberdrola we consider that CEER has the independence to provide an independent analysis.
6. NRAs' and ACER should ensure a strict level playing field among all market participants in order to avoid distortions and inefficiencies (e.g. MIT Energy Initiative report “Utility of the future”, 2016: inefficient aggregation).
7. The development of distributed resources and the empowerment of consumers depend on the development of tariffs that avoid inefficient systems.
8. We agree this is a very important issue. If left alone, platforms can seek their own Benefit
9. It must be ensured that the chosen flexibility services truly replace traditional investments.
10. It is interesting to carry out proposals that allow the TSOs / DSOs, as business experts, to lead the search for new solutions. The DSOs in general and Iberdrola in particular have great interest in developing their own platforms and that is why Iberdrola participates in this regard in the Coordinet project
11. DSOs and TSOs are the best prepared entities with greater knowledge of the System to make the best technical definition of products and services
12. We agree because there has to be a balance between DSOs and TSOs so that the DSOs are fully empowered to develop their roles as market facilitators in cooperation with TSOs
13. We fully agree.
14. Important to insist on the development of sandboxes that allow testing new models and services.

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 1]

Regulatory proposal 7

---

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 2]

Regulatory proposal 14

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 3]

Regulatory proposal 9

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 4]

Regulatory proposal 10

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 5]

Regulatory proposal 5

10. Do you have any other general observations to make on the topic of this consultation paper?

Some countries such as Spain / some companies such as Iberdrola Distribución Eléctrica have already relevant experience in the digitalization of the system (smart meters have been fully deployed), so some of the topics discussed in this document have been conveniently analyzed: for instance, in what refers to the availability of data obtained from the meters for consumers (hourly consumption and instantaneous power). These experiences could be taken into account.

It is important to insist that the new framework cannot be defined without analyzing the technological reality and real experiences. The case of Spanish smart meters (with prime technology) is successful and has provided value to the client and the DSOs, notwithstanding the fact that in future generations the functionalities can be improved.

Regulation should also deal with the investment pipeline of the DSOs committed to meeting the challenges. In this sense, the remuneration mechanisms of DSOs should be featured to promote investment in new technologies, with shorter depreciation periods, rates of return reflecting the higher associated risk of this type of assets and well directed incentives for innovation.

---

## Survey response 36

### Contact details and treatment of confidential responses

Contact details: [Organisation][ <input type="checkbox"/>
---

Fortum Oyj, Consumer Solutions
--------------------------------

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]
---

### CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?
---

Digitalisation is an important enabler for a smarter use of energy, contributing to the decarbonisation of the energy system through improved flexibility allowing a higher share of renewable production.
--

Digitalisation widens the group of consumers that can participate - actively or through services - in the market for flexibility services. The position of consumers is also strengthened by enhanced competition through new business models and a wider service range related to e.g. small-scale on-site production, storage and EVs.
--

2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?
--

As described in the paper, digitalisation impacts the energy system in many different ways. It increases the productivity of the present system and market processes. Digitalisation also enables new products and services for demand response and energy efficiency. In this context it is important to acknowledge, that digitalisation makes it possible to reach a much higher share of the consumers. The services though need to be relevant and easy to use, requiring a customer driven development. The roles & responsibilities and market processes need to support a market based approach, meaning that the services should be developed under competition. E.g., the regulated stakeholders should provide the incentives for demand response supporting distribution grid operations, but they should not offer actual demand response related services to the consumers.
---

With regard to new digital marketplaces and -platforms, it is important to ensure that the costs for distribution grids and taxes should be distributed among all consumers in a fair way, avoiding free riding (as described in the report) and hidden subsidies "behind the meter".
---

3. In your view, what are the most important value propositions for consumers, which should be prioritised?
---

The consumers' preferences differ. It is key that the offered products and services are relevant for the customers. Digitalisation improves both efficiency in the "behind the scene" market processes (impacting cost efficiency and customer service) and enables a broader range of products and services.
---

Combined with a customer driven and market based market structure, digitalisation boosts cost savings, convenience, choice and participation, with different focus depending on the consumer. The most important value proposition for consumers could be said to be the broad impact - making it possible for in practice all consumers to benefit from the digitalisation and also to contribute to the decarbonisation of the energy system.
---

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.
--

Yes, digitalisation have a large impact on consumer participation. It is important to acknowledge, that "participation" does not mean that all consumers would want and choose to be involved in activities on regular basis. E.g., in order to capture a large share of the demand flexibility benefits, there need to be products and services that does not require active participation by the consumers. In general, convenience and simplicity are key words for broad customer participation.
--

5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?
---

Relevance and simplicity in the offering is key. Digitalisation is an enabler, but without customer driven and market based market structures, a significant share of the benefits would be lost . Also innovation and new business models are needed to take the "smart use of energy" to a new level.
---

6. What are the main risks for consumers arising from digitalisation of the energy sector?

Data security and privacy need to be safeguarded.

If market based structures are not in place and/or if a level playing field between players cannot be ensured, it might mean that some stakeholder groups or companies would be able to take advantage of the situation. This would lead to weak offering, poor customer service and higher costs.

7. What would a “whole energy system” approach look like – would this unlock more benefits of the digitalisation of the energy system?

A regulation that ensures that a resource/solution - centralised or decentralised - is available and can be chosen and utilised without distorting factors, would boost the benefit of digitalisation.

From a consumer on-site perspective, information about the energy sources and related cost components (also distribution grid feed, taxes etc) should be available and easily accessible for a service provider that the consumer has chosen to "optimise the on-site energy management". A clearly market based retail market model, including data hubs for efficient exchange of information, would also increase the value of digitalisation.

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

The regulatory focus in the digitalisation context is very much related to the functionality of the energy market in general. The benefit of digitalisation is heavily dependent on good, customer driven and market based market structures. This is emphasised especially in the evolvement of new services and business models.

Thus, the energy regulators should focus on ensuring;

- As few restrictions as possible for products and services on the competitive market
- Level playing field for all players on the competitive markets
- Clear roles and responsibilities. I key principle is that the regulated stakeholders (DSOs, TSOs) should not be allowed to act on the competitive markets (e.g. storage, demand response services)
- Easy access to data (customers' consumption, grid fees etc) for service providers (authorised by the customer)
- Strive towards large market areas, boosting the development of new products and services

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models (“sandboxes”). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Regulators should pursue

Please explain your choices to the above question in the comment box below.

A general comments to the section: In many cases, the listed single proposals (1-14) include many different aspects, which make it difficult to choose between the options "Regulators should pursue" / "Regulators should NOT pursue".

Comments to some of the draft regulatory proposals

5: Consumer protection is needed. On developed markets, the general consumer protection is in most cases sufficient and very little energy-specific regulation is required. The main vehicle for "Customer empowerment" is well functioning markets.

6: The regulators should ensure, that there is a level playing field for all players - the same rules and responsibilities should apply for all companies.



---

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 1]

Regulatory proposal 11

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 2]

Regulatory proposal 7

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 3]

Regulatory proposal 10

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 4]

Regulatory proposal 9

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 5]

Regulatory proposal 3

10. Do you have any other general observations to make on the topic of this consultation paper?

The report provides a good description of an important topic. Key to have an holistic view on the connection between digitalisation benefits and the market model.

---

## Survey response 37

### Contact details and treatment of confidential responses

Contact details: [Organisation][ <input type="checkbox"/>
---

Energy UK
-----------

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]
---

### CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?
---

The retail energy market has evolved considerably since it was created by privatisation two decades ago. However, incumbent technology and the regulatory regime has, to date, limited the opportunities for the retail energy market to move very far past the original model. Even with the growing number of suppliers operating in the market over recent years, with varying business models and customer propositions, a customer will generally be limited to one supplier and to one meter, supplying gas and electricity at a price based on kW/h.

The smart meter rollout for domestic and smaller business users is a key enabler for the digitalisation and development of the sector, supporting the advances that have already been accomplished for larger businesses. Going forward, increasing volumes of analytical data will be generated across the sector, whether from the smart meters themselves, or electric vehicles, connected home appliances and/or businesses via the development of bundled customer propositions.

This will also create new reasons for businesses to regard energy as an opportunity, not just an overhead. We have already seen early examples of this in other sectors, such as retail banking. Through the "open banking" initiative, customers are able to share current account data with third parties and other competitors via online apps. In return, they can receive advice on budgeting and payment management, and other accounts and services in real-time.

Digitalisation of the energy, alongside the rise of smart home technology, the rapid adoption of EVs, increasing volumes of micro-generation and the decarbonisation of heat, could precipitate a fundamental shift away from relationships based simply around kilowatts supplied. In particular, the boundaries between a consumer and provider could be redefined by innovative technology and services that are enabled by the abundance and clarity of data.

Although Energy UK would counsel against second-guessing the product landscape of the future, or its possible popularity with customers, we can already see energy becoming just one part of bundled services as market offerings converge, especially for domestic customers. The pace at which such developments are enabled will be dependent upon the successful digitalisation of the energy sector. The information provided from connected home technology, such as appliance health, and heating system operation, may also drive further sector convergence. Paths for consumer engagement with their energy may also evolve as a result, with some choosing to engage with multiple markets through a single entity such as a third-party aggregator, and shunning the traditional relationship between a customer and supplier.

There will be a number of new challenges as a result of digitalisation and the innovation that is progressed as a result, not least in ensuring that distribution systems remain reliable, and adequate consumer protections are effective in an evolving market. The ongoing costs of using, maintaining and improving market structures and functions will also need to be recovered in a fair way across the spectrum of new and incumbent market participants. This will ensure that certain customers, services or companies neither have an unfair advantage, nor face undue detriment. This includes considering how some costs are covered if new services or technologies lead to increased system costs, such as if network reinforcements are needed to support EVs.

The scope and pace of these impacts will be dependent upon the regulatory framework in place, which will need to be set up to most efficiently monitor, support and enforce in a market will likely see a growth in cross-sector offerings and evolving challenges.

2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?

Energy UK agrees with the three changes for the energy system that CEER has highlighted within its consultation. In addition, we believe that it will important to consider the overall positive opportunities that digitalisation will open up for the sector to decarbonise further and quicker.

a.  Increases the productivity of the existing system;

Energy UK agrees with the potential increase in productivity of the existing that digitalisation could deliver.

However, fundamental to realising this potential to the full will be appropriate visibility of data. Any reforms of the energy system to enable digitalisation must also consider the appropriate data framework. In the GB sector much of this data is hidden from market participants, preventing its inherent value from being fully realised. This has the UK Government to form the Energy Data Taskforce, led by the Energy Systems Catapult. Its remit is to recommend how industry and the public sector can work together to facilitate greater competition and innovation through more available and transparent data. Energy UK believes that for both energy system and consumer data, the regulatory regime needs to facilitate and incentivise as much openness as is consistent with customer consent, data protection and other GDPR principles.

b.  Enables new products and services that alter electricity demand;

Energy UK agrees with CEER's analysis and particular examples of new products and services that could be enabled. The GB market is already seeing a number of these new market offerings coming through.

However, we should not attempt to second-guess what the future customer may want, or what future businesses or technologies may offer and be successful. In particular, it will be important to ensure that any changes to the regulatory framework do not attempt to "pick winners" in terms of technologies and services that may result from digitalisation. There must be a level playing field between existing regulated entities and new entrants to ensure that market participants are not disadvantaged due to a disproportionate share of costs or regulatory obligations.

In addition, as highlighted previously, the potential for greater market convergence driven by new participants or offers utilising the benefits of a digitalised energy system should not be discounted. With some 50 billion connected devices expected globally within the next five years, the rise of in-home technologies may well be the catalyst for wider products from a wider variety of providers. Energy companies are likely to continue to diversify their offerings to enter into new related markets and, conversely, we can expect non-energy companies to enter the energy space – look no further than the automotive sector where companies such as Nissan and Volkswagen are offering energy services in the GB market.

c.  Brings new digital marketplaces that transform the way the sector transacts.

With increasing levels of intermittent generation on the system, we are expecting a greater variation in energy costs based on the time a household or business uses (imports) their energy and growing opportunities to sell (export), in order to help balance the overall system. An increasing amount of power generated will be by low or marginal cost plant, and using energy when power is plentiful (or reducing demand when it's scarce) will have a value to the system. Many of these digital market places are still in their early stages but we agree with CEER that these new business models are likely to come forward to reward those customers who can shift their demand to match the changing status of the system.

The rise of new platform technologies such as blockchain also have potential to help optimise and monetise value for customers. Indeed, the first energy blockchain transaction was successfully completed in 2018 at the residential Banister House estate in Hackney, London, and involved neighbours trading solar power. Although we do not yet know the potential impact of this development on the market, or the consumer appetite for this level and manner of engagement, the industry and government should be ready to take advantage if there is a benefit to customers.

3. In your view, what are the most important value propositions for consumers, which should be prioritised?

First and foremost, it is important to differentiate between consumer groups. Domestic, large non-domestic, small non-domestic and microbusinesses will all have different priorities to each other and even one another, depending on their individual priorities, ability to engage and energy needs. The digitalisation of the energy system, and the greater availability and depth of data for analytical use could help industry, government and regulators better understand the motivations and priorities of different energy customers at a more granular level than is used today.

However, Energy UK agrees with the value propositions put forward by CEER (cost savings, convenience, choice and customer participation), particularly in relation to the domestic sector.

---

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.

Energy UK agrees that digitalisation of the energy system and innovations have the potential to boost the participation in energy markets by consumers who are currently less engaged. The level of any increased participation or engagement would be dependent upon the framework ensuring their confidence in the offers and protections in place, that they can engage to a level of complexity they are comfortable with, and that they are adequately informed.

However, engagement is not a binary option of being 'engaged' or 'disengaged'. It will likely need a better understanding as new ways to engage with energy, with appropriate protections for consumers opting to use new services such as third-party aggregators or switching services as they become more available and potentially more automated.

Some customers will want to be hands-on, taking frequent advantage of movements in energy prices (for example, through time-of-use tariffs which track wholesale prices, or by buying/selling energy through peer-to-peer trading). Others will be mildly active, wanting to set preferences for the warmth of their home or the length of charge of their EV, while leaving the nitty gritty of management to a third party. For some businesses, greater automation may be attractive to heat and cool their properties or for generating power on-site to minimise their costs. Others may see new commercial opportunities to increase revenues or expand the range of products and services they offer.

Then there are those, particularly at the domestic and small business end of the scale, who will engage like they do today. But they do want to be assured they are receiving fair value while acknowledging that other options are available. It is important to recognise that this is, in itself, a conscious decision not to engage, perhaps driven by multiple factors including loyalty to a provider and/or high standards of customer service.

If done right, even those customers that are not actively participating should be able to benefit from digitalisation.

## 5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?

Energy UK views there being 4 key enablers that will be needed to unlock and maximise the benefits of digitalisation for all consumers.

**Data Availability** - The value of data cannot be overstated in leveraging the benefits of a smarter energy system for consumers. As such, there is a fundamental need to ensure that data is available and visible to market participants to deliver the impacts of digitalisation that CEER has highlighted. The ease of which data can be shared should also be streamlined, as far as is possible in accordance with relevant data privacy and security arrangements that will govern the market and consumer protection.

**Competitive Markets** – Unlocking the benefits of digitalisation will be best achieved by open, competitive markets in which the necessary level of investment can be secured and retained. In practice, this means a commitment to merits-based appeals of regulatory decisions to an expert body to maintain investor confidence. It is widely recognised that good regulatory decisions are most likely to materialise where the regulator itself can be challenged, as regulators are not infallible and may not always have recognised the scale of the impact of their decisions on specific parties (including customers). For example, Ofgem’s decision to impose a limit of four domestic tariffs on suppliers was later revoked by the CMA in its 2014-16 Energy Market Investigation, having been found to be detrimental to consumers. With new technologies and business models it may also not be reasonable to expect any sector-specific regulator to always have robust insight into the impacts of all changes on all parties.

**Appropriate Regulation** – An appropriate regulatory framework will need to be in place that minimises undue barriers to innovation, whilst ensuring consumer protections, to effectively unlock benefits of digitalisation.

The current “supplier hub” model in the GB market since privatisation has worked successfully. Suppliers provide a single, easily understandable and recognisable interface for the customer to ensure that system costs are settled; wholesale risk is managed on behalf of customers; consumption is metered; social and environmental obligations are collected and delivered on behalf of government; and that there is a conduit for consumer protection.

However, this regulatory regime requires all retail suppliers to apply for, and comply with, an onerous and prescriptive licence if they wish to supply energy to domestic or business customers. This poses a significant risk to a future retail market: such a bureaucratic system will prove a barrier to entry to innovative businesses whose principal interest does not lie in energy supply. It also limits the opportunities for some businesses to take more control over their interactions with the wider energy system.

As a foundation for any framework, it will be essential that the basic required functions continued to be delivered in a manner that ensures a fair, reliable and competitive market. For the GB market, Energy UK is recommending a to a principles-based, functional approach to licensing: the regulator defines certain activities, and if you engage in them you are subject to their specific licencing aspects. This approach could better foster innovation, allowing suppliers and service providers to tailor their offerings to meet evolving consumer expectations, and enabling some businesses to manage certain functions of their interaction with the market by themselves. It should also be extended past traditional suppliers, and take into account evolving business models that utilise the energy system, such as price comparison websites, auto-switching services or energy brokers.

In addition, distortions in the market due to legacy obligations or unfair distributions of costs should be avoided. Currently in the GB market, suppliers (with some exemptions based on customer portfolio size) are obligated to fund and deliver certain social and environmental policies. In a future market, with innovative or cross-sector participants or products, such obligations could negatively and unfairly impact upon traditional supplier businesses. As a point of principle, Energy UK believes that the energy system is not an efficient surrogate for intelligently developed and delivered government social policy and would need to be assessed when designing a regulatory framework for a digitalised energy system.

As highlighted by CEER’s consultation, Ofgem runs a regulatory sandbox through its “Innovation Link” initiative. Energy UK believes that the continuation expansion of regulatory sandboxes as digitalisation progresses will be crucial to enabling the benefits that innovative offerings could bring to consumers. This will be even more useful if markets continue to converge and non-traditional energy market participants seek to utilise the digital energy system for their services.

**Smart Meter Roll-out** – Digitalisation of the energy system, and its associated benefits, are underpinned by the successful roll-out of smart meters and the abundance of data and services that they will enable.

6. What are the main risks for consumers arising from digitalisation of the energy sector?

Energy UK considers that the main risks for consumers which regulators and governments will need to address include:

- Forced complexification of energy system risks consumers being underinformed about their energy, or the services that they are choosing to participate with. There will therefore be a need to keep a level of simplicity for consumers who want it, or who do not want to engage.
- Consumers who are not able to, or do not want to take advantage of new, innovative offerings could risk facing an increased burden of costs that others may avoid if the appropriate regulatory and competitive framework is not in place. This will need to be addressed to ensure that all are paying their fair share of costs, whilst allowing benefits of a digitalised energy system to be enjoyed by all consumers. As an example, a customer's type of property tenure, or the high upfront costs of solar panels and EVs, will inevitably restrict access to related services and benefits to customers who can afford them and are able to have them installed. With the right regulatory and competitive framework, those who can afford an EV will be reducing the costs of decarbonising and managing the system for all consumers, whilst being rewarded directly for the flexibility they are offering. Financial and non-financial support, based on a clear understanding of customer needs, may be required to provide equal opportunities for those businesses and households that are less able to engage with new services and products. As part of this, better data matching between regulators and governments could also ensure that customers in vulnerable circumstances can be more efficiently identified and given the important protections and opportunities they need.
- The convergence of markets could lead to risks from customers interacting with unregulated services or businesses if the regulatory framework does not evolve. This is not a new concern, and the regulatory regime in the GB market has failed to keep pace with changes such as the rise in importance of price comparison website or energy brokers.
- With the abundance of new data sources, and proliferation of services accessing and utilising that data, there are increased risks surrounding the privacy and security of consumer data.

7. What would a "whole energy system" approach look like – would this unlock more benefits of the digitalisation of the energy system?

Digitalisation in energy would interlink with more than just new ways for consumers to buy energy. It will help to better understand and manage the energy usage in buildings, allow transport to become more interconnected, allow innovative services in health and other sectors. Energy UK believes that while the primary focus may be on the "whole energy system" in terms of benefits, there must be consideration and an appreciation that the digitalisation of the energy system will involve and impact on the much wider economic system.

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

Energy UK generally agrees with the scope of CEER's draft regulatory proposals. Our Future of Energy report gives a number of recommendations for regulators, government and industry in order to unlock and maximise the benefits of a smarter, more flexible future energy system and would welcome CEER assess these recommendations as part of its wider review. While we note that this consultation's scope covers national regulators, there are important aspects of enabling digitalisation that are generally outside the remit of regulators and will need direction from governments, particularly in relation to regulating converging markets.

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

Regulators should pursue

---

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models (“sandboxes”). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Regulators should pursue



Please explain your choices to the above question in the comment box below.

Draft regulatory proposals 1 and 2 on data availability:

Energy UK agrees with proposals. Overall, we believe that for both energy system and consumer data, the regulatory regime needs to facilitate and incentivise as much openness as is consistent with customer consent, data protection and other GDPR principles.

Draft regulatory proposal 3 on data privacy:

Energy UK agrees with the proposal. However, the increasing availability of data does create greater challenges for regulation, particularly with regards to the use of personal data and protection of consumers' privacy. It may, therefore, be necessary for the governments to also review the resources and powers of the data or privacy regulators to ensure that they align with wider market regulatory frameworks and increased activity.

Draft regulatory proposal 4 on data security:

Energy UK agrees with the proposal.

Draft regulatory proposal 5 on consumer protections for new products:

Energy UK agrees that regulators should monitor experience with new products. However, where any protections are considered, they should be based on rigorous analysis and take into account any potential unintended consequences. In the longer-term for the GB market, Energy UK believes that a principles-based, functional licensing system would best protect consumers as services, products and technologies continue to evolve in the digitalised energy market. Such a system would also better protect against regulation-lag as it would regulate to ensure consumer outcomes, rather than prescriptive processes that may not cover newer offerings.

Draft regulatory proposal 6 on regulating intermediaries:

Energy UK fully agrees on regulating TPIs. In the GB market, TPIs (price comparison websites and auto-switching services) are becoming main point of initial contact with consumers whilst being unregulated. Energy brokers in non-domestic also play a major role and yet are unregulated. Fundamentally, there needs to be fair playing field between all energy market players, which will also include a fair share of costs and adequate customer protections no matter their choice of engagement route.

However, Energy UK is not supportive of imposing a default supplier in markets which do not have one currently. While we recognise that energy is an essential service, there would be various ways to ensure all customers are protected. In the GB market, suppliers of domestic customers have a duty to offer terms, and Ofgem has processes in place in case of supplier failures that do not disrupt a consumer's supply. Competition risks being undermined by a default supplier, which could limit or negate some of the positive impacts of digitalisation.

Draft regulatory proposals 7 and 9 on network tariffs:

Energy UK agrees with CEER on the importance of ensuring a fair share of costs between all users, and that new innovative services are not a means to avoid wider system costs. However, this should be achieved through better regulation, rather than more regulation.

Draft regulatory proposal 8 on regulation of platforms and new market places:

Energy UK agrees with this proposal, in line with our response to draft regulatory proposal 5.

Draft regulatory proposal 10 on market-based procurement of flexibility services by DSOs:

Energy UK agrees, provided DSOs do not form aggregators and stick to network operation.

Draft regulatory proposal 11 on efficient product definitions for grid services:

Energy UK agrees.

Draft regulatory proposal 12 on TSO/DSO relationship in more decentralised system:

Energy UK agrees, and we are please to see Ofgem already undertaking this in its current workstreams.

---

Draft regulatory proposal 13 on regulators' digital expertise:

Energy UK agrees with this proposal. It will also be important for energy regulators to ensure that they are proactively engaging with other sector regulators as markets converge to protect consumers from unintended consequences of digitalisation.

Draft regulatory proposal 14 on developing new product/business model trials best practice approaches:

Energy UK agrees, and we have been supportive of Ofgem's Innovation Link as a means for new business models of products that may have consumer benefits to be tested and guided to market where appropriate.

10. Do you have any other general observations to make on the topic of this consultation paper?

Energy UK welcomes this consultation by CEER and we are broadly supportive of the analysis it provides on the potential impacts and opportunities offered by the successful digitalisation of the energy system. Maximising these benefits for consumers will necessitate action from national regulators and governments establish regulatory frameworks in place are appropriate, removing unnecessary barriers to innovation, whilst guaranteeing consumer protections in evolving markets and ensuring a fair allocation of costs across participants. Energy UK, therefore, generally supports the draft regulatory proposals put forward in this consultation, and we are pleased that the GB regulator, Ofgem, is already undertaking a number of the proposed actions.

The GB energy system is undergoing a radical transformation, underpinned by the ongoing smart meter rollout and wider digitalisation of the energy system. A number of projects are already underway to assess how the GB regulatory framework needs to evolve to meet the challenges and deliver the opportunities of this future system. Energy UK has also examined the energy transition detail, with our April 2019 Future of Energy report setting out a way forward for the energy sector to deliver better for its customers as advances in technology and the vital need to decarbonise our economy transform the way we use, generate, store and transport energy. In addition to the overall summary, the report also includes five sections looking in details at different aspects of the energy transition, with recommendations for regulators, government and industry:

- The future retail market and customers' relationship with it
- Funding future electricity generation and system services
- Reducing emissions from buildings
- The sustainable transition to a low carbon road transport system
- Transporting energy to and from customers through transmission and distribution networks.

Energy UK believes that competitive markets deliver the best results for consumers through innovation and adaptation to evolving consumer demands. Since the 1991 privatisation of energy in Great Britain (GB), competition in both energy generation and energy supply markets have delivered for customers through lower costs and secure supply, whilst simultaneously driving innovation. Competitive markets will remain the crucial vehicle in which the digitalisation of the energy system will be most efficiently delivered, and the consumer benefit best realised. Any changes to the regulatory regime must, therefore, ensure that the energy sector remains a safe and reliable place to invest in order for the full benefits of new technologies and methods to be realised for the consumer.

New, innovative products and service offerings have the potential to enthuse and excite the consumer, providing new avenues to market engagement that help achieve a low carbon energy system delivering excellent service, choice and value for money to all UK's homes and businesses. We cannot, and should not, attempt to second-guess exactly how consumer expectations will evolve alongside technology. However, we are already beginning to see new service offerings being taken up by consumers in the GB market, such as innovative EV tariffs, choosing smaller community generators, or securing the lowest possible cost for electricity supply on an ongoing basis. Such market developments, in particular a possible increase in cross-sector offerings, could give cause to refining the manner in which sector-specific regulators interact, or even for reforming the means by which these converging consumer markets are regulated. However, the costs and benefits of any such proposals must be assessed in full for a robust business case to be put forward.

Data will be at the heart of these new, innovative approaches to engage consumers in the energy market and needs to be effectively harnessed. It will, therefore, be important to have the most efficient regulatory regime in place to ensure appropriate access and protections are in place, and hold accountable those making use of this proliferation of customer and system data. These data-driven or enhanced services or products will not be limited to energy alone so it will be important for governments, regulators and industry to think cross-sectorally when designing governance and market structures. In achieving this, particular attention must be given to maximising the control that customers have of their data and their ability to share with whom they choose.

While we understand the scope of this consultation, there are many benefits and impacts of digitalisation that will be out of the hands of regulators to unlock, and instead will need government-level action. For example, there are a number of distortions in bills (such as tax and policy costs) that could undermine innovative or their uptake, or create a fundamentally unfair playing field if different market participants are treated differently based on legacy regulations.

Furthermore, to attract the necessary investment that fully enables the development and implementation of innovation across the whole of the energy system it is paramount that governments are committed to independent and authoritative regulation. In its 2014 Energy Market Investigation, the UK Competition and Markets Authority found that a lack of robustness and transparency in regulatory decision-making increases the risk of policy decisions that have an adverse impact on competition in the energy market.

---

## Survey response 38

### Contact details and treatment of confidential responses

Contact details: [Organisation][ ]

EnBW Energie Baden-Württemberg

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]

### CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?

2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?

3. In your view, what are the most important value propositions for consumers, which should be prioritised?

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.

5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?

6. What are the main risks for consumers arising from digitalisation of the energy sector?

7. What would a "whole energy system" approach look like – would this unlock more benefits of the digitalisation of the energy system?

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

---

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models ("sandboxes"). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Please explain your choices to the above question in the comment box below.

10. Do you have any other general observations to make on the topic of this consultation paper?

---

## Survey response 39

### Contact details and treatment of confidential responses

Contact details: [Organisation][ <input type="checkbox"/>
---

Citizens Advice
-----------------

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]
---

### CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?
---

Overall, digitalisation will change how people pay, use and engage with energy. If harnessed properly, the change should lead to better consumer outcomes, allowing people to access value streams such as reducing their energy bills as well as increasing convenience, choice, consumer participation and comfort. Regulation is both an enabler of this future, by allowing innovators to offer new propositions to consumers, and fundamental to protect and inspire consumer confidence.

From our perspective, the impact that will be most important relate to the introduction of new products, services and market models. There is a risk of increased complexity for consumers and we believe, the blurring of market boundaries. Where this is the case, regulators need work in a coordinated fashion to best support consumers.

2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?
--

We agree that digitalisation could result in a more efficient and productive energy system with new products and services. There are many trials exploring digital marketplaces and forthcoming research by Citizens Advice suggests some consumers have an appetite to engage with peer to peer trading, through those digital marketplaces.

These are substantial changes but Citizens Advice suspects there will be other, non energy specific changes that will also have a significant impact on consumers and regulators. Namely, cybersecurity and data privacy will become ever more pressing issues as well as bill transparency given that digitalisation could allow more personalised pricing, bundled offers and new concepts and terminology.

It is likely consumers will need additional tools and support to understand and compare new offers and regulators should be vigilant in identifying where there could be or is consumer detriment.

Citizens Advice also encourages regulators to consider digitalisation in the context of customer service. New communication methods, such as using voice assistants, could have an impact in how people buy and use energy within the home. Regulators may wish to consider how to monitor and enforce consumer protections and ensure communication methods work for everyone, including those who don't want engage in digitalisation.

It is inevitable that there will be some distributional impacts from digitalisation. Forthcoming research from Citizens Advice identifies barriers including insufficient savings for large upfront costs, digital exclusion, lack of motivation and lack trust as the highest barriers likely to affect the most people. We also have concerns for people who live in the rental sector and how technologies and services may be built to overcome the particular challenges they face.

It will be key that barriers are recognised and, where reasonable, specific provisions are made to accommodate the needs of those individuals.

3. In your view, what are the most important value propositions for consumers, which should be prioritised?

Comfort, convenience and choice will be important value propositions, which we expect the market to deliver for consumers.

For us, the most important value proposition to be prioritised by regulators should be cost-savings. A more efficient and productive energy system should pass cost savings onto consumers, especially where consumers are providing flexibility. There may be a greater need for regulators to ensure the market is working for consumers in this respect and that the value of demand side response is distributed fairly.

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.

Digitalisation could mean consumers participate in the energy market differently. This does not only include switching providers but between market models, selling energy in a more nuanced way and providing flexibility. It is likely digitalisation will increase participation in the latter two points. However, better tools and support will be needed as the system becomes more complicated to encourage switching between market models and between providers.

In addition, there is a danger that digitalisation will only benefit those consumers already engaged and digitally skilled, and leave behind or disadvantage those currently unengaged and digitally excluded.

5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?

There are a range of key enablers that are required to unlock the benefits of digitalisation. These include:

- Flexible regulation, which enables innovation
- Consumer protection that allows people to try new products and services safely - this includes removal of exit fees and the ability to terminate contracts, if reasonable, as well as fair and transparent terms and conditions, warranties and protections if things go wrong
- Price transparency to understand what you are buying and whether this best suits your needs - this may include easy, consumer friendly access to their usage data and impartial tools to interpret it
- Control, transparency and good governance of data within industry
- Inclusive offers
- Interoperability between market models, technologies and systems

6. What are the main risks for consumers arising from digitalisation of the energy sector?

We set out some risks for consumers in this report, which relates to the customer journey: <https://www.citizensadvice.org.uk/about-us/policy/policy-research-topics/energy-policy-research-and-consultation-responses/energy-policy-research/smarter-protections-potential-risks-for-consumers-in-a-smart-energy-future/>

This is not a definitive list of risks, however and we will be continuing our research through the Future Energy Consumers project, identifying further risks and recommendations for regulators and government. To receive reports under our Future Energy Consumers project please sign up here: <https://docs.google.com/forms/d/e/1FAIpQLSc53nB59QVpUscYKbHMo4pHk3pgblcM-fnu12GXNMR7yz4VRA/viewform>

7. What would a “whole energy system” approach look like – would this unlock more benefits of the digitalisation of the energy system?

n/a

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

Overall Citizens Advice agrees with the areas that have been identified within this consultation. Regulators should be mindful that they consider risks both to domestic consumers as well as microbusiness consumers, and regulate markets so that they work for both.

Forthcoming research by Citizens Advice identifies specific concerns the smallest businesses in our society have about DSR, specifically in the context of electric vehicles. These businesses are often extremely time poor and have inflexible business needs, meaning they could have different preferences to domestic consumers.

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

Regulators should pursue



9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models ("sandboxes"). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Regulators should pursue

Please explain your choices to the above question in the comment box below.

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 1]

Regulatory proposal 3

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 2]

Regulatory proposal 5

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 3]

Regulatory proposal 6

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 4]

Regulatory proposal 7

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 5]

Regulatory proposal 13

10. Do you have any other general observations to make on the topic of this consultation paper?

---

## Survey response 40

### Contact details and treatment of confidential responses

Contact details: [Organisation][ <input type="checkbox"/>
---

Eurogas
---------

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]
---

### CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?
---

It is widely expected that digitalisation will have a transformative impact on the energy sector as on other sectors and indeed society as a whole. It will disrupt traditional models and bring new opportunities and innovative approaches to energy management. Eurogas supports the perception of CEER, that digitalisation will have impacts on the gas as well as the electricity sector, albeit to differing degrees, and therefore some responses to this welcome consultation, seek to tease out some differences as well as highlight opportunities for the gas sector in the delivery of new services and products for customers, including the development of renewable and decarbonised gases.

Digitalisation can support the decarbonisation of the energy sector, also along the gas chain and in support of an integrated sectoral approach.

At the same time, subject to data privacy laws, the progress towards digitalisation will allow a more accurate evaluation and appreciation of the impacts as they take place, as digital tools facilitate better understanding of energy use.

This in turn should facilitate the drive towards an holistic sector integrated approach, with the objective of delivering a just energy transition benefiting society as a whole.

2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?

a) Increases the productivity of the existing system

The efficiency of energy use should be enhanced along the chain. A key element of this will be smarter and more flexible grid operations. New opportunities for optimised, more efficient energy management will be opened up both at transmission and distribution level, cooperation between TSOs and DSOs enhanced delivering optimisation of blending and flows of different gases in the system and facilitating for gas (not only for electricity) local production. Smart sensors will monitor the gas quality in the system overall including some end-use affording the necessary interoperability.

In an appropriate regulatory framework, networks/assets should gain in efficiency, reliability and safety.

b) Enables new products and services that alter electricity demand

Digitalisation will bring more value to flexibility services and products. Especially, in a more decentralized system with more intermittent power plants, the market will enjoy enhanced benefits from the flexibility, the dispatchability and the reliability of competitive supply (or demand in case of demand-side response).

Solutions provided by the gas sector like hybrid heat and power units supplied with biomethane or power-to-gas units to produce hydrogen or syngas would support the power system and alter electricity demand.

With regard to final consumption, the availability of smart energy apps also contribute to altering gas demand. As digitalisation opportunities increase bringing development of more sophisticated products and services for customers, this will improve efficient gas use.

c) Brings new digital marketplaces that transform the way the sector transacts

☒☒ Digitalisation will support the development of new services for customers, enabling them to have a better understanding of their energy use, and participate more efficiently in the market. It can also support the opportunities offered to communities from decentralised gas solutions, and overall bring opportunities for smart homes and workplaces.

Digitalisation opportunities will enable energy customers to be empowered in their whole energy management, shaping a market of services, involving demand side response, aggregation, prosumers etc. It embodies aspirations of a fast-moving millennial customer, but in practice affects all customers. Therefore, the role that digitalisation plays for gas consumers is also important in contributing to delivery of the energy transition. Suppliers, therefore, promote and support digitalisation.

Customers can benefit from more (digital) control over gas consumption. Suppliers have developed and marketed Apps allowing remote control of smart thermostats or alternatively promote such Apps if they are developed by thermostat manufacturers.

Typical functions of these Apps used with condensing boilers including combi condensing boilers are to

☒☒ inform on weather outlook, enabling the customers to envisage their consumption pattern;

☒☒ make the heating system more sensitive to external temperatures;

☒☒ ensure a space heating more accurately tailored to the user's needs;

☒☒ allow the user to modulate space heating at a distance;

☒☒ regulate heating more easily in different heating zones;

☒☒ modulate the hot water function separately from the space heating;

☒☒ allow the user to see their historic consumption patterns and compare use of gas with a comparable household.

Also, certification of the credentials of home-visiting technicians can be facilitated by digital oversight, including block-chain.

Looking to more ambitious developments, a customer with a smart home or workplace with different combined supply options (e.g. in some countries depending on national circumstances, solar/thermal from a gas-fired fuel cell or micro CHP) can benefit from smart algorithms optimising their energy use, and other hybrid solutions may be achieved more efficiently in the future.

3. In your view, what are the most important value propositions for consumers, which should be prioritised?

Value propositions may vary depending on the type of customer. Therefore the overall value propositions afforded by digitalisation should enable the delivery of tailored products for customers.

Cost savings will be a priority for a substantial group of customers who juggle to meet variously household utility costs or business costs,

Arguably reducing consumption is more important for business as cost-efficient energy use maximises profit, whereas households give priority to comfort and needs of family members.

For many customers, however, energy is taken for granted and largely price inelastic, and they may attach more value to convenience, for example the novelty of controlling heating when not at home, or the contribution their personal responsibility can bring to reducing carbon emissions. This group could be more interested in the development of green gas in their supplies and innovative green packages.

At the same time, subject to data privacy and security laws, digitalisation enabling more efficient data management may facilitate the identification of the most vulnerable customers, including energy poor, and approaches to alleviate their problems.

The vulnerable may include those unable to cope in an increasingly digital world, and this issue will also need to be addressed on a shared basis by authorities and utilities.

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.

Digitalisation will bring opportunities for more consumer participation, but it is not evident that customers will always respond to the opportunities in the way policy makers hope. Not all customers may be equally ready to take advantage of them, or react differently. Digitalisation may involve services and products that support continuing customer loyalty. Equally, it can support competitive strategies through the sophisticated marketing of companies, the availability of CTs, and automatic switching tools.

Customer behavioural science is important in determining how customers can be assisted not only in recognising benefits of more participation in the market but acting on it.

Digitalisation can therefore, for gas as well as electricity, foster a direct participation of the consumer in the energy market, also through energy communities facilitating the social acceptance of local schemes. Regulatory considerations on appropriate incentives rewarding innovation and flexibility will be important.

5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?

A robust competitive market should underpin digital developments to the benefit of consumers.

Education on the purpose and benefits of digital opportunities, including support for those customers who find a digital world daunting.

Investment in more tailored digital services.

Competition in energy management tools apps, as currently many of these e.g. smart thermostat controls are appliance linked.

An appropriate regulatory framework for DSOs, taking into account research and development imperatives could incentivize digitalization and availability of data to the system. Smart metering (where it is rolled out as different considerations often emerge in the cost-benefit analyses for gas and electricity) should be envisaged integrating also the potential of the new model of energy consumption (active consumer, either directly or indirectly).

The added-value of flexibility brings to the system should be acknowledged when justified in the regulatory framework.

6. What are the main risks for consumers arising from digitalisation of the energy sector?

The Consultation Report identifies these mostly and concern data use and abuse arising from cyber security, although in this respect the impact on gas appliance use would be less serious than for electricity. However, data privacy is equally an issue for gas users.

A risk not highlighted may be that far from empowering customers, ICT may disempower them individually, albeit to the potential benefits of wider society, and as mentioned above some customers may need to be supported in accessing and using digital tools. No customers should be left behind.

7. What would a “whole energy system” approach look like – would this unlock more benefits of the digitalisation of the energy system?

A whole energy system approach should look for an integrated approach to determining the most affordable pathways and tailored solutions to achieve the energy transition.

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

The list of areas is very comprehensive, and should contribute to monitoring of developments, appropriate levels of scrutiny of DSOs and the working market model, ensuring robust protection of consumers' interests. Eurogas would, however, underline the importance here as elsewhere of adhering in the regulatory approach to the principle of dynamic regulation. Regulatory oversight will need to juggle several challenges in an increasingly complex energy world. Regulators will need to balance the demands of ensuring regulatory stability necessary for business confidence, and a flexible level of oversight and intervention that does not inhibit innovation.

Sector coupling and integration and the benefits these will bring to a more affordable energy transition should also be an important consideration supporting synergies across the sectors.

In any case, it is recommended that regulators consult regularly on the focus of their activities with all stakeholders.

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models ("sandboxes"). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Regulators should pursue

Please explain your choices to the above question in the comment box below.

Support is offered in particular for those activities that are relevant as much for gas as for electricity, and reflect those directions that should facilitate the development of a smart sector integrated system. At the same time, cyber security is also relevant for gas and is an important objective. Finally, regulators should themselves be aware of the digital agenda, its opportunities and risks corporate with each other and with stakeholders on this agenda and with other regulators when appropriate.

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 1]

Regulatory proposal 5

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 2]

Regulatory proposal 8

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 3]

Regulatory proposal 12

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 4]

Regulatory proposal 3

---

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 5]

Regulatory proposal 1

10. Do you have any other general observations to make on the topic of this consultation paper?

It is a comprehensive and balanced approach to the topic. [There are areas affecting the future gas market, including solutions involving alternative gases, that may benefit from further explanation.]



---

## Survey response 41

### Contact details and treatment of confidential responses

Contact details: [Organisation][ <input type="checkbox"/>
---

EnBW Energie Baden-Württemberg
--------------------------------

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]
---

### CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?
---

Digitalization has the potential to change the energy system. Processes could become more efficient and transparent, new services and business can arise. Customers can be enabled to become a more active part of energy transition. Decentralized production and consumption can be harmonized more efficiently.
--

2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?
--

We agree that digitalization will increase the productivity of the existing system, enable new products, markets and services.
--

a. Increases the productivity of the existing system;

A better monitoring of the grid state enables to observe congestions earlier. If congestions occur, a better congestion management is possible, as potential flexibilities for congestion management (decentral generation, storage, demand side management) can be activated easier.

b. Enables new products and services that alter electricity demand;

We believe that new retail prices can enable demand shifting and that also a control of selected devices is possible. For example, electric vehicles can be charged in a more flexible way to shift or avoid peaks. Another aspect is that a better inhouse management of production (e.g. PV) and energy demand can be achieved.

c. Brings new digital marketplaces that transform the way the sector transacts?

New digital marketplaces and technologies like peer-to-peer trading of electricity or blockchain will gain importance but also system security has to be ensured.

3. In your view, what are the most important value propositions for consumers, which should be prioritised?

We agree that there are different kind of consumers as households, small and medium size enterprises and large industrial consumers which have to be distinguished. Availability of suitable and affordable smart meters to monitor electricity consumption and to control selected devices is a key prerequisite for a successful process.

Convenience

From a regulatory point of view the use cases for smart meters should primarily be designed for the benefit of the customers. In this context, convenience is one of the most important value proposition for consumers. Automated processes can lead to more participation and climate-friendly behaviour. For example, automated real-time prices for E-mobility customers or smarter buildings can have an effect on bringing increased comfort and saving energy and money at the same time.

Choice

The consumer is able to choose convenience (new services) or cost savings by shifting demand to low price periods or to provide flexibility to the market.

Cost Savings

With smart metering consumer can shift their electricity demand away from peak price times and save money. Customers who can provide flexibility to the market should also be rewarded.

Energy Efficiency

New digitalized products can enhance climate-friendly behaviour.

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.

We agree with CEER analysis that digitalization leads to more consumer participation in energy markets. Automated processes can help consumers to become more active (decentral flexibility markets). Furthermore, the design of smart, simple and flexible regulation will play an important role to ensure that digitalization in the energy sector is perceived as an opportunity and not as an additional complexity.

5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?

- Competitive and liberalised markets:

Increased competition on markets leads to a diversity of offers and services. Additionally, customers should be allowed to benefit from market-driven prices showing them the value of becoming more active.

- Innovation friendly regulatory framework:

The regulatory framework needs to create a level playing field for all market players. Furthermore, in the fast-evolving context of digitalisation, regulation needs to be simplified and concentrate on the higher-level framework to give space for innovation.

- Smart Meters:

- Availability of smart meters/efficient roll-out
- Affordability of smart meters
- Customer-centric design of smart meters
- Technology of Smart meters up date
- Making data available by standard data interfaces
- Common standards within the EU

- Key element:

Customer acceptance of smart meters/digitalized products: The benefits of mandated products like smart meters need to clearly predominate the costs of smart meter

6. What are the main risks for consumers arising from digitalisation of the energy sector?

From our point of view, data protection and cyber security are among the main risks arising from digitalisation of the energy sector.

It is important that all consumers can benefit from digitalisation and the energy transition. Yet, these depend on a stable and consistent internet connection as well as on access to more competitive energy services. It is thus important not privilege any new players by exempting them from the established rules and regulations. Equally important, the overall system must be kept fair and affordable to all customers, including those who do not want to take an active part in the market or those who cannot afford to invest in distributed generation, and technologies and equipment's for smart-homes.

There is a natural link between digitalisation and digital platforms. Platforms will offer new (digital) products and services and thereby customers will be transferred in new eco systems. Because of the economic effects of platforms (e.g. chimney effects) there is an imminent danger that lock-in effects and price singularity will distort the functioning of the market and can cause a negative effect on customers at the long end.

Therefore, a fair and balanced level playing field for digital platforms have to be developed and continuously monitored.

7. What would a "whole energy system" approach look like – would this unlock more benefits of the digitalisation of the energy system?

"Whole energy system" approach means to consider the efficiency of the system as a whole and to create incentives that make each player act towards the benefit of this overall system. One example for this is an effective DSO-TSO coordination regarding the activation of flexibility. Another example is the need for customers to participate easily in all markets including potential new markets, such as flexibility markets.

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

In general, we agree with the analysis and the key areas presented here. Regulation and policy should empower and promote innovative models for using data while whilst protect consumers.

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models (“sandboxes”). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Please explain your choices to the above question in the comment box below.

- [?] Draft regulatory proposal 7/9 on the review of network tariffs:

We agree with CEER that all new market actors should be subject to an appropriate network tariff reflective of their use of the distribution grid. There should be adequate incentives for actors which bring potential benefits and services to the "main" grid through a non-discriminatory, clear and transparent scheme.

Concerning incentives for system operators, i.e. the remuneration of their costs, it is indeed essential not to create a bias towards specific solutions or types of costs. However, it is important to stress that not all regulatory frameworks are biased towards capital intensive solutions. Many regulatory frameworks already incorporate technology-neutral elements, such as a TOTEX-benchmark or output-based elements.

It must be ensured that flexibility services are chosen by the system operator only when their costs are truly lower than that of traditional investments, which will still be necessary. Therefore, transparency about the decision-making on side of the network operator is essential

- Draft regulatory proposal 10 on market-based procurement for flexibility services:

It is interesting to carry out proposals that allow the TSOs / DSOs, as business experts, to lead the search for new solutions. When discussing the introduction of flexibility markets issues of market power should be assessed carefully in cooperation with all market players. Furthermore, other ways of incentivizing flexibility should not be ruled out ex ante.

- Draft regulatory proposal 11 on the review of product definitions for grid services by DSOs and TSOs:

DSOs and TSOs are well-placed to define grid service requirements and should do so. However, this must also be done in coordination with service providers.

- Draft regulatory proposal 12 on the review of the progress on TSO/DSO relationship

We agree because there has to be a balance between DSOs and TSOs so that each system operator is responsible for its own network. This also includes the exact procedures for data exchanges which must be defined at national level. This is the first step towards considering the energy system as a whole because the SOs can only make decisions that benefit the whole system, if they are responsible for their own network.

- Draft regulatory proposal 8 on the monitoring of the development of platform and new marketplaces

We agree this is a very important issue.

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 1]

Regulatory proposal 9

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 2]

Regulatory proposal 7

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 3]

Regulatory proposal 10

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 4]

Regulatory proposal 11

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 5]

Regulatory proposal 12

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 6]

Regulatory proposal 8

10. Do you have any other general observations to make on the topic of this consultation paper?

As for handling new data new (digital) processes have to be defined and implemented, there is no reason for making an exception for the application of unbundling regulation for small utilities. If new processes have to be implemented anyway, they can be planned unbundled from the very beginning.

---

## Survey response 42

### Contact details and treatment of confidential responses

Contact details: [Organisation][ <input type="checkbox"/>
---

EDF
-----

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]
---

### CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?
---

EDF welcomes the opportunity to provide comments to this CEER consultation. CEER's consultation document delivers a quite comprehensive analysis of the impacts of digitalization on the energy system, encompassing a lot of various issues and pointing out the necessity of an agile regulatory framework to help deliver to all the benefits brought by this evolution. An agile framework requires regulators to strike the right balance between (i) visibility and predictability of rules for stakeholders and (ii) anticipated adjustments of the regulatory framework that might preclude some developments.

Digitalisation has already and will continue to impact the energy system as it will impact the whole economy and the whole society. It will contribute to an overall efficiency of the energy system, supporting the achievement of the EU energy and climate objectives. In our view, digitalization brings two major effects: (i) the evolution of energy system users, in particular final consumers (residential, services and industry) who develop new practices/approaches. New energy demand for ensuring tremendous volumes of data storage, encryption, and transmission; (ii) evolution of tools to manage the energy system: the digitalization allows for more advanced management of the existing system, and for additional analytics aimed at supporting decision making.

Digitalisation may be a source of productivity for all parts of the energy system though it should not be forgotten that digitalisation requires investments and that all the effects of digitalization still remain difficult to assess.

Digitalisation may also be a driver for competition with innovative solutions to be developed by all kinds of players, whether incumbents, new entrants or network operators. It appears rather striking in this CEER document that suppliers are nearly only mentioned when it comes to envisage a default supplier in regulatory proposal n°6. However suppliers are also already taking advantage of digitalization to offer customers new and innovative services, improve their customer relationships, simplify their processes, develop e-billing, etc.

Digitalisation may not always lead to monetary gains. However it can help address situations that could not be handled before. Being beneficial does not necessarily mean price reduction, sometimes it may mean avoiding a further price increase or being more convenient.

It is a difficult exercise to foresee what impacts will be the most important ones. This is particularly true since CEER does not evaluate the identified impacts according to the degree of market maturity of the different digital evolutions and treats on an equal footing evolutions that will for sure occur in the next five years with some others that still have a long path in front of them towards market maturity.

2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?

a. Increases the productivity of the existing system;

The improvements mentioned by CEER in upstream and network activities, whether associated to technological evolutions or to increased data collection and analysis, seem to give a good overview of the possible impacts and efficiency gains. EDF identifies three main areas for possible efficiency gains: in the area of engineering (conception, construction and maintenance), in the area of data production and management and in the area of improved real-time operation (for example a more dynamic congestion management). Many of these improvements however require important IT developments and other types of investments.

b. Enables new products and services that alter electricity demand;

CEER's document reviews a wide range of possible new types of offers to be proposed to consumers by all kind of players, whether entrants, service providers or incumbent suppliers. Customers are per se very diverse so the wider the choice is the stronger are the chances to find a fit. As long as customers are well informed about the offers/products and their potential risks and benefits, they should be able to do the right choice for them.

Indeed digitalization is an enabler for dynamic tariffs through smart meters roll-out. These tariffs however may not have customers' favor as they entail a certain degree of risk. Recent studies in countries where such tariffs have been introduced (Italy for example) show that residential customers want foreseeable or stable prices in the first place. Their aversion to risk is rather high. Other forms of offers such as time of use tariff or peak / off peak hours offers already proposed by suppliers already enable customers to adjust their consumption to price variations.

Attention should be paid to the fact that "pays as you go" type offers, with variable-only prices, do not systematically include network charges and taxes whose fixed terms simply don't fit in with this kind of invoicing but has to be billed anyway. Automatic switching services also require transparency over the criteria used for switching in order to ensure that customers are the ones who benefit from switching and not just the intermediary.

It should also be mentioned that digitalization brings closer together the provision of energy and the provision of energy services which are sometimes considered as separate markets (cf. energy efficiency directive).

Beyond these new types of offers, it is worth mentioning that digitalization will improve existing processes of all energy suppliers and service providers. Additional productivity gains can also be expected in several fields such as customer relationship management, billing, suppliers' and service providers' processes...

c. Brings new digital marketplaces that transform the way the sector transacts?

EDF believes that a very large share of final consumers does not want to get directly involved in trading, and will continue to expect contracts with a small number of dimensions. Trading will remain a professional activity that will certainly be facilitated by digitalization.

The word "platforms" encompassed very different types of models. It is worth mentioning that incumbents can also create platforms to provide services to their customers (example of IZI in France which provides access to day-to-day services connecting consumers with a wide range of professionals for everyday odd jobs, service contracts, equipment installations ...).

Peer-to-peer platforms identified by CEER are among the evolutions that are still far from market maturity. The concept still requires further thoughts. EDF considers that the individual balance responsibility (not born by the platform) appears very questionable and not practicable. There is no evidence about the existence of viable projects today. There are only experimentations in progress. Moreover, the role of a trusted third party acting as an intermediary is not limited to certification of transactions as blockchain does. It should be also considered supply insurance, litigation arbitration and monitoring of the well-functioning of the system.

3. In your view, what are the most important value propositions for consumers, which should be prioritised?

EDF considers the first most important value proposition for consumers is convenience, second is choice and third is savings. Moreover, digitalisation allows the consumer to be a citizen player in the energy transition.

Considering convenience, the value proposition of digitalization for consumers consists in the simplification of processes (so that the customer can better face the complexity of the energy market further to the liberalization process), in closer relationships to the supplier or service provider (more advising, multi-channel way for customers to get information and to contact and discuss – from chatbots up to live contacts with advisers, online offers), in electronic billing, etc.

In fact, the billing process (even if not e-billing) based on the real-time consumption data provided by smart meters is one of the main and obvious direct benefits brought by digitalization. This will indeed reduce customer discontent on the matter, which is usually one of the main causes for questions or claims.

Considering choices, digitalization will indeed bring a great diversity of operators and innovative offers, products and services (up to tailor-made types of offers, even coupled with other sectors). There are already today numerous suppliers/service providers and a great variety of offers (up to the supply combined with connected devices like the SOWEE offer in France). Tomorrow, there will be more building management (to serve convenience and moderate consumption), management of charging points for electric vehicles. This great diversity requires adequate transparency and obligations to provide consumers with adequate information concerning products and services.

Considering savings, it is important to recall that the energy component (competitive activities) represents less than one third of the residential customers' electricity bill and that the rest is composed of network charges and taxes. Therefore, potential monetary benefits of digitalization to be passed on to consumers could only affect a tiny part of the bill (for the network part, regulators address the issue through incentive regulation). Furthermore, potential savings can take the form of "price containment", which means avoiding price increases, and not only price decreases.

Energy efficiency through digitalization could be promoted. It would fit the convenience and savings value propositions. Digital tools are already available for customers to monitor their energy consumption such as the E.quilibre service provided by EDF, which provides the customers with an overview of their consumption but also enables them to interact with their advisor to get an audit of their appliances.

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.

Digitalisation can facilitate consumers' participation in energy market but it is not the unique driver for such a move. It may also be considered that the participation in energy markets is not an expectation of a whole range of consumers who needs simple products offering them affordable and stable prices. Therefore, EDF does not believe that a large part of consumers will be interested in committing into trading activities. Digitalization may however foster the activity of intermediaries that could act on their behalf and support some part of the involved risk.

5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?

There are certainly several key enablers to unlock the benefits of digitalisation for consumers. EDF would like to stress here the importance of an adequate and agile regulatory framework, providing both for stability and adjustment abilities and of course enabling innovation. Indeed the first step is to ensure well-functioning markets enabling or at least not hampering investments in digitalisation. Then, it also means ensuring a level playing field among market players (including non energy sector), by avoiding creating undue distortions. Finally, it implies ensuring enforceable consumer rights and protection rules. Considering the pace of developments, whether digital or not, in the energy sector, "agile" should rather refer to defining enforceable principles, that can allow for sandboxes to be introduced, than to defining too detailed and prescriptive rules that take time to adjust.

Furthermore, as already stated in this document, digitalization is already a reality for a great part of the customers and market players that are already making the most of it to develop new offer and services and to simplify and rationalize their processes. On consumer side, EDF would like to mention digital illiteracy potentially concerning millions in the EU, that has yet to be tackled to prevent large parts of the population from being put aside of the benefits of the digitalization. Alongside with authorities ensuring the adequate regulatory framework, market players also have a role to play in developing product and service accessibility (as an example EDF developed a specific access to its website for disabled persons called Facil'iti)."



6. What are the main risks for consumers arising from digitalisation of the energy sector?

The digitalization process in energy must be inclusive and no customers should be left behind. There is a risk that some consumers because they do not have access to the Internet or because they are less familiar with new technologies are left apart and are not granted the benefits of new products and services.

As digitalization will bring a great variety of offers, there is a risk that customers get confused with some complex or too numerous offers. Moreover, there should be an adequate level of transparency and regulatory oversight of abusive offers.

Data and privacy protection must be ensured both for residential and non-residential customers. Customers' consent must be secured and their privacy safeguarded as requested by the GDPR for residential customers, and as should be requested for data involving business secrets for non-residential customers.

Cybersecurity must be ensured as there is an overall and inherent threat associated to digital technologies. The same cybersecurity rules must apply to all actors should they be incumbents or new comers.

There is a general risk of overregulation too, which could also be detrimental to the customer by precluding some innovative developments.

There is a risk, for some processes, of developing costly data collecting and processing tools without proportionate return on investment.

7. What would a "whole energy system" approach look like – would this unlock more benefits of the digitalisation of the energy system?

In our view, a "whole energy system" would consist of a centralized management of all resources, including behind the meter. This highly-theoretical figure is probably a chimera.

Even with digitalization, the system is most likely to remain distributed. Digitalization can nevertheless move the level and nature of the interfaces between subsystems. EDF believes that the existing framework can serve a substantial part of the needs of system users and operators. Digitalization will mainly bring new resources to participate in existing mechanisms. For example, digitalization makes it possible to extend to congestion management approaches already used by TSOs to the distribution level.

A major enabler of efficiency by digitalization will be transparency by system operators on all constraints that can be addressed with flexibilities by network users.

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

EDF broadly agrees with the key areas identified by CEER for regulators to work on. EDF would like to stress the fact that the analysis does not mention any time horizon. Different technologies, solutions and impacts mentioned in this paper will nevertheless occur at different time horizons. It is important that the regulatory framework takes this parameter into account. EDF would also like to recall that, prior to the key areas identified, some basic regulatory principles must be ensured.

• Ensuring a level-playing field between market players in the energy market by enforcing the same rights and obligations for those having the same kind of activities is key. Asymmetric regulatory measures, which may be necessary at a point, should only be temporary (sand box) and under control and the objective should always be to return to symmetrical measures as soon as possible. Any 'overanticipated' rules adjustment, made in order to support a given technology or business model, can easily turn in regrets and welfare losses. Attention is also drawn on the fact that digitalization brings in new players from other sectors, much less regulated than the energy sector.

• Ensuring a fair contribution of all to network charges is key. Fairness means setting network charges coherent with the use of the network or the fact of relying on the grid for security of supply. New business models must take this into account. In particular, concerning the peer-to-peer platforms, the responsibility for balancing shall be more carefully analyzed. Indeed, an individual balancing responsibility put on peers does not seem realistic whereas the possibility to have platforms bear this responsibility, when they de facto take the role of making the energy supplied for the peers, should be the rationale.

• Ensuring customer protection remains key in a fast moving environment. The rules defined in the energy regulatory framework and the general customer framework should apply to all.

• A fair and simple regulatory framework is the efficient solution. Agile regulation should be based on robust principles without unnecessary details that may preclude innovative solutions or that would require permanent adjustments because of rapid evolutions.

EDF would also like to stress that it is very valuable to try and assess the effects of new rules and market evolutions, and thereby contribute to evidence and principles-based regulation. CEER has been historically proposing reports on the implementation of rules. Assessing the effects is a further necessary step. CEER is also used to producing valuable benchmark reports. Therefore, considering for example, on the one hand, that CEER itself notes that smart meters are the most obvious enabler of digitalization and, on the other, that the roll-out of smart meters is not effective in all EU countries, it would be very valuable to have a benchmark of the benefits of digitalization for consumers in countries where smart meters have been rolled-out compared to those where there have been no roll-out.

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models (“sandboxes”). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Regulators should pursue

Please explain your choices to the above question in the comment box below.

•Proposals 1 to 4 about data :

EDF subscribes to the need to make quality data available to market participants. For flexibility markets for example, the market needs to know where the needs are located in order to be able to provide the service. The right balance has indeed to be found between market needs in order to properly react and the costs and risks associated to the provision of the data. Ensuring the availability of aggregated and anonymized data remains key.

Energy regulators cooperation with other bodies in charge of data protection is necessary. Common cybersecurity rules are important and recent CEER recommendations are a step in the right direction.

•Proposals 5 to 12 on new products and new platforms:

As already mentioned, benchmark reports are very valuable. The monitoring of market evolutions related to digitalization should be included in the usual monitoring exercise carried out by regulators. The experience gathered through monitoring can be a valuable input to “sand-box” approaches (proposal 14).

In proposal 6, the notion of “best model” is very questionable. The wording of this proposal implies an asymmetric treatment of market players. A level-playing field must be ensured and consumer protection too. It should not be forgotten that suppliers are not only subject to market rules but that they are also subject to consumer law and its related customer protection provisions.

It appears a bit odd to find suppliers mentioned when it comes to default provision of energy... and especially regarding inactive customers. The notion of default supplier covers other types of cases (bankruptcy of a supplier for example).

Regarding proposal 7, network tariffs must be cost reflective and all network users should receive a cost reflective signal, not just the active ones. It is important not to exonerate some types of market participants from network charges and leave all the others bear the burden. If some new services can expect to be remunerated, they should be remunerated via a specific remuneration schemes (as far as possible based on a market mechanism) but not through distorted network tariffs. Network tariffs are designed to get network costs recovered. EDF is also in favour of the principle that all customers should pay a fair contribution towards the fixed costs of the system.

Regarding proposal 8, regulators have to ensure that the level-playing field for all technologies is ensured starting from the establishment of new platforms and market places in order to avoid barriers to entry.

Regarding proposal 9, the use of flexibility services wherever they prove more economically efficient than investments in the network is to be favored and enabled by network tariff regulation.

Regarding flexibility procurement, indeed market-based mechanisms should be the rule. Considering power generation units that can offer curtailment or modulation, these characteristics should also be taken into account in the connection arrangements

10. Do you have any other general observations to make on the topic of this consultation paper?

EDF would like to stress that for a successful digitalization the regulatory framework should focus on the regulated business (TSO/DSO activities). Activities in competition, deregulated over the years, should be left to the market, while ensuring the necessary customer protection.

From experience, EDF can also say that the key factor to success in digitalizing the energy sector to the benefit of the consumer appears to be the efficient cooperation of three main types of stakeholders, i.e. energy suppliers, service providers and electrical devices manufacturers, all seeking customer satisfaction.

Efficiency will go along the voluntary involvement of these stakeholders and therefore regulating relationships between them would be detrimental to any business development, as it could delay innovative offers. Suppliers should be left free to engage into digitalization experiments/programmes. In this respect, attention should be paid to the fact that deregulated activities in the energy sector are in reality much more regulated than in other sectors (electrical devices manufacturers for instance). Furthermore, energy suppliers themselves are evolving into energy service providers. All this is in motion at the time and we should be careful that additional constraints in the regulatory framework do not hamper future developments.

---

## Survey response 43

### Contact details and treatment of confidential responses

Contact details: [Organisation][ <input type="checkbox"/>
---

Energiföretagen
-----------------

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]
---

### CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?
---

Digitalisation provides new tools for more renewable, flexible, distributed and efficient energy systems. However, the question is almost impossible to answer. There are a wide number of areas where digitalisation will have an impact and to try to predict the impact is precarious. The most important aspect of digitalisation is furthermore not of a technological origin, rather it is from a regulatory origin. Such as regulations concerning security, price models, standards and market places. This because it is rather the framework than technology that will decide what can and will be done.

Digitalization's influence on roles and responsibilities can therefore be the most important aspect of digitalization.

One also must take in consideration how digital evolution shall be financed. Who benefits and who pays? There must be a fair and transparent distribution of charge in between affected stakeholders.

2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?
--

a.  For sure digitalisation holds the potential to provide tools for optimising the network. Though it may provide better understanding of the use of the grid. However, to ensure real savings on both TSO and DSO level, a new framework for data management may be required, and this must be further analysed.

b.  Digitalisation is likely to provide several additional services beside plain electricity supply. What kind of services the term includes should however primarily be promoted by the market.

c.  Digitalisation can facilitate the introduction of local flex markets, hubs etc. On this we do agree. Still and once more, primarily focus should be set on the regulatory framework rather than on specific technology's such as Blochian etc. Facilitation of various local flexibility mechanisms is though desirable.

3. In your view, what are the most important value propositions for consumers, which should be prioritised?
---

This might differ from customer to customer. Therefore, we agree that it is important to distinguish between different categories of customers. Basically, all value propositions rely around cost, savings, convenience and incitement to participate. This is however depending on actors being able to innovate and find business models. Therefore, regulation shall not stipulate what/which products to offer rather regulation should create a level playing field and remove barriers for being innovative.

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.
--

Most certainly, though the extent of cost savings, the value of convenience or comfort these products bring as well as whether the financing options facilitate participation will be key elements to trigger more participation from customers.

5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?
---

Frameworks that are clear, innovation friendly, fair and promoting competitive and well-functioning markets.

Good conditions for establishing smart network infrastructure. All investments needed are associated with costs and certainly in the early stages of the establishment of such infrastructure. How costs are distributed and how this might be financed will be crucial for the timeframe in which this may be achieved.

6. What are the main risks for consumers arising from digitalisation of the energy sector?

Digitalisation may create opportunities to meet different needs in several different ways. This may of course make it more difficult for an individual customer to foresee the value in a specific offer. This also entails a risk that rough actors taking advantage of the complexity.

The fact that values of digital origin most often relies on large amount of information i.e. data means a need for raised security. Regulations surrounding security must therefore be specifically consistent and harmonized. A sprawling or non-transparent regulatory framework would risk counterproductive measures and may itself pose a risk for both development and integrity.

7. What would a “whole energy system” approach look like – would this unlock more benefits of the digitalisation of the energy system?

The perspective of the question is incredibly wide. Digitalisation might provide opportunities to rethink almost every aspect of our energy systems. Therefore, the possibility of getting permission to try different concepts and models is necessary. That is, the answer to the question rests heavily on how regulations are designed to enable orderly forms of innovation and different test beds.

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

The key challenge will be to ensure that policy and regulation in this area are in plain terms. As pointed by CEER regulation must be framed in such a way that it does not create an unjustified barrier to innovation while continuing to empower and protect consumers during the transition. Today there are a several regulatory frameworks in the field of security where coordination has not been clarified.

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models ("sandboxes"). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Regulators should pursue

Please explain your choices to the above question in the comment box below.

In this section we would like to refer to the answers handed in by Eurelectric

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 1]

Regulatory proposal 6

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 2]

Regulatory proposal 7

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 3]

Regulatory proposal 9

---

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 4]

Regulatory proposal 8

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 5]

Regulatory proposal 10

10. Do you have any other general observations to make on the topic of this consultation paper?

The report highlights many interesting topics. Of the topic's nature, there will also be a need for rather extensive resonings. The questions that Ceer wants us to respond to are also in themselves extremely broad. All in all, it is therefore difficult, if not impossible, to provide adequate answers. Any conclusions based on the answers to the questions should therefore only be seen as guidance for further in-depth studies.



---

## Survey response 44

### Contact details and treatment of confidential responses

Contact details: [Organisation][ <input type="checkbox"/>
---

The Institution of Engineering and Technology
---

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]
---

### CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?
---

<p>The impacts identified in the consultation paper are a good summary. It will be important that they are developed bearing in mind the people on whom they will have impact, especially those who are more vulnerable and unable to transition with equal ease. The most important impacts, in terms of both decarbonisation and adding value to customers, will be the enablement of new products and services involving the grid edge, including new customer services (such as smart EV charging), new system flexibility services (eg DSR), and community energy enterprises. In due course, these are likely to encompass multi-vector opportunities to add value for customers. Value is of course wider than simply energy price.</p> <p>There is a key aspect of digitalization that is not given appropriate prominence in the consultation. The proliferation of services to customers requires interoperability – which indeed the consultation does recognize, both for data specifically, and more generally. However the way all these, potentially millions of, devices interact is a new engineering and systems challenge. Whilst some aspects might lie outside the remit of energy regulators (eg international technical standards), the overall organization of the energy industries and its interaction with customers and customers' devices is front and centre a regulatory responsibility. Current industry arrangements reflect an earlier policy goal for 'unbundling' but this has resulted in interfaces (in some cases silos) that are now a practical barrier for the satisfactory implementation of more complex systems at scale.</p>
--

2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?
--

<p>Overall this chapter is forward-looking and provides a good summary of the energy system changes ahead. It rightly embraces the grid edge, and engages in 'beyond traditional' power system thinking. It is good to see some trial community projects given visibility.</p>
--

<p>It is important that the chapter has identified customer convenience, choice, and participation. However, there is a corollary to this that we suggest should be given more emphasis, which is rising customer expectations in these areas and the rapid loss of trust that will ensue if new services that rely on digitalisation are not implemented seamlessly and to a high quality.</p>
---

<p>From a professional discipline perspective we would advise that there is considerable risk here concerning the need for top quality digital 'systems engineering'. This is not a discipline that is familiar to today's network companies, and generally speaking it is not recognised in regulatory frameworks or by today's energy regulators and policy makers. In our later comments we expand on this concern.</p>
--

<p>While we agree that the chapter is forward looking, we would not wish to dwell on (a) above. Good regulation will incentivise the regulated companies to seek out and adopt all the cost saving benefits that digitalization can offer. To be sure, designing good regulation that actually achieves this, without unintended consequences etc, is far from trivial. But this is the day job of energy regulators and is a development of the status quo.</p>
--

<p>What is much more of a challenge is how the new products and services need to be supported by regulated companies, as well as more generally in the wider economy through general, non-sector legislation and regulation to support competitive markets (recognizing of course that the first and best rule of regulation is to remove the rules). We note that the Clean Energy Package shares these objectives and we would expect significant input of the kind of thinking shown in this CEER consultation still needed as the legislative and supporting programmes of the CEP develop.</p>
---

<p>To allow new service providers to offer services to customers, it is necessary to find ways so that those service providers are appropriately responsible collectively for the balance-responsible-party duties per end-customer. Whether smart metering exists or not, there are framework issues to be addressed to allow multiple parties to be collectively responsible for the energy flows imposed on networks by each end-customer.</p>
---

3. In your view, what are the most important value propositions for consumers, which should be prioritised?

The big opportunities for customers come from new and intensive uses of energy – so particularly electric vehicles (EV) and new heating and cooling solutions. These uses can be offered as services with the energy costs both built in and managed by the service provider. It is essential that the market rules and standards allow this to happen seamlessly from the customers' perspective. It will be important that the real cost of implementation is understood together with its impact on customer prices.

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.

Traditionally customers have only participated in change if they have become dissatisfied with their current arrangements for cost or service. This base position is likely to change when attractive new services become available (such as lower costs through smart EV charging, payment for utilisation of DER (including V2G), and for actions that provide evidence of contributing to environmental sustainability and improved air quality). Observing the engagement achieved by AirBnB, Uber and so on, Apps that are seamless and satisfying to use will be essential in energy too.

Further, much future participation will be by proxy. The growth of home energy management systems, digital assistants, smart thermostats, and EVs is currently significant and is providing a platform for the management of the energy component of heating/cooling, mobility, as well as more traditional white goods usage.

5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?

The key enabler, the area where the gap is currently the greatest, concerns the need for greater regulatory adaptation to the changing nature of "the system". For many years following privatisations, the term "system" was synonymous with the transmission and distribution networks. This was reasonable shorthand when customers were passive demand-takers, generation was centralised, and there was for practical purposes no electricity storage. Increasingly, this is no longer valid and the "system" must be viewed as the whole end-to-end system, including new grid edge parties, products and services. Achieving this requires a change to rules, roles and attitudes.

Regulators whose primary remit and focus is transmission and distribution systems should more correctly describe themselves as addressing the "Transmission and Distribution sub-system". This is much more than a matter of terminology. For example, actions by regulators over recent years to incentivise efficiency in T & D companies should now consider whether their actions are sub-optimising and potentially acting to the detriment of the end-to-end system that serves customers.

Unlocking value to customers requires updating policy and regulatory frameworks to ensure that market and regulated company actions are coherent in promoting true whole-system benefit.

We note here our concern that, in the UK, Ofgem has proposed a 'narrow definition' of whole system (i.e. T & D only), which is not only confusing terminology but focuses regulatory attention on sub-optimisation. We would encourage CEER to define whole system unambiguously as the whole end-to-end system that serves customers and to consider how the implications of doing this should be addressed.

6. What are the main risks for consumers arising from digitalisation of the energy sector?

There is a rational argument, backed by sound engineering principles, which can be presented to show that a significant risk for customers is the lack of technical coherency across the many parties who comprise the end-to-end whole system. This will result in delays to the scale roll-out of smart digital systems for new services and products, and a failure to deliver seamless services that customers are expecting.

Future energy systems, enabled by digital smart solutions, will be large-scale, complex and involve many parties and 'moving parts' capable of interacting with unintended and potentially adverse outcomes for energy security. Other sectors manage this kind of complexity to a high standard and lessons can be drawn from, for example, the mobile phone sector, the worldwide web, and international air traffic control. There is however a serious missing element when considering parallels with energy systems - in energy systems there is no party responsible for end-to-end technical coherency. To be clear, this is not a reference to needing central planning, it is a requirement recognised in other sectors for 'system of systems' coordination.

To explain a little further, when there is a significant penetration of DER controllable by a number of third parties and their automated control algorithms, there is the possibility that such demand or generation might be controlled in such a way as to destabilise the electricity network, potentially at scale. This could be malicious, in which case the thinking in the consultation paper on cyber security is clearly key. However where multiple parties operate automated controls, perhaps utilising AI logic, both distributed and centralised, the chance for some unexpected and undesirable action or feedback loop increases substantially.

This risk is well known to systems engineers. How is this risk to be managed? Who has the responsibility to provide some measure of system engineering oversight to ensure interactions are benign, or if not, to build in the safety checks and firebreaks etc? This is not an obvious role of any existing player, for example transmission system operators rarely have visibility of third parties at the grid edge (or have experience of interacting with domestic customers and SMEs).

This concern has been highlighted in Britain by the Future Power System Architecture programme (FPSA) undertaken jointly by The IET and the Energy Systems Catapult. This work has identified a range of issues and has proposed some steps to resolving them, although to date this has not been taken up by the policy makers.

<https://www.theiet.org/impact-society/sectors/energy/energy-news/fpsa3-fast-track-to-britain-s-future-power-system/>

7. What would a "whole energy system" approach look like – would this unlock more benefits of the digitalisation of the energy system?

Please see our response to Q5. We note that "whole energy system" is not defined in the CEER consultation. It is a term that is becoming in common use but with greatly differing meanings depending on context. We believe it is helpful to consider the whole electricity system as transmission, distribution, generation and all the autonomous and smart devices installed in end-customers' premises. From a systems engineering point of view this is the whole system and for many engineering challenges, needs to be seen and managed as such.

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

The consultation shows a good understanding of the changes in technology and society that need to be recognized by regulators. We have made comments above on the whole system challenges that we believe CEER needs to recognise more, albeit in partnership with other regulators and legislators.

This is not a request for more legislation and regulation, but a recognition that the future energy landscape is diverging more and more from that inherited from the last century, when the majority of the investment was made, and where the current regulatory structure was designed.

We believe that the issues we have outlined in response to Q6 are of fundamental importance and are a key area that could be added with great benefit to the otherwise excellent work by CEER.

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

Regulators should NOT pursue

---

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models (“sandboxes”). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Regulators should pursue

Please explain your choices to the above question in the comment box below.

Prop 1

This is a key part of DSO main business and should not need to be specifically incentivised. Standards might evolve in this area, and regulators will be able to impose compliance, but it is critical that DSOs are still able to innovate. We would not suggest this is a specific principle carried forward.

Prop 2

We feel the example here is unhelpful. Storage should connect where it chooses. If a DSO has a need, then it should be advertised as such. DSOs will only be able to create value for third parties where they have a need for a solution. Yes, DSOs will need to publish this appropriately but they should be incentivised to do so by a regulatory framework that values services at least as much as investment. That should be the focus of regulation, not the detail of how DSOs interact with the market. The principle is probably sound – but the example is not convincing.

Prop 3

This does seem to be a key developing area. This principle should be adopted. Attention should be given to how energy and network operational data interacts with increasingly powerful AI systems. For example can those systems explain the conclusions they have reached when utilising energy data, might they have in-built biases (say for gender, social-economic group, locality, or race), are suitable controls in place where data is made available to AI systems, are AI systems and their data feeds using the best principles of 'Human-centred AI'?

Prop 4

A key area – but much wider than just energy. We are not familiar with the CEER report. However we would not recommend this as a regulatory principle over and above or separate from what is required more generally nationally and relating to critical national infrastructure. Cyber security should be regarded as one (important) aspect of end-to-end whole system holistic co-ordination and there should be unambiguous mechanisms for accountability where controls and mitigations span energy sector boundaries.

Prop 5

This does sound like the regulators' day job, so yes this is important and should be carried forward as a principle (but we hope not a new one).

Prop 6

We do have concerns about the creeping growth of regulation. Intermediaries might well have responsibilities – but in the first instance would these not be legal rather than regulatory? The second part of this proposition seems to be a different issue, ie the protection of vulnerable customers, which is not the same as inactive customers. If oversight and 'regulation' (in the widest sense) is required across an expanding supply chain (eg to the grid edge and community energy enterprises) we would recommend that a stand-back review is undertaken. Arguably it would not be in the best interests of customers for today's energy regulators to simply extend their reach. A similar argument applies to expanding the role of Transmission System Operators to undertake system coordination at distribution/domestic customer level. Questions to be asked include matters of focus, competencies, mind-sets, and over-concentration of roles in an increasingly distributed and diverse energy sector.

Prop 7

Again this is the day job – but we recognize how challenging it is. Clearly this needs to proceed. Care must be taken however to ensure that work of this nature, taking place within traditional transmission / distribution regulatory boundaries, does not result in sub-optimisations that are counter-productive to customers, who in fact are served by the whole end-to-end energy system.

Prop 8

As 5 and 7 above, a continuation of existing focus. Developments in this area should include monitoring of the progress being made to open systems and interoperability. Raw competitive market actions might appear to be encouraging new entrants and new services, but if this is simply 'might is right' dominance, it is unlikely that customers will be well-served or that innovation will be fostered for the long term. Interoperability and open standards need to be introduced at quite an early stage if there is to be healthy market activity that does not have the pitfalls just mentioned. Open systems are well established in other sectors that operate competitive markets, but intervention is needed by regulators and policy makers to bring it about - it will not be an outcome of market parties alone (whose incentives to do the very opposite).

Prop 9

As per proposition 2 – we see this as part of normal good regulation so would not support it as a new principle assuming it is already being done.

Prop 10 – 12

These are key developments and underway to some extent already. Network price controls should already be incentivising some, if not all, of these requirements. It is a key current preoccupation that needs significant regulatory support. Stand-back thinking is needed here to broaden the thinking beyond the traditional transmission / distribution / Supply regulatory boundaries. There is a risk of sub-optimisation as we described in proposal 7.

Prop 13

This sounds just like maintenance of an appropriate expertise for the job – so it probably shouldn't be a new principle – just part of the necessary requirements of the role. We would note that while digital and associated systems engineering skills need to be expanded in Regulators, it will be important that these are brought to bear at all levels from Boards downwards - and not simply buried at operation level. To be effective these skills should also be represented at the policy setting level.

Prop 14

Again this is valuable activity – but we assume this is already in the baseline of national regulators' activities. Sandboxes and innovation incentives are effective in stimulating demonstration of new solutions. It is important however that these initiatives have strong 'follow through' mechanisms to ensure that successful outcomes are adopted and deployed at scale. There are a number of good reasons that can be set out for this, not least that some of the best innovations are coming from SMEs and start-ups and these parties (for whom cash flow is critical to survival) cannot 'live by demonstrations alone' however ground-breaking and

---

successful they are. Barriers to roll-out are deeply embedded including the impacts of regulatory frameworks on company business models, company inertia, and concerns that regulators will not support 'investment ahead of need'.

10. Do you have any other general observations to make on the topic of this consultation paper?

No

---

## Survey response 45

### Contact details and treatment of confidential responses

Contact details: [Organisation][ ]

Europex (Association of European Energy Exchanges)

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]

### CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?

Digitalisation will enable the emergence of new business models and complimentary markets on a decentralised and more “local” level, with the potential to enable new players to access organised markets and benefit from a wider set of reliable short and long term price signals. As the number of players and market participants grows, so does the need for access to transparent and reliable price signals. Therefore, power exchanges and delegated operators\* see their role growing in an increasingly digitalised and decentralised power system.

\* “Delegated operators” are defined in the recast Electricity Regulation (Clean Energy Package). For more information please see the Europex paper published August 2018.

<https://www.europex.org/position-papers/the-essential-tasks-of-third-party-market-operators-facilitators-in-the-electricity-market/>

2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?

- While digital solutions have long been central to the development of the wholesale energy market, new digital market places offer new tools to help the power system to adapt to the trends identified by CEER, and additional opportunities to involve ‘prosumers’ and intermediaries such as aggregators.

- In the context of growing RES production, power exchanges have pioneered market-based solutions to manage and reduce local congestions.

- Regional and local flexibility markets allow for the further integration of renewables and foster flexibility as a complement to the European wholesale markets, including Single Day-ahead Coupling (SDAC) and Single Intraday Coupling (SIDC).

- Local flexibility markets can provide clear and transparent price signals allowing more optimal activation of the local flexibility sources for, among others, local DSO and DSO-DSO and DSO-TSO level congestion management.

- By acting as neutral facilitators between TSOs, DSOs and flexibility providers, power exchanges and delegated operators have a key role to play in an increasingly digitalised and decentralised energy system.

- Peer-to-peer trading (e.g. through blockchain technology) also has the potential to respond to consumer flexibility needs on a micro/local level, encourage consumer empowerment. However, it is important to ensure that power exchanges can facilitate the development of these solutions, while continued connection to wholesale markets will contribute to the protection of European consumers.

3. In your view, what are the most important value propositions for consumers, which should be prioritised?

1. Empowerment of consumers, allowing them to adapt their consumption and production patterns. Consumer empowerment should come alongside easier access to transparent and reliable price signals, to ensure optimal consumption decisions.

2. Increased protection and security through complementarity between local flexibility markets, microgrids and the wholesale power market. By connecting these different levels, power exchanges can offer consumers additional opportunities for consumers to value their energy and flexibility and access to additional resources to satisfy their needs.

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.

Yes. A virtuous circle can be created, whereby additional consumer participation also brings benefits to other market participants and to the system as a whole. As an example, connecting local microgrids to local flexibility markets would also give consumers the possibility to value their flexibility and support grid stability.

Digitalisation can lead to “democratisation” as well, with wider participation in the markets and price determination.

5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?

1. Fundamental data transparency.

2. Establish retail, end-consumer, contracts with short term (hourly or shorter) timeframes based on a competitive framework (e.g. phase out of regulated retail prices).

6. What are the main risks for consumers arising from digitalisation of the energy sector?

1. Privacy aspects; data protection aspects (e.g. GDPR). However these risks could be mitigated through the use of certain technologies such as blockchain.

2. Possible added complexity due to “information overflow”. Power exchanges have a key role to play in connecting the different levels of production and consumption, thus providing consumers with clear reference price signals.

7. What would a “whole energy system” approach look like – would this unlock more benefits of the digitalisation of the energy system?

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]



9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models (“sandboxes”). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Regulators should pursue

---

Please explain your choices to the above question in the comment box below.

5. Should pursue: Regulators should further share best practices regarding innovations such as local flexibility markets.

7. Should pursue: but it should be ensured that consumers also have access to other price signals for explicit flexibility.

8. Should pursue: Regulators should ensure a level playing field for the procurement of flexibility in order to unlock its potential.

10. Should pursue: A number of pilot projects are already underway and could serve as blueprint for wider implementation.

11. Should pursue: lessons and experience can be drawn from the wholesale market. Power exchanges and delegated operators, acting as neutral market facilitators, can help ensure neutrality and transparency.

14. Should pursue: such initiatives should have clear objectives and parameters (e.g. clear scope, end dates) and it should be ensured that the results are transparent and of value to the consumer, and that they are taken into account in the design of any future regulatory framework for these new business models.

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 1]

Regulatory proposal 10

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 2]

Regulatory proposal 8

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 3]

Regulatory proposal 7

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 4]

Regulatory proposal 11

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 5]

Regulatory proposal 5

10. Do you have any other general observations to make on the topic of this consultation paper?

---

## Survey response 46

### Contact details and treatment of confidential responses

Contact details: [Organisation][ <input type="checkbox"/>
---

EFET - the European Federation of Energy Traders
--

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]
---

### CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?
---

Digitalisation has already had a huge impact on the energy system and new projects and developments are being progressed on an ever-increasing speed. On the grid and system side, digitalisation in the last century led to the establishment of Energy Management and SCADA Systems allowing for the centralised operation and control of transmission systems.

This was followed by the automation of substations in the transmission grid and this trend is still ongoing at the lower voltage levels / distribution grids. Likewise, digitalisation at the side of generators allowed for automation at power stations and centralised operation and control of power plants and other assets. Currently, large amounts of smaller-scale (decentralised) generation assets, including wind and solar plants, are centrally controlled in so-called virtual power plants.

On the trading side, digitalisation has allowed for concluding and managing energy trading with a large amount of business transactions and the recent introduction of algorithmic trading. The common denominator in these developments is that each actor (e.g. DSO/TSO, generator, trader, supplier, exchange, even consumers) aims to increase the efficiency of its business and thus contributing to the efficiency of the overall energy system.

This trend is clearly ongoing and will certainly result in further benefits. Arguably most changes in the next years are expected to take place in the retail supply business supported by the roll-out of smart meters. This will allow suppliers to offer new types of contracts and arrangements with time-of-use and dynamic pricing. These developments are further fuelled by electrification and installation of smart appliances. It can be expected that new and existing market participants will offer new services to retail consumers. It must be noted that retail consumers, within the limits of technology, have been active consumers. The response of consumers to traditional two-rate tariffs (peak/off-peak tariffs) has always been substantial. In recent years, the relevance of such behaviour has strongly reduced because of the shrinking spread in peak/off-peak prices. However, technological limitations are disappearing, and the volatility of power prices is likely to increase with the further deployment of variable energy sources.

At the same time the role of the different entities, in particular TSOs/DSOs, grid connected entities and other market participants (like traders, brokers, aggregators, suppliers, off-takers, platform providers, etc.) is not changing. TSOs/DSOs have the legal duty to provide proper grid services and remain regulated. Grid connected entities have the right to enter the market and have the duty to carry balance responsibility. And all other market participants fully act in the contestable market domain. As could be seen from the examples presented and since digitalisation is not changing the roles and responsibilities of all entities involved in the market, digitalisation as such does not trigger the need for dynamic regulation.

The example above shows that the market participants reacted early to adopt new technologies, due to healthy competition. Digitalisation will change the energy system in ways we cannot foresee now. Guessing the right way forward and regulating it is not the correct answer in our opinion. The regulator should act like an arbitrator and not like a player.

2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?

For a: yes; and b: yes, and see our comments to previous question.

For c:

In essence the energy market is decentralised. Each entity with a connection to the grid is a market participant. This means, on one hand, that it has the right to conclude transactions with any other market participant or combination of market participants and, on the other hand, has the obligation to carry balance responsibility. The requirement to carry balance responsibility can obviously be outsourced; this being especially relevant for retail consumers, but also to many generators which are outsourcing this responsibility.

Wholesale power transactions between these market participants take place in many different ways ranging from bilateral agreements to more centralised, digitalised platforms. New platforms, including so-called peer-to-peer platforms, are being developed and implemented regularly, some successfully, others not. Platform providers are in competition and are not and should not be regulated. However, the emergence of such new platforms will not trigger a transformation of the way transactions are being handled. Bottom line is that the TSO requires a schedule and a metered value for each connection point for each 15 minutes and the difference will be settled against the imbalance price. This principle also applies to peer-to-peer platforms for retail consumers and prosumers.

As mentioned in the previous commentary, digitalisation has already made an impact in the wholesale trading in the European energy sector. IT & Electronic Data Exchange standards introduced by EFET and automated handling of transaction data in the back office of traders are effects of digitalisation that contributed significantly to easing, reducing costs and accelerating the trade process, further on increasing the liquidity of the market and competition.

We expect these effects to continue, expanding to the front office (robot trading).

Discussing specifically on new products and services that alter electricity demand, digital marketplaces already exist. A combination of broker platforms, energy exchanges and transmission rights/ capacity auctions offices already provide digital marketplaces; in some cases, they have existed for nearly twenty years.

For example, the Trayport trading screen, found almost on every trading floor, digitally connects traders, brokers and utilities to the energy market's electronic trading and clearing systems. The technology at its base, GlobalVision, was created back in 1993 at the request of an energy broker that wanted better interconnectivity for its users. In 2009, the company opened its link for automated clearing. By 2019, it became a major electronic trading networks and software company, with offices in London, New York and Hong Kong.

The CEER consultation paper presents a good analysis from the consumer side, but has some misguided assumptions on the impact of better coordination of network systems. This impact is overestimated, while the digital advancements in back offices, together with the importance of liquidity in wholesale markets, is underestimated.

Simply enabling consumers by digital means will not necessarily change patterns of consumption or bring about a willingness to reduce or shift demand at particular times. Consumers cannot be easily forced to change their behaviour and the availability of a new technology may not provide enough inducement to do so. More likely to prove persuasive would be their exposure to variable, even highly volatile, prices.

To conclude, digitalisation brought important changes, but they are much more mundane and quotidian than the more theoretical and garish changes mentioned in the consultation paper.

3. In your view, what are the most important value propositions for consumers, which should be prioritised?

Consumers, including retail consumers and prosumers, are already active in the market. As explained before, digitalisation including the roll-out of the smart meter will allow for new type of arrangements and contracts. It is impossible to assess, and regulation shouldn't try to anticipate what the most important value propositions for consumers will be. These could be dynamic price contracts based on day-ahead prices, but it could be contracts with different prices for hours with low-wind and low-PV generation. In both cases consumers may enter into an agreement with the supplier or a 3rd party to control some of its appliances (like charging of its car- or home-battery). In essence, the market will decide, and regulators should not set priorities. Regulators should ensure that the fundamentals are properly arranged, and this includes the right for a consumer to enter into any commercial contract with any market party or combination of market parties. However, regulators should refrain from regulating the market. Therefore, the call to regulate the role of so-called independent aggregators is unnecessary and should be avoided.

We fully agree and support that consumers can and should be in the contestable market domain. They could be valuable market participants.

Within the ongoing decentralisation and digitalisation trend, where an increasing number of activities will take place at the distribution level, competition must also play the predominant role. Market participants, including prosumers, are best placed to provide cost-efficient solutions.

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.

Yes, as we argued in the previous comments. Although it must be noted that increased consumer participation also requires a business case that is based on changing market fundamentals. Currently, power prices in many EU countries are still rather low and not very volatile because of overcapacity. This also means that flexible capacity currently has limited value. These fundamentals are likely to change in the future because of increased demand (electrification), increasing share of variable resources and decommissioning of thermal generation.

We consider that there will be more participation in energy markets, but not from the actors nor the reasons considered in the CEER Consultation Paper.

The EFET Standards for electronic exchange of information drove down the complexity, the costs and overall, made trading easier. In effect, it lowered market barriers, which allowed more newcomers and increased the liquidity of the wholesale market in the energy sector. It was not the only factor, but it was a significant one, seemingly overlooked by the CEER Consultation Paper. Consequently, participation in energy markets increased and will likely increase even further, due to ease of transaction.

CEER Consultation Paper alludes to the fact that digitalisation will bring with it the emergence of “decentralised” energy trading. There seems to be some misunderstanding of how trading in a “centralised” manner works and its merits. A “decentralised” energy trading does little to enable sales and purchases through meaningful price formation and price visibility on a “local” platform.

Competition between trading platforms is certainly a principle that we promote strongly, but “decentralised” energy trading cannot be an objective per se, as it provides few merits for market liquidity, bids depth and price formation.

5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?

The key enablers are: roll-out of the smart meter, retail competition and a positive business case based on a level playing field and regulatory certainty.

The crucial requirement is that retail consumers (like any other grid connected entity) should have the right to enter the market and conclude contracts with any other market participant or combination of market participants, while paying their fair share and having responsibilities towards the system. This goes beyond the right of a consumer to switch between suppliers. It should have the right to enter into agreements with a combination of suppliers, aggregators or other service providers. However, the contractual and commercial terms of these agreements should not become regulated.

The Consultation Paper introduces the concept of “regulation of intermediaries” that would include “responsibility for balancing and, where applicable, capacity requirements where they are selling energy.” Regulation of the intermediaries is however unnecessary, is likely to distort and/or hamper the market and, should be strictly avoided. An intermediate in itself carries no balancing responsibility, it may have taken over the balancing responsibility of its customers. However, that responsibility is governed by the contract between this intermediate and its customer. A grid connecting entity may have contracted multiple intermediaries and may thus also have chosen for different arrangements to outsource its balancing responsibility to one or more of these intermediaries.

Furthermore, the Consultation Paper alludes to the fact that issuing a regulatory mandate, namely suppliers offering consumers the choice of a dynamic price, will be sufficient to make consumers more price responsive. In the same vein, it argues that the arrival of aggregators will give a boost to demand reduction response. For example, the statement “Peer-2-Community platforms provide for a Community to balance the supply and demand of electricity for a group of consumers/ prosumers.[...] Once the Community has optimised its collective position, it may then trade with the wholesale, balancing or ancillary markets in order to buy additional or sell excess electricity.” ignores the fact that weather conditions (wind, sun) affect the renewable energy generating assets of the entire community. Furthermore, economies of scale are overlooked.

While valid points for enabling digitalisation for consumers, they are far from sufficient.

Much more important, sine qua non, is the imperative of free formation of wholesale prices, the necessary toleration of price volatility, a tolerance of scarcity and the abolition of price caps and price controls. None of these points is mentioned in the CEER Consultation Paper as crucial prerequisites for both the effectiveness of dynamic retail pricing and the attractiveness of reducing demand in peak hours.

6. What are the main risks for consumers arising from digitalisation of the energy sector?

The main risk is that many different and complex value propositions for retail consumers might be made. It will be extremely difficult to compare different offers and choose between them. In that case, regulators can play a role in protecting (vulnerable) consumers by providing insights and warnings, if necessary.

DSOs and TSOs are - by providing access to their networks - market facilitators. Commercial activities like power generation, demand-side response and storage lie within the contestable domain of the market.

Strict separation of competitive commercial activities from monopolistic system operation activities at a distribution level is needed. Otherwise, there is the risk for consumers to lose the incentives to be involved in the market. For liquid markets to evolve and function effectively, it is crucial that new market entry is made possible and that there are a sufficient number of participants able to compete with each other.

This can only be achieved through providing retail and wholesale market entrants with solid guarantees that they will have unimpeded access to the grid and to customers on a non-discriminatory basis. The independence of transmission system operators ranks high among the guarantees required from a new market participant's perspective.

We do not agree with phrases such as "The established model of sales of energy as a commodity (kWh) is not necessarily the best model for the future"; we consider that the market is in the best position to answer this question and regulators are overstepping their role commenting on market models of sales of energy.

7. What would a "whole energy system" approach look like – would this unlock more benefits of the digitalisation of the energy system?

A "whole system approach" is and should remain based, on the existing design principles. These principles are:

- a strict unbundling between TSOs/DSOs and market participants;
- rights (enter the market) and duties (balance responsibility) for all grid connected entities;
- freedom of contractual relations between market participants.

Special attention is needed for the role of the grid and congestion management. In essence, the grid is facilitating the market. TSOs and DSOs provide grid services to grid connected entities and thus they allow these entities to value its flexible capacity on the market. Obviously, the TSOs and DSOs are responsible for a secure grid and congestions may occur in the grid. In such a case they may procure redispatch or congestion management services from grid connected entities or, if need may be, they may intervene in the dispatch to avoid a black-out.

In many recent publications it is suggested that local flexibility markets can be created where grid connected entities can seek to optimise the value of their flexible capacity by either offering it at the market or as a service to the TSO/DSO. In these concepts, market-based congestion management could be understood as being in competition with the market.

However, such understanding would be flawed. Priority must be given to the market and the grid must be treated as a facilitator of the market. The provision of congestion management services, either as the result of a market-based procurement or of a mandatory intervention, should always be compensated and the overriding principle for such compensation is that the affected grid connected entity should be left financially indifferent (which means no advantage nor disadvantage compared to other grid connected entities that are not affected by congestions).

A "whole system approach" where DSOs "use flexibility services to solve local constraints in their networks and defer reinforcements in the grid" requiring them to be "able to uncover offers from flexibility providers and such providers to have a clear enough signal to invest" is not a realistic objective.

Wholesale trading at notional hubs on the high voltage system would have serious difficulties, even with significant advances in digitalisation and computing, to be transferred onto distribution grids. To recall, currently hardly any DSOs are sophisticated enough to conduct congestion management and localised system balancing, let alone operate a system of micro-scheduling.

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

The analysis presented in the CEER Consultation Paper is too regulatory-heavy. CEER analysis overestimates the impact of a regulatory mandate for more consumer participation in energy markets, even with the help of digitalisation. The assumption that aggregators, "multi-level trading" and "decentralized markets" would somehow make consumers more price responsive and boost demand reduction response is misguided.

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

Regulators should pursue

---

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models ("sandboxes"). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Regulators should NOT pursue



Please explain your choices to the above question in the comment box below.

For option 1 and 8, improved transparency remains essential across the energy markets, particularly the provision of information from infrastructure operators and the accountability and clarity of regulatory decision-making. TSO/DSO should make available as much data as possible in order to allow new entrants to make well-informed decisions as well as to allow established market participants to support the grid effectively.

For option 2, it is logical that large and established players may have more data (like consumer data). However, that does not mean that the level playing field is distorted and that regulators should act.

For option 3, a clear, commonly agreed vocabulary is an objective that we support. However, only focusing on energy companies falls short of the reality that digitalisation will lead to new entrants coming from other sectors (for example automobile or technology sector) that all need to be covered by the same rulebook in order to ensure the level playing field for all participants.

For option 4, some points presented are good; but we consider that cybersecurity is already treated by other legislation, i.e. REMIT. The points presented give a too heavy regulatory burden to traders.

For option 5 and 6, we consider that NRAs would overstep their role with such measures. The market should be left to its own devices.

For option 7, we are in favour, regulators should pursue this; all consumers must pay a fair contribution towards the system.

For option 9, we consider that regulators should pursue. Removing capex bias eliminate some wrong incentives towards TSOs/DOSs and would be more efficient for society.

For option 10, we agree that DSOs could explore market-based procurement for flexibility services; but without interfering with wholesale markets and provided that unbundling principles are maintained.

For option 11, we agree that regulators could pursue, as it is linked with the previous question.

For option 12: effective cooperation between TSOs and DSOs is crucial. From the perspective of the market, there is no difference between the transmission and the distribution grid. Effective cooperation is key to ensure a level playing field between all market participants irrespective of their location in the grid. Unfortunately, there is still quite some mistrust between TSOs and DSOs. TSOs sometimes blame DSOs that by proposing local markets DSOs would undermine the wholesale market and TSOs are concerned about that lack of full unbundling at DSO level. DSOs, on the other hand, face an increasing amount of generation connected at their grids and are concerned that TSOs, for system balancing purposes, would control such decentralised assets in an uncoordinated way and by doing so could cause congestions in the distribution grid.

For option 13, strengthening the NRAs' expertise, skills and capability in the digital realm, particularly cybersecurity is a good policy option.

For option 14, we disagree with the idea. There is no need for regulators to develop sandboxes. Regulators should monitor developments, especially from the perspective of consumer protection, but should not go further.

DSOs/ TSOs could test whether market participants are interested to develop a new asset, like storage, in a certain grid area. If the business case is positive, the DSOs/ TSOs may go ahead. However, if the business case is negative, the DSOs/ TSOs may NOT be allowed to develop the asset, even if the DSO/TSO can show that the cost benefit analysis for such investment is positive.

Alternatively, the TSOs/DSOs should test whether the market is willing to enter into a long-term agreement for the provision of certain services, defined in terms of time, duration and size.

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 1]

Regulatory proposal 7

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 2]

Regulatory proposal 9

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 3]

Regulatory proposal 1

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 4]

Regulatory proposal 8

---

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 5]

Regulatory proposal 3

10. Do you have any other general observations to make on the topic of this consultation paper?

Several times in the CEER Consultation Paper the idea of “decentralised energy trading” at DSOs level is mentioned, where individual prosumers enter into transactions using their own assets, enabled by aggregators. This shows a gross misunderstanding of the merits of market liquidity and price visibility.

Much more important points, such as free formation of wholesale prices, toleration of price volatility, of scarcity and the abolition of price caps and price controls, are given no attention.

For example, this statement “Digital and decentralised platforms and marketplaces enable new business models that rely on decentralised, potentially multi-level trading involving prosumers, new intermediaries (or in some cases removes the need for intermediaries) and existing market participants.” understates the role of wholesale markets and of market participants in price formation.

Some phrases led us to believe that regulators go beyond their role of steering the sector. For example, quoting from Next Kraftwerke that “Virtual Power Plants are agents of a democratic shift [our highlight] in power supply: responsibility is shifted back to society [our highlight].” is not appropriate; similarly, with the phrase: “energy companies are not the most trusted [...]”.

We conclude by welcoming the opportunity to provide our views to the CEER consultation paper on Dynamic Regulation to Enable Digitalisation of the Energy System.

---

## Survey response 49

### Contact details and treatment of confidential responses

Contact details: [Organisation][ ]

GRDF

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]

### CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?

Digitalisation has already today an important impact on the gas sector, particularly at the distribution level. GRDF has two landmark projects in the field of digitalisation. First, it is currently rolling out 11 million smart meters around France. Second, through its TEX project, GRDF is installing sensors on its network to improve its monitoring. Consequently, the digitalisation of the network will increase the amount of data available. This data will allow actors to fully benefit from digitalisation. That is why GRDF has now a specific data unit headed by a Chief Data Officer.

Digitalization will bring benefits to a wide range of actors (clients, retailers, local communities, public actors, private actors, network operators), allowing them to better manage their energy consumption and increase their efficiency. Digitalization will also be a vector of the decarbonization of the society thanks to energy efficiency gains and a better integration of renewable energy and decentralized means of production. With digitalization, networks will gain in efficiency, reliability and safety. That is why the evolution should be fostered for the operators.

2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?

a. Increases the productivity of the existing system

We agree that the digitalisation of the network will allow to increase the productivity of the existing system. Our two projects (TEX and Smart meters) are participating in improving the efficiency of the network.

-The TEX project started in 2017 and will be fully implemented by 2024. This project consists in the installation of 4000 sensors at Pressure Reduction Stations on the network and on 100% of the anaerobic digestion injection stations. TEX project is using a "Cloud Big Data Storage" system and includes a tool for real time surveillance of the network called SAXO. This project will strongly improve the monitoring of our network, allowing to improve security and avoid cutting the flow. The final aim of the project is to remote control the network with Smart Gas Grid and interact with other projects within the company such as smart metering and biomethane injection.

oThe data collected from the sensors are internally valorised and allow us to reduce and/or optimize the interventions of the ground. Digitalization is therefore a cost-reduction tool.

oThe TEX project also aims to optimise green gas injection and to increase renewable gas production volumes. It will allow to better monitor the flow of biomethane which is injected in our grid. It will allow us to measure the quantity, but also characteristics such as the quality of the gas, the temperature and the pressure.

-The Smart Meter Project. GRDF is currently rolling out 11 million smart meters on its network. It is also exporting its smart meter technologies to different countries in and outside Europe. This project has for objective to enhance customer satisfaction, improve energy management and optimize our distribution network.

b. Enables new products and services that alter electricity demand;

Digitalisation of the gas sector, particularly through the installation of smart meters, will enable new products and services that alter gas demand. It can fully contribute to the develop of smart homes as we will explain in the following paragraphs on the benefits for consumers.

3. In your view, what are the most important value propositions for consumers, which should be prioritised?

Smart meters are a tool for consumers to manage and reduce energy consumption. Therefore, they can adapt their energy behaviours to better practices and save money. Thus, they become actor of the achievement of the energy efficiency and emissions reduction objectives of the European Union. In France, our smart meter programme has for objective 1.5% energy savings.

The TEX programme is also key to bring benefits to the consumer. The real-time surveillance of the network allows us to avoid supply interruptions, therefore contributing in improving customer satisfaction.

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.

The digitalisation of the gas sector will lead to more consumer participation in the energy system as explained above and below.

5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?

It is important that consumers feel they benefit from the digitalisation of the network, particularly if the costs for the digitalization of the network are socialized in the tariff. The socialization of the cost will be a pertinent measure to push for a greater digitalization of the network.

As explained above, smart meters will allow consumers to know their energy consumption every 24 hours. However, they will only receive from GRDF an amount in kWh. It is key that service providers use this data and offer new services. For example, they could translate this amount in euros. It will be more user-friendly for consumers and will motivate them to reduce their consumption.

Today, gas DSOs are required to do a business case for the roll out of smart meters on their network. As smart meters are key to bring benefits to consumers, we would suggest a mandatory revision of the negative business cases every 5 years. We would also suggest that business cases consider all the benefits for the society in their assessment and not only the benefits on the network. The development of biomethane and of attached guarantee of origins will allow consumers to choose the type of gas they want to heat their house. Today, at GRDF, we are considering the use of a blockchain technology for GOs, which would improve the traceability of the biomethane in the grid. This digital technology could therefore bring more accurate information to the consumer, allowing them to become actor of the decarbonization of the gas grid and to contribute to the achievement of the European Union renewable energy objectives.

6. What are the main risks for consumers arising from digitalisation of the energy sector?

The main risk for consumers arising from digitalisation is linked with their data. There is a risk of miss-management of the data or of miss-communication on the use of the data, both reducing the trust from customers in digitalisation.

At GRDF, we have the Adict programme. It is a device for secure access to technical and contractual data, as well as raw consumption data for consumers.

It is also important to underline that all uses of data from consumers require they “green button” and is regulated by the GDPR regulation. On this point we want to underline that the distribution system operator is a pertinent actor to manage the data of the clients as it is a regulated entity. We think that eligible parties to manage the data should continue being defined at the Member State level due to national characteristics.

Another risk arising from digitalisation is linked to cybersecurity. GRDF is responsible for the management of 200,000 km of pipes, which are more and more connected. It is therefore a key infrastructure for the functioning of the economy. A cybersecurity attack on the network would have direct impact on the society and on the consumers. Therefore, GRDF has a cybersecurity programme headed by a CISO.

7. What would a “whole energy system” approach look like – would this unlock more benefits of the digitalisation of the energy system?

A whole energy system approach means developing a portfolio of options for clean energy in all its various uses (electricity, heating and transport), and crucially by fitting them together in the best combinations to deliver value for business and consumers. Applied to the sector of smart meters, it would be necessary for consumers to have one single platform to access their consumption of gas, electricity and water.

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models (“sandboxes”). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Regulators should pursue

Please explain your choices to the above question in the comment box below.

1.  Yes. The regulator should pursue this task, data need to be interoperable. However, this should not apply to internal data of the company. We support an interoperability principle at the European level more than a unique European format for all the data. The Commission could develop interoperability norms through delegated acts as planned in the Electricity Market Design.

2.  Yes

3.  Yes

4.  Yes. We agree on most of this point. However, we would like to underline two issues:

-  Regarding the “Management in energy-sector entities” we think management is clearly the role of DSO/TSO entities. It is not the role of NRAs to define the proper place and role for the CISO.

-  Regarding the proposal “Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES”, we think that even if it sounds relevant, it is also a question of balance between risks and cost efficiency. For example, pressure reduction gas station is not a nuclear power plant and risks must be assessed at the right level before adopting high security standards.

5.  Yes

6.  No answer

7.  Yes, network tariffs should also encourage energy complementarities, for example between easily storable gas and power, or with hybrid appliances.

8.  No answer

9.  Yes. Network tariffs should also encourage energy complementarities, for example between easily storable gas and power, or with hybrid appliances.

10.  Yes, it is important to make sure digitalization benefits the customers as for example with smart meters or sensors on the network to justify network tariff.

11.  No answer

12.  Yes

13. Yes.

14. Yes. Sandboxes must give the flexibility necessary to enable trials of new products and business models. They must allow to launch experiments regardless of the NRAs periodic tariff reviews.

10. Do you have any other general observations to make on the topic of this consultation paper?

---

## Survey response 51

### Contact details and treatment of confidential responses

Contact details: [Organisation][[]]
-------------------------------------

E.DSO - European Distribution System Operators
--

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]
---

### CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?
---

Digitalisation will fundamentally alter the energy landscape, adding an additional layer to the physical grid. It is an opportunity and challenge at the same time. For example, digitalisation is a necessary tool to reach the objective of a flexible and sustainable energy system. At the same time, it makes the grid more susceptible to threats such as cyber-attacks. These risks need to be appropriately mitigated.

Digitalisation leads to a smart and efficient operation of the electricity distribution network, for example through the roll-out of smart meters. It will improve grid resilience through a better MV and LV observability and it will strengthen DSOs' investment planning. This will lead to increased efficiency and reduced costs, but also requires high initial investments both for DSOs and pro/consumers.

Moreover, digitalisation allows the empowerment of consumers and facilitates their active participation in the energy markets. As such, digitalisation should not be seen as an end in itself but rather as a means to shape an active energy transition with customers at its heart.

Digitalisation will contribute to the development of the role of regulators and DSOs by increasing availability (lower cost) of data, which could be more readily analysed (becoming information) and then transmitted/communicated to give effect to actions. However, micromanagement by regulators could lead to inefficient decisions.

Digitalisation is based on the availability of data. DSOs hold many datasets which, when made publicly available, can help other stakeholders and market parties with e.g. better decision making, create new services and promote synergies between different sectors. Publishing data in the form of open data can unlock many types of benefits, amongst which contributions to the energy transition. On the other hand, not all data is suitable to make publicly available due to potential breaches of security or violations of privacy regulations.

Digitalisation will facilitate the further electrification and decarbonisation of the economy and the operation of smarter grids through:

- An increased use of consumers' flexibility potential
- Integration of RES and decentralised storage
- Contribution to energy plants for urban communities
- Definition of energy saving programs and facilitation of energy savings thanks to consumption monitoring
- Efficient electric mobility
- Flexible use of electrical heating/cooling
- General management of demand flexibility
- Improved operational efficiency with tools like machine learning, etc.
- Faster interactions with customers using digital tools (chatbots etc.)

All of these aspects are important and interconnected. It is absolutely necessary that regulators, working together with DSOs and TSOs, guarantee that advances in digitalisation are accompanied by the corresponding regulatory changes. These adapted rules should make it possible for DSOs to act as neutral market enablers, information managers and data providers.

Regulators must measure and take into account the financial impacts of digitalisation in order to facilitate its deployment by network operators. They should put in place necessary measures to incentivise distribution system operators to make the grids more digitalised.

2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?

The principal changes for the energy system that digitalisation brings are:

a. Increasing the efficiency of the existing system

As CEER pointed out in its working document, the availability of more and better data can be used by regulators and DSOs to make well-informed decisions which improve the efficiency and productivity of the grid assets and procedures and, at the same time, reduce risks. These are some of the key factors:

- Observability: the intelligent network can provide more data to increase observability especially in medium/low voltage (e.g. through smart meter roll-out). It will also enable DSOs to develop new planning methods that will fit better with the network reality and that will rely less on statistical hypotheses
- Reduction of losses (technical and non-technical) with the deployment of Smart Grids, where data on network flows and voltage can be analysed.
- System reliability with the help of real-time information, thereby creating an optimal planning and operation (demand forecast).
- Resilience against cyber-attacks.
- Optimised and extended life cycle of assets.
- Network capacity optimisation, lowering connection costs and DSO investments.

However, more digitalisation in the network requires an additional investment effort, as well as operational expenses, so it must be appropriately considered to make it sustainable. In particular, regulation should take into account the shorter replacement cycles of digital technology in comparison to conventional electric assets.

b. Enabling new products and services that alter electricity demand, the most important being:

- Demand response: to price signals (direct flexibility) or as products (indirect flexibility) as a possible source of flexibility.
- Smart charging: electric vehicles are charged in a flexible way to shift or avoid peaks.
- Battery storage.
- Hosting capacity: making available to users the capacity that they need to generate or consume, e.g. through measuring the load in real-time and giving advice to customers regarding the capacity they should contract.
- New flexible connection agreements: producers and consumers will be able to optimise their connection costs by abiding to DSO the real-time consumption or the consumption restrictions.

New products and services must be coherent with the regulation to avoid inefficiencies and situations in which certain players can benefit particularly against the general interest. Also, new access options and planning methods need to be designed and implemented, extensively based on probabilistic approaches.

Nevertheless, the focus should not be limited to electricity demand only. Of course, dynamic tariffs are an essential part, but one should also consider solutions and services based on digitalisation that focus more on power quality of local generation / demand. New market places, bringing together local generation with local demand, can create novel ways for customers to interact with one another and with the grid operators.

The current tariff system in most countries is not sufficient to build the digitalised, decentralised energy system of the future. As an example, PV + battery owners in the current system could be exempted from grid tariff payments (net zero consumption), but still use the grid as "insurance" at times of low wind/solar generation ('dark doldrums'). A capacity tariff element is key regarding cost-reflective use / contribution to grid investments. Such an element would by itself support more grid-friendly behaviour and could even be enhanced by further elements to benefit customers providing their flexibility to grid operators, both in case of demand as well as generation.

c. Creating new digital marketplaces that transform the way the sector transacts

As far as peer-to-peer exchanges are concerned, it is necessary to underline that this model should be considered in the local context such as direct energy trade between neighbors, local balancing, and for managing sources and services of flexibility at the local level.

Regulation should guarantee:

- Non-discriminatory participation of consumers in these platforms with clearly stated responsibility for their actions.
- An appropriate system of charges (including e.g. distribution charges) that is fair to all consumers (and applicable not only to those active on the platforms).
- Possibility for DSOs to use flexibility mechanisms (also in the case of blockchain technology being used) in particular for local congestion management.
- Securing (with adequate compensation) backup power supply in cases of inefficiencies of peer-to-peer platform.

The peer-to-peer model would also require data from smart meters of different market participants, which may result in numerous entities gaining access to these data. Therefore, it is crucial to develop the right model of sharing and use of data, to ensure the security of metered entities as well as the whole electricity system.

Of these three most relevant changes, the first one (increasing the efficiency of the existing system) is currently taking place, so it is important to learn from this process to highlight the benefits of digitalisation. The last one will need further development to fully understand the advantages. Moreover, a market model has to be defined with new rules for DSOs as neutral market enablers, especially with the development of new flexibility mechanisms which will have a direct impact on the distribution grid.



3. In your view, what are the most important value propositions for consumers, which should be prioritised?

The value propositions for consumers to be prioritised are:

- Availability of smart meters (in the framework of the results of the cost-benefit-analysis by the Member State) that facilitate the exchange of information regarding the state of the network and also the active participation of the consumer in the electricity market, which is why it is considered the basis for the development of future smart grids as well as potentially contributing to the improvement of efficiency energy. In particular, smart meters help consumers to monitor and understand their own energy consumption, which is the basis for any behavioural change. This last element could be the role of a supplier, an aggregator or an authorised third party to increase flexibility and lower the costs for customers while increasing their participation. It would be impractical for DSOs to develop digitalised home appliances or home energy management that are already being developed by another type of industry and at very competitive prices (with economies of scale).
- Cost savings: Digitalisation creates the potential for increased efficiency and better information. Any cost savings from the efficiencies in the current system will lower bills for consumers if they are passed on. As far as DSOs are concerned, regulators have a role in setting or approving the charges incurred by network operators and in deciding whether or not any cost savings made by the DSO, through digitalisation of the network, is to be passed on to the end customers. It will be important to ensure that investments are made to maximise efficiency from a whole-system perspective. Consumers will also benefit from earnings and from cost savings due to demand side participation, for which digital solutions are indispensable.
- Smart networks improve the quality of supply.
- Digitalisation, through smart meters, makes it possible for customers to manage domestic demand and allows prosumers to trade their energy, which will lead to the possibility of optimisation of the in-home energy system (participation in the flexibility markets).

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.

## 5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?

The key enablers needed to unlock the benefits of digitalisation for consumers are:

### • Making the data available:

The most obvious enabler for digitalisation is smart meters (which allow for the data to be held in a way that is efficient and secure, compliant with the General Data Protection Regulation) within the framework provided by the cost-benefit analysis of the Member States. Numerous DSOs are implementing smart meter roll-outs across Europe. As neutral market facilitators under the scrutiny of NRAs, DSOs are in most European countries best placed for managing metering and consumption data, and ensuring data privacy.

They will also need to manage these data for network operation purposes. Giving them a broader role in data management avoids the duplication of efforts and is the most cost-effective solution.

As neutral digital enablers, data will be collected, used and made available to third parties (e.g. as open data) by DSOs, but also by network users (suppliers, TSOs) and new service providers to develop innovative solutions.

More important than the organisational approach is the requirement for appropriate accessibility and interoperability.

DSOs need the necessary data to allocate and activate the flexibility whereas the network user needs the data to participate in a non-discriminatory way in the market to offer his flexibility potential.

Also, TSOs/DSOs can share more data about the network, which benefits cooperation between different regulated parties or market parties, which in turn will also indirectly benefit the consumer. Providing open data is seen as a high-potential facilitator of the energy transition. By unlocking data from its original owner and offering it publicly, re-use may enable system-relevant innovation. People, companies and organisations may use open data to launch new ventures, analyse patterns and trends, make data-driven decisions and solve complex problems. Large-scale sharing of data, therefore, has the potential to unlock economic value by enabling the development of new products, services and markets.

By providing data free of charge for everyone to (re-)use, open data reduces potential market entry barriers for smaller enterprises and new entrants. It enables anyone to access and use the data provided and to combine it with other data sets or analytical tools. This way, third parties can offer new services to consumers and market parties, including the DSOs themselves. This has clear benefits not only for the parties directly involved, but for society as a whole. The more parties working on the same topic, the more options become available and the more efficient the overall system will become. Furthermore, open data also minimises the risk of excessive first-mover advantages and with-it potential lock-ins, thereby reducing the risk of the monopolisation of market segments.

As operators of critical infrastructure, DSOs offer essential services to society and have access to large amounts of data. Before making data available to the general public, important considerations have to be addressed first. Once data is made publicly available, it is impossible to withdraw it. It is therefore essential to recognise sector-specific considerations in order to decide which data can be made publicly available and which not. This is of utmost importance, especially for operators of critical infrastructure and essential services such as DSOs, that are dealing with security- and customer-sensitive data, subject to GDPR as well as network and information security regulation

### • New products and market places:

New products and market places as well as the needs and interaction with the regulated domain, must be defined to enable transactions and to make full use of consumers' potential for balancing and congestion management, among others. Price signals are important but also capacity elements play a crucial role to ensure an efficient use of the grid. Typically, such new products may require consumers to have smart meters, so where consumers do not yet have smart meters installed, the products cannot be deployed. However, this does not imply that every customer should have the obligation to have a smart meter installed – this depends on the respective cost-benefit analysis of each Member State. What should be ensured is that every customer who voluntarily wants to have a smart meter installed has access to this technology. Besides, DSOs may decide to propose new services enabled by the network digitalisation (e.g. flexible connection agreement).

### • New business models:

Alternative business models may increase competition, thereby lowering overall system costs and maximising social welfare. Nevertheless, regulation must ensure a level playing field. The same rights and obligations should apply to comparable entities. This means, irrespective of number of customers, all grid operators on distribution level would have to provide the minimum set of information. In addition, efforts for the provision of such data e. g. in the cloud, should be recognised as part of the non-controllable costs in the respective regulation. This also means that new business models should not serve the exclusive purpose of avoiding legitimate and necessary contributions to cover the overall cost of the energy system. Responsibility for energy imbalances also cannot be avoided. Regulators will need to consider how to regulate appropriately new platforms and players with impartial rules that guarantee fair practices and cost-sharing among those that remain connected to the electricity system. These rules must not follow a particular type of model: the first step is to establish them under principles of equity, and then the new models can be developed.

### • Facilitation of grid services from Distributed Energy Resources:

Regulators should ensure that network price controls encourage DSOs to take advantage of new sources of flexibility where they are more efficient than investing in new network capacity.

DSOs and TSOs working together should ensure that efficient options are taken forward, whether for grid reinforcement or for procurement of flexibility.

Incentivising the use of smart digital solutions can be done by treating them as virtual grid assets. This Smart Expenditure (SmartEx) approach means that where DSOs can come up with digital solutions which have the same function as the physical asset, these solutions should be included in the DSO's capital base, subject to revenues with WACC-treatment. The profit of the cost-efficient solutions should be divided between the DSOs and the consumers.

6. What are the main risks for consumers arising from digitalisation of the energy sector?

The main risks for consumers arising from digitalisation of the energy sector are:

• Privacy and data protection:

The rights to access smart meter data should be governed by the General Data Protection Regulation. DSOs and regulators have to be committed with best practices.

In the global scope of data protection, consumers' energy consumption data are not the most relevant in relation to privacy if we compare them, for example, with the data exchanged in the communications business. Nonetheless, the highest possible standard of data protection must be ensured by all involved parties. This is why E.DSO and its members favour the information cascade. Data should be made available to all eligible parties, as granular as necessary but as aggregated as possible.

• Cybersecurity risks (increasing):

Energy systems are more resilient to cybersecurity threats than other types of systems. This is because many network operators deployed their own communication means before the global development of the internet. The fact that the communications of smart meters are controlled by the DSOs under the supervision of the regulator offers greater guarantees of resilience against cyber-attacks.

• Complexity and diversion of products and market parties:

With the advent of digitalisation, new products and services arise while new businesses can fail. Insight in the reliability of new businesses is missing. This can be a risk for the customers of these new services.

Moreover, when access to data allows the entry of new players, responsibilities must be clearly defined, also in case of any damages caused or impacts on the security of supply. In case of open data provision, for example, it must be clear who is liable for any incorrect information. Open data providers such as DSOs, for instance, should not be held accountable for any inaccuracies of products resulting from the data's re-use.

7. What would a "whole energy system" approach look like – would this unlock more benefits of the digitalisation of the energy system?

When we consider a whole energy system approach, much more data will be shared between different parties within the system. This will unlock more benefits, cost reduction and efficiency gains. Decisions will be made considering all information available and taking into account the different benefits and disadvantages in all levels of the system.

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

We agree with the fact that digitalisation is bringing important changes to the energy system and it provides the opportunity for increased efficiency of the existing electricity network. As it was said, smart meters should be considered as a first step where appropriate, but further progress is needed to unlock the value of the data and ensure that consumers are empowered and adequately protected. Therefore, regulation must adapt to the new environment that digitalisation is creating.

In particular, the following aspects should be emphasized:

1. It is mentioned in the text that "energy companies are not the most trusted". It should be pointed out that this does not apply to DSOs since they are present in the regions and have direct contact with their customers. DSO normally rank high in consumer confidence evaluations. Nevertheless, utilities have been forced to incorporate in the electricity bill a series of costs unrelated to the service. The loss of confidence is due largely to increased electricity prices. At the same time, the smart meter roll-out can be a difficult topic with certain customers as earnings for customers become evident only slowly. On the other hand, quality of supply in Europe has improved substantially.

2. It is also mentioned in the text that "there is some reluctance in the industry to share information once cyber-attacks have occurred". In particular, utilities, as providers of essential services, have protocols to avoid cyber-attacks that are coordinated by entities established for this purpose. As a result, there have only been serious impacts on the electrical system in Ukraine in 2015. The rest of the attacks were physical (vandalism).

3. We agree with the analysis made in the document about new models in relation to concerns about Energy Communities and Peer-to-Peer approaches. As a general rule, as they are emerging, they will have to demonstrate their benefits for society. DSOs should accompany the process and facilitate the development where it proves to be valuable for society.

4. Regarding incentive schemes for regulating DSOs, including for innovation (page 40), we also agree with the fact that the bias should be avoided, taking into account that flexibility services are not always substitutes for physical grid assets. Some decisions to build assets rather than to procure flexibility are perceived as a bias even when they are not, for example when comparing wired assets with non-wired services (e.g. batteries) with different reliability. Nevertheless, flexibility should be chosen when economically more efficient, taking into account all benefits and disadvantages. In most European regulatory frameworks, sufficient incentive mechanism to use efficient flexibility are still to be designed.

5. Given the significant changes brought about by digitalisation, DSOs consider the experimentation approach to be the most suitable for testing procedures, evaluating IT needs or market interest. We recommend that sandboxes be established to test new regulatory proposals before changing the rules (results cannot be known in advance). Simulations can be used to calculate the effects of new rules (cost-benefit analysis) and also for making a scenario for the development of digitalisation and its effects. The experimentation approach is necessary, especially regarding flexibility at the distribution level which must be very local. The catalogue of options should be kept open for various solutions, not only from the market.

In this challenge, the participation of regulators and DSOs is key to achieve the objectives.

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

Regulators should NOT pursue

---

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models (“sandboxes”). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Regulators should pursue

Please explain your choices to the above question in the comment box below.

1. The deployment of smart meters and sensorisation helps with that and improves operation and quality of supply.
2. DSOs, as regulated entities, facilitate active participation of new market entrants, including active consumers. They provide all necessary data to eligible parties, on the basis of active customer consent.
3. They should cooperate with all relevant actors. Regulation must be clear on what data can be made available to whom and on the roles and responsibilities of new actors, incl. Citizens Energy Communities. Availability of data brings benefits to DSOs/TSOs but also to consumers, but has a high risk for consumers as well. Therefore, this point should be a priority.
4. NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. DSOs/TSOs/suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior to embracing new technologies such as Cloud Computing or systems for the handling of Big Data.
5. We welcome this initiative. Regulators can provide independent analysis. We believe that cross-industry learnings are a key asset that should be more emphasised. In changing environments, NRAs need to adapt faster and thus need to get a better understanding of possibilities for customers currently being prevented by regulation. However, regulators need to take into account that such fast developments might also be used to the detriment of customers that need to be protected against any abuse.
6. It is necessary to prevent some players from gaining privileges (e.g. inefficient aggregation).
7. The development of distributed resources and the empowerment of consumers depend on the development of tariffs that avoid inefficient systems and that create the right incentives.
8. Particularly, market power issues should be carefully monitored or preferably be assessed before implementing a platform. We would encourage to keep regulation to a minimum to allow such markets to develop / function. Nevertheless, we recognise that, due to a number of expected interactions between different layers (transmission – distribution – local – micro grid) and possible establishment of local flexibility markets or mechanisms, the role of regulators will likely be increasingly important.
9. Concerning incentives for system operators, i.e. the remuneration of their costs, it is indeed essential not to create a bias towards specific solutions or types of costs. However, it is important to stress that not all regulatory frameworks are biased towards capital intensive solutions. Many regulatory frameworks already incorporate technology-neutral elements, such as or output-based elements.  
It must be ensured that the chosen flexibility services truly replace traditional investments, where this is efficient. Again, the right incentives must be in place. Benefits of flexibility are only created if the right incentives are in place.
10. It is interesting to carry out proposals that allow the DSOs, as business experts, to lead the search for new solutions. When DSOs are allowed to procure system flexibility services, this will serve as an incentive to replace traditional investments with flexibility where this is efficient.
11. DSOs and TSOs are well-placed to define grid service requirements and should do so. It is already done in coordination with service providers.
12. We agree because there has to be a balance between DSOs and TSOs so that each is responsible for its own system. This also entails the exact procedures for data exchanges which must be defined at national level. This is the first step towards considering the energy system as a whole.
13. We fully agree. The regulatory framework can only be sufficient when the necessary expertise is in place. In a fast changing digitalised system, the level of expertise, skills and capability is essential.
14. Important to insist on the development of sandboxes that allow testing new models and services. In addition to true sandboxes, compensation mechanisms can also be considered. Sandboxes' temporary rules have to be flexible to avoid being locked into a definitive model or service.

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 1]

Regulatory proposal 7

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 2]

Regulatory proposal 9

---

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 3]

Regulatory proposal 10

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 4]

Regulatory proposal 14

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 5]

Regulatory proposal 13

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 6]

Regulatory proposal 3

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 7]

Regulatory proposal 5

10. Do you have any other general observations to make on the topic of this consultation paper?

Some countries and companies have already relevant experience in the digitalisation of the energy system (advanced smart meter roll-out, open data, etc.), so some of the topics discussed in this document have been conveniently analysed – for instance, in what refers to the availability of data obtained from the meters for consumers (hourly consumption and instantaneous power). These experiences could be taken into account.

It is important to insist that the new framework cannot be defined without analysing the technological reality and real experiences. In many cases, smart meters have proven to be of value to the client and the DSOs, notwithstanding the fact that in future generations the functionalities can be improved.

In order to reap the benefits of digitalisation, data sharing should be prioritised and regulatory frameworks should be considered where risks for consumers are mitigated but benefits gained by sharing data should be facilitated.

---

## Survey response 52

### Contact details and treatment of confidential responses

Contact details: [Organisation][ <input type="checkbox"/>
---

BEUC, The European Consumer Organisation
--

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]
---

### CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?
---

The process of digitalisation encompasses nearly all aspects of our modern society. New technologies changed the way we communicate with our family, the way we access goods and services and it starts changing the way we consume energy services too.

Smart grid, smart home, smart meters, smart devices and connected appliances: we are heading towards the “smart” era. Digital technologies and Internet of Things (IoT) can bring exciting times and enormous benefits. Surveys show that 67% of Europeans believe that digital technologies have a positive impact on their quality of life.[1] Number of connected devices will grow worldwide - conservative estimates predict that there will be almost 31 billion by 2020, 75 billion by 2025.[2] The potential for IoT benefits is enormous and the expectation is that new technologies will make our lives easier and more comfortable. For instance, smart technologies can optimise energy consumption of households, save them money and reduce environmental impacts. They can also improve mobility and efficiency in smart cities.

New technologies can however represent also greater challenges and new risks for consumers. For instance, smart technologies and consumer data-driven products and services can have a negative impact and undermine consumers' fundamental rights to privacy and data protection, if the consumer is not in control of his/her data. Further challenges such as security or liability are addressed below.

Digitalisation is often described as a revolution to which consumers should adapt and the main focus is on technology converting data into value for the energy sector. However, digitalisation will only be successful if it puts the consumer, not the technology, at the centre and is shaped in such a way that it facilitates the shift towards sustainable, greener energy system.

[1] European Commission, Special Eurobarometer 460, Attitudes towards the impact of digitalisation and automation on daily life, May 2017

[2]<https://www.statista.com/statistics/471264/iot-number-of-connected-devices-worldwide/>



2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?

Increased productivity, new products and services as well as new business models are expected to make the energy system more interactive and flexible. These changes will have numerous implications on regulators' work. For instance, digitalised energy system will require reliable infrastructure that is ready to cope with increasing cyber threats and data privacy breaches. It will also require out of silos approach and stronger cooperation among different authorities.

Moreover, proper transposition and implementation of the new electricity market rules (set under the Clean Energy for All Europeans package) will be key to translate expected consumer benefits into practice. New services such as demand side response or business models promoting decentralised energy generation will shake up the 'old-fashioned' industry only if consumers' engagement is rewarded, adequate consumer protections are in place and privacy and security are ensured. Broadly, there are particular risks for those who lack sufficient savings, are not motivated to engage, lack trust or are digitally excluded. There should still be fair outcomes for these groups.

It is expected that new technologies will make it possible for residential flexible electricity consumption to become more commercially attractive and play a bigger role in the stability and efficiency of the system. The reason for this future potential in the household sector is twofold. First, through digitalisation, energy supply and demand can be matched almost in real time. As a direct consequence many consumer products such as smart meters, thermostats, heating and cooling appliances can be integrated into networks that can help to optimise energy consumption. Also, home automation can facilitate flexible energy consumption in the residential sector. Second, transport will increasingly use electricity as its source of power. As more and more consumers will be switching to electric vehicles, car batteries could be integrated in the grid as a storage facility for surplus energy and become a source of energy supply when the car is not in use.

Increasing share of renewables, rolling out new technologies such as smart meters, storage and smart building technologies and putting more electric vehicles in the streets require rethinking the way energy system works. Electric vehicles can indeed be a challenge to the power system due to the increase in electricity demand during the peak periods but thanks to cutting edge technology, electric vehicles could also deliver solutions to the grid by providing their batteries as storage for surplus electricity from renewable sources. Decentralisation and digitalisation may also lead to rebound effects, increasing consumer demand. Understanding and preventing or correcting such rebound effects will be a major challenge for policy makers and regulators.

While lots of focus has been put on aggregators or energy communities, innovation in the energy sector is underway and other business models are likely to emerge in tomorrow's energy market and therefore, regulators need to have powers to ensure consumers are empowered and adequately protected. National Regulatory Authorities (NRAs) should systematically map and analyse the impact of new tariffs and services on different consumer groups, if/how these groups can access the benefits of new deals and whether there are risks for particular groups.

The CEER's consultation paper rightly highlights the diversity of service choice that could be available to some consumers. However, it is worth recognising the diversity of experiences people will have. In particular, how people might engage with technologies other than buying them directly, installations, contract lengths, switching as well as moving between market offers and access to redress.

There may be questions for how we offer choice to consumers with limited autonomy, for example those who live in rented or social housing. This sector could also face additional barriers, in terms of data privacy and security.

Finally, digitalisation could also affect customer service within the energy industry. This could be as broad as how consumers communicate with their provider, for example through a voice assistant, and how they receive information. Regulators will need to consider how these changes will impact consumer outcomes and how they might wish to enforce consumer protections. Regulators should also consider the pace of change, and ensure that consumers who do not wish to engage in digitalisation (for instance, by keeping phone options open) are not disadvantaged.

### 3. In your view, what are the most important value propositions for consumers, which should be prioritised?

BEUC agrees with value propositions for energy consumers (ie. cost savings, convenience, choice, consumer participation) outlined in the CEER consultation paper but we also suggest comfort and sustainability as additional propositions. The focus should be indeed on helping consumers to save on their energy bills, increasing convenience, making more sustainable choices and allowing all consumers to participate in energy markets (either individually or via intermediaries) so that they can benefit from innovative services.

It is important to note these value propositions may not always stack - cost savings may be sacrificed for increased convenience and vice versa. In addition choice may quickly become limited once significant investment has been made towards particular models. Nevertheless, easy and meaningful choice between and within market models will be an important nudge for consumers, and one form of engagement in the energy market. At the same time, privacy has an intrinsic value for consumers as surveys show that consumers are concerned about how their personal information is being used, by whom and for what purposes.[3]

Financial savings are one of the main drivers for consumers to engage in the energy market. However, as the complexity of energy markets is likely to increase with growing number of offers, bundles and pricing structures, consumer preferences are shifting towards prioritising easy use and convenience services helping them to save their time. For instance, studies on consumers' acceptability of demand response offers conclude that the savings which would trigger consumer action and lead to lasting changes in behaviour may need to be rather high. This is in line with the findings of BEUC's German member organisation vzbv-Verbraucherzentrale Bundesverband. When asked about time of use tariffs, two-thirds of German consumers want to save money and fear having to pay too much. Also, ease of use, convenience and privacy were essential for consumers.[4]

Consumers need to be able to trust that smart technologies and new services improve their lives without trade-offs for them, their privacy or the environment. Companies should offer privacy by design within their technologies and services, only accessing the data they need to deliver offers. Overall, new technologies and services should result in consumers' homes being a comfortable energy efficient living space in which consumers can benefit from self-generation, smart and interoperable appliances as well as manage their consumption through safe and consumer-friendly smart metering systems if they choose so. Opting for smart home features should not come at the cost of consumer safety or privacy and should not put a burden on them when it comes to liability.

Benefits of digitalisation and innovation should be accessible to all consumers, not only to engaged ones. This is particularly important as even current energy markets are not easy to navigate (eg. due to unclear information, lack of understanding of tariffs ) and energy illiteracy remains a problem. New services can be supported by different types of enabling technologies such as smart devices so consumer participation will require upfront investments. Those who do not have financial means will need incentives (including financial ones) to be able to access those technologies. Therefore, policy makers and regulators should analyse which consumer groups will need further protections and additional incentives. Particular attention should be paid to consumers in vulnerable situations, such as low income households or elderly people. Digitalised markets must ensure that all consumers can benefit and the risk that vulnerable consumers can be excluded must be addressed.

Consumer engagement in energy markets will be influenced also by access to an affordable, high-quality and high-speed internet connection. [5] Digitalisation in the energy sector without ensuring internet access for all can result in more inequalities. At the same time, digital energy solutions should be inclusive as consumers have different needs, values and expectations. Those lacking IT skills or with no internet access are less likely to benefit from cheaper offers available online. In particular, elderly and disabled people are more likely to be digitally excluded. These groups may find it harder to use energy displays or appliances and may be unable to access key information in a timely way. There may also be greater reliance on phone lines which can be expensive and deter customers from engaging with their supplier. [6] In order to avoid digital divide and increase the usefulness and uptake of digital energy solutions, it is important to consider specific needs of different consumer groups, their access to relevant tools, literacy level and incapacities. It will be key to involve consumers and consumer organisations when designing new tools and services.

Last but not least, some consumers could choose not to seek for other offers. Their choice should be respected, and they should not be 'punished' with disproportionately high prices. It should be always kept in mind that electricity is an essential service that must be accessible and affordable to all.

[3] Flash Eurobarometer 443 on ePrivacy

[4] Variable Stromtarife Aus Verbrauchersicht." VZBV, November 2015, <http://www.vzbv.de/termin/variable-stromtarife-aus-verbrauchersicht>

[5] In 2017, 82% of rural households had access to internet compared to 90% in cities and 87% in towns and suburbs. In some EU countries (Greece, Portugal, Bulgaria, Romania) the digital divide between urban and rural is particularly strong. Eurostat, Digital economy and society statistics - households and individuals, 2017 [http://ec.europa.eu/eurostat/statistics-explained/index.php/Digital\\_economy\\_and\\_society\\_statistics\\_\\_households\\_and\\_individuals#Internet\\_access](http://ec.europa.eu/eurostat/statistics-explained/index.php/Digital_economy_and_society_statistics__households_and_individuals#Internet_access)

[6] European Commission's Vulnerable Consumer Working Group Guidance Document on Vulnerable Consumers, November 2013, available [https://ec.europa.eu/energy/sites/ener/files/documents/20140106\\_vulnerable\\_consumer\\_report\\_0.pdf](https://ec.europa.eu/energy/sites/ener/files/documents/20140106_vulnerable_consumer_report_0.pdf)

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.

The way consumers use energy is changing and will be influenced by digitalisation and technological progress within and outside the energy sector. Dynamics in electricity markets are going to be affected by various service providers not only from the energy sector but also by telecom companies, digital firms and so-called prosumers that increasingly compete with 'traditional' energy incumbents. New businesses and community initiatives delivering innovative services that may be attractive to consumers start to emerge. Services including smart technologies, renewable energy (such as community-based solar services), demand response as well as switching services may offer compelling value propositions to consumers. While these developments are expected to result in more consumers engaging in energy markets, there are several issues which will determine the level of consumer participation and will need regulators' attention and intervention (eg. how to help consumers to easily navigate complex markets, how to ensure all consumers can access the various benefits of innovation and how to keep competitive pressure).

For consumers to engage, energy markets must be easily manageable, offer real choice and competing prices. Complexity in understanding the value of new technologies and market propositions poses a barrier to engagement. Consumers will need tools they can trust so that they can understand what the financial value may be, transparency if personalised pricing occurs and the ability to compare different offers on the market. Indeed, new pricing structures, offers by new business players as well as bundled offers will make it challenging for consumers to navigate the market and BEUC has been advocating for comparison tools to include dynamic price contracts, aggregators' offers as well as bundles. Consumers are not energy professionals so service providers should clearly communicate and design their offers according to consumer needs.

It is important to highlight the risk new energy terminology may pose, when considering price comparison. The sale of 'warm hours' [7] may be particularly complex to compare against kilowatt hours (kWh). Research from our UK member, Citizens Advice, found this was the case for a small number of consumers who were engaged in a trial of 'heat as a service' .[8]

We also observe new energy offers, similar to those in telecoms. For instance, our Portuguese member, DECO, reported a new offer which provides natural gas and electricity for fixed monthly fees including energy consumption and grid access. Consumers need to choose a pack of kilowatt hours (kWh) that they think they will need for a 12-month period. When they consume more than the chosen package, they need to pay for additional kWh but when they consume less, they get no credit or reimbursement.

Consumers have different needs, values and expectations and may therefore engage in different ways: some will engage directly (for instance by opting for time of use tariffs, dynamic price contracts or by producing electricity in their homes), others will prefer to engage with intermediaries offering services that simplify their lives (eg. helping them to find best energy deal for them). It should also be borne in mind that not all consumers will be willing or able to engage in the energy market. Policy makers and regulators should therefore differentiate between the various consumer segments in analyses and interventions in increasingly digitalised energy markets.

The Clean Energy for All Europeans legislative package aims to redesign the electricity market, support clean energy technologies and innovation. Although it includes rules that aim to open the door to new service providers, allow consumers to actively participate in the energy transition with new rights and protections, new pricing models as well as new intermediaries will need to be carefully monitored by regulators. Different pricing models and tariff designs can lead to confusion among consumers and result in no major impact on switching behavior or consumer satisfaction. Therefore, NRAs should be ready to introduce additional consumer protections where needed. Moreover, the Clean Energy package aims to tackle existing barriers consumers are facing when adopting renewables but NRAs should closely monitor the implementation and if these barriers are eliminated. At the same time, more needs to be done to enable especially tenants to join renewable energy projects. NRAs should strengthen their monitoring in this area to make sure consumers can effectively exercise their rights. When considering the impact of prosumers on the system, it should be noted that the impact of self-consumption (by household) on networks remains limited.[9]

[7] <https://es.catapult.org.uk/news/bristol-energy-is-first-uk-supplier-to-trial-heat-as-a-service/>

[8] Citizens Advice, 2019, Smarter protections: using field trials to explore how people understand energy as a service

[9] Even in far developed solar PV self-generation markets, self-consumption by households only makes up a very limited share of final electricity consumption.

## 5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?

Consumers will engage in the market if it is easy, entertaining and financially worthwhile, if they can trust and have access to well-designed tools. There is a number of enablers of digitalisation, such as smart meters and home energy management as well as data from these technologies that may facilitate innovative services and emergence of new intermediaries. Below, we provide a consumer perspective on some of these enablers and point out related challenges.

### Smart meters

Smart meters are being rolled out to consumers at different paces in the EU. While they may provide benefits to consumers such as precise billing, real-time information about usage and access to demand response services, they pose new challenges such as added costs or data protection. Smart meters also provide benefits (e.g. improved network planning and management) and savings to distribution companies, which are not necessarily passed on to consumers.

With increased home automation, the interplay of the smart meter and intelligent household appliances is gaining in importance as home automation will make it easier for consumers to engage in demand response. Demand response is at the nexus of the energy and digital sector and -if broadly taken up by households- will be just part of the concept of the smart home. From a consumer perspective, a smart home should be a comfortable, safe, healthy and energy efficient living space. In it consumers could benefit from self-generation, smart and interoperable appliances. Also, they should be able to manage their consumption through consumer-friendly smart metering systems if they choose so. Opting for smart home features should however not jeopardize consumer interests and clear liability rules in case of failure should be in place. Furthermore, monitoring of unusual consumption patterns in real time should lead to services for consumers warning them of possible problems (either sudden very high usage or very low usage or strongly fluctuating usage may signal this).

### Demand response offers

New electricity offers are expected to be facilitated due to updated electricity markets rules. For instance, shorter imbalance settlement periods are seen as a key enabler for demand side response/ flexibility as suppliers are exposed to the real costs of the energy their customers consume and have incentive to offer time of use tariffs or help their customers save energy.

Smart, flexible electricity offers, if well designed, can indeed provide consumers with better deals. In order for these offers to be a success for consumers, they must be clearly communicated, easy to navigate, financially worthwhile and without any tradeoffs with regards to consumer's privacy. [10] New offers should be designed in such a way so that consumers do not face disproportionate financial risks undermining their ability to pay the bill. For instance, report [11] by our UK member, Citizens Advice, provides an overview of different pricing models, such as dynamic time of use tariffs, subscription-based offers or benchmark pricing and their potential impact on different consumers groups. The report highlights that loosening regulations may imply weakening some consumer protection. Research [12] from Citizens Advice finds consumer also want better information to compare prices and switch more easily as well as tailored advice on load shifting which could guarantee cost savings.

As more and more consumers are expected to sign up to flexible electricity offers in the near future, BEUC conducted an analysis looking at how consumer-friendly these offers are. [13] Our analysis concludes that several companies have good, although sometimes complex, information available on their pricing policies. Others make very unclear references to the market price and fail to specify what it is. We also observed some rather old-fashioned contract terms and conditions – including clauses that could lock consumers in and which included unclear information and disproportionate termination fees. Based on this analysis, we drew a number of model provisions and recommendations for companies so that consumers can make informed choice and easily exercise their rights:

- o Ensure marketing and communication materials provide clear and complete information on offers, including how the tariff and rewards levels are set. All information should be provided in the same place before the customer commits to the services.
- o Inform consumers if flexible electricity offers are adequate for their consumption patterns, and look out for any signs of vulnerability. Inform consumers also about the material necessary (eg. battery) to benefit from the offer.
- o Provide clear, accessible and up-to-date tariff levels regularly. Communicate using mediums that work and at the touchpoints that are most relevant to consumers.
- o Evaluate frequently your tariffs and support consumers. Provide consumers with tools to save money, and to protect themselves against bill shocks. This should include the provision of additional services that are useful for optimising electricity consumption.
- o Allow consumers to pay bills by installments whenever the amount to be paid exceeds the average charged in the past.
- o Allow consumers to easily terminate the contract and switch. In case early termination fees for a fixed term contract are applied, they should be linked to an advantage that was given to the consumer. In such cases, energy companies should be obliged to demonstrate the real cost to be able to charge these fees.
- o Be clear about the duration of the contract and termination. In case of tacit renewal, the consumer should be able to terminate the contract monthly and free of charge after the agreed contract period.

### New initiatives and business models

CEER rightly points out new business models such as peer-to-peer trading, energy communities and flexible marketplaces. These models can allow integration of renewables, storage and other sources of flexibility and provide better service to consumers.

For instance, research by Citizens Advice concluded that consumers are generally positive about community energy. Interviewees

believed they were saving money, reducing their carbon footprint, and some felt more engaged with their energy usage. At the same time, this research includes examples of problems such as: consumers not understanding information they received about the project, reliability of technology (such as faults with solar panels), metering issues (not being able to view real time data, meters not being accessible), issues with installation or a key partner to the community organisation, such as an energy supplier, going out of business.[14] There may be other challenges for consumers, particularly with regards to data protection, contractual issues and liability so these models should be carefully monitored. For instance, whenever communities act as aggregators, by selling electricity to tenants, tenants should be able to decide if they want to participate in this scheme. Also, they should always keep their rights as energy consumers and be able to exercise them.

New initiatives can disrupt traditional industries and markets, putting pressure on incumbent actors. For instance, easier tariff switching is most likely to provide the biggest benefits for the largest number of consumers. We also observe increasing interest in collective initiatives such as energy switching campaigns organised by consumer organisations around Europe where many consumers saved on their energy bills.[15] Due to increased competitive pressure, some companies will adapt and all consumers can consequently benefit from more affordable and better services.

New technologies create conditions for intermediaries that can for instance identify better offer for the consumer and allow for automated switching. While some consumers may prefer convenience, others may not feel comfortable with losing control over switching. There can be also question marks about real savings or when consumers get switched to sub-optimal tariffs. Other intermediaries may rather focus on advising consumers on how to become more energy efficient or simplifying consumers' lives by offering services that will manage consumers' bills for number of services (eg. energy, insurance, telecoms etc.). While we observe other business models and examples of trading platforms in the energy sector, it is unclear what their legal status will be (generators, aggregators, power exchanges, ESCOs or others?) and their impact on consumers. Policy makers and energy regulators will need to ensure that these parties are adequately regulated and that consumers are protected. Regulators should also consider how they might understand consumer outcomes across different models, actors and automated systems as well as enforce regulation.

#### Access to data

New technologies, such as smart meters, can provide more detailed and revealing data than what is currently processed. There are risks related to the increased monitoring and tracking of consumers' activities, behavioural profiling, targeted advertising, the loss of control of the data that is being collected and the increasing risk of data breaches. For example, energy consumption data could be used for purposes completely disconnected from the provision of energy services, such as to determine behavior that might indicate creditworthiness. From a consumer perspective, it is important that consumers have the right to access and control all the data generated by the smart meter and other smart devices at home. Data management procedures should provide consumers with an overview, as well as control of, who uses the data from their smart devices.

The collection and processing of data can help to improve services and develop innovative products for consumers. Data can be classified taking into account two parameters: on one side the nature of the data and, on the other side, according to its economic role. [16]

Firstly, according to the nature of the data, we always need to distinguish between personal and non-personal data. Personal data fall under the scope of GDPR which lists the legal basis for personal data processing. Some industry players raise questions around the implementation of GDPR and that it is unclear which data from smart meters could be used for certain purposes such as management of increasingly decentralized grid and under which legal basis. Further guidance by the European Data Protection Board (EDPB) may therefore be needed.

Secondly, according to their economic role and under a competition rationale we can differentiate between: Data as an 'input' to innovation (which is data that is collected and incorporated into the production of goods and services) and data as an 'output', which is data as a final product (e.g. financial data). This classification is important for the competitive process because when data is considered as an input, it is possible that firms acting as de facto data holders do not have an incentive to allow other parties to access that data. This is due to the fact that data can provide a very important advantage for the data holders over competitors since the latter would not have the same chances to develop products and services that rely on that data.

It is also important to emphasise the revised Electricity Directive which sets rules on the exchange of data among energy suppliers and aggregators as well as on non-discriminatory access to data. Broadly speaking, Member States should put in place rules under which data can be accessed under non-discriminatory conditions and ensure cybersecurity and data protection as well as the impartiality of the entities which process data. Member States or competent authorities should specify the rules on the access to data of the final customer by eligible parties. This legislation is a step into the right direction and a similar approaches should be followed in other sectors. For instance, in the case of connected devices, de facto data holders might deny access to data generated by the use of the connected device and therefore prevent the development of competitive after-sales services. Although the GDPR will kick-in when it comes to personal data, in such case the data portability right of Article 20 might be insufficient due to its limited scope of application (it applies to data actively provided by the consumers and processed on the basis of consent or of a contract) but can be certainly used as a role model. For instance, based on the data portability right, data could be transmitted to third parties for the purpose of enabling the consumer to receive services from these parties, thereby opening up markets for data-based services to competition. [17]

---

While setting rules on data access, we believe it important to approach the data economy from a consumer and people centric perspective by exploring how data should be used to develop a pro-competition ecosystem in which consumers can enjoy a wide variety of innovative products under fair conditions. The data ecosystem must be built in a way in which it fosters competition and brings in innovative services whilst respecting data protection rights.

A solid governance model for data sharing can be ensured by a generally applicable data access regime, accompanied by more sector-specific data access legislation focusing on 4 pillars: (1) Guarantee functioning and competitive markets,(2) Protect consumers, (3) Promote the public interest and (4) Ensure consistent oversight and enforcement.

Access to data needs to boost consumer choice, welfare and the development of services with a social utility. Data governance model should not be seen as a means to stimulate the commercialisation of users' data in a secondary market.

#### Impact of digitalisation on Distribution System Operators

Digitalisation as well as decentralisation will have a significant impact on different energy market players, including Distribution System Operators (DSOs). Strong regulation of DSOs is necessary to ensure efficiency growth, correct pricing, innovative services and rising quality of service.

Thanks to digitalisation, DSOs will gain more insight into their traditionally 'passive' networks and access to more granular data. Any use of network data must be compatible with the DSO's neutral market facilitator role and should not lead to discriminatory access to certain market players. It must be clear what is meant by data needed for different services (including new ones), what is the added value for consumers, how will data be used and with whom will it be shared. To access consumers' personal data (eg. from smart meters) for network planning, DSOs should demonstrate what they would use the data for and what benefits they can generate from receiving that data. They have to justify why they want a certain granularity of data.

Generally, the risk is that if a single company is the data holder, it may try to restrict access to the data generated by consumers, therefore restrict competition and cut-off consumers from innovative products and eventually better deals. If this is done under a regulated activity, it might also have an "unfair" competitive advantage, limiting entry into the market.

[10] More information in BEUC's brochure 'Making electricity use smart & flexible' available at:

[https://www.beuc.eu/publications/beuc-x-2017-036\\_making\\_electricity\\_use\\_smart\\_and\\_flexible.pdf](https://www.beuc.eu/publications/beuc-x-2017-036_making_electricity_use_smart_and_flexible.pdf)

[11] The disrupted decade, 4 disruptions that will shake things up for energy consumers, 2016, available at:

<https://www.citizensadvice.org.uk/Global/CitizensAdvice/Energy/DisruptedDecade.pdf>

[12] From devotees to disengaged, 2012, Consumer Futures (predecessor of Citizens Advice)

[13] We focused on terms and conditions as well as privacy policies of dynamic tariffs and aggregation offers provided by 6 companies in 5 countries and we paid particular attention to clauses related to price calculation (tariffs and rewards), data protection and contract termination/switching. For more details, please, see BEUC analysis 'Fit for the consumer? Do's and don'ts of flexible electricity contracts', 2019, available at: [https://www.beuc.eu/publications/beuc-x-2019-016\\_flexible\\_electricity\\_contracts\\_report.pdf](https://www.beuc.eu/publications/beuc-x-2019-016_flexible_electricity_contracts_report.pdf)

[14] [https://www.citizensadvice.org.uk/Global/CitizensAdvice/Energy/Energy%20Consultation%20responses/Community%20Energy%20report%20Jun%202018%20\(1\).pdf](https://www.citizensadvice.org.uk/Global/CitizensAdvice/Energy/Energy%20Consultation%20responses/Community%20Energy%20report%20Jun%202018%20(1).pdf)

[15] [https://www.beuc.eu/publications/beuc-x-2018-087\\_collective\\_energy\\_switch\\_factsheet.pdf](https://www.beuc.eu/publications/beuc-x-2018-087_collective_energy_switch_factsheet.pdf)

[16] BEREC Public consultation on the data economy, BEUC response, 2018, available at: [https://www.beuc.eu/publications/beuc-x-2018-104\\_berec\\_public\\_consultation\\_on\\_the\\_data\\_economy.pdf](https://www.beuc.eu/publications/beuc-x-2018-104_berec_public_consultation_on_the_data_economy.pdf)

[17] Data Access and Control in the Era of Connected Devices Study on behalf of BEUC, Josef Drexler, 2018, available at:

[https://www.beuc.eu/publications/beuc-x-2018-121\\_data\\_access\\_and\\_control\\_in\\_the\\_area\\_of\\_connected\\_devices.pdf](https://www.beuc.eu/publications/beuc-x-2018-121_data_access_and_control_in_the_area_of_connected_devices.pdf)

## 6. What are the main risks for consumers arising from digitalisation of the energy sector?

Consumer welfare and well-being requires the existence of competitive markets driven by choice and innovation. Also, the legislation must be fit and updated to current practices, such as in case of online contracts for energy supply and the cooling-off period that consumers are entitled to (for instance, it is not clear yet which company should consumers pay for the energy consumed during that period, when they decide to cancel the contract).

New forms of abuse and the accumulation of market power, algorithmic manipulation, gatekeeping and exploitative practices are threatening openness and innovation in numerous markets. At the same time, new technologies and the Internet of Things test the limits of many well-established principles of consumer protection (for instance privacy, liability and safety). Below we describe some challenges relate to new technologies, new services and possible cross-sectoral issues that will require cooperation among authorities across sectors. In this respect, CEER's Partnership for the Enforcement of European Rights (PEER) is of particular importance.

### Consumers not in control of their data

By making smart meters a common feature in European households, previously unseen amounts of data will be generated, stored and distributed. One of the main consumer concerns related to smart meters is the impact on their privacy because data collected through smart meters can show what is happening in a house.

BEUC's recent analysis of a few dynamic price contracts and aggregators' offers found out that none of the contracts had data protection policies that would be acceptable from a consumer perspective and fully comply with the GDPR. Worst examples include contracts where data is shared with third parties that have no direct link with the service, lack of clear information on what type of data are collected and/or shared, lack of information on consumer's right to oppose that data are shared, lack of information on the right to delete data or to carry them on as well as insufficient information on duration of data storage. [18] The analysed contracts all contained complex data protection provisions, that can however only very partly be considered to be GDPR compliant. Therefore, companies should ensure full compliance with GDPR, in particular:

- o Be clear what data is collected, who has access to that data, for which purposes it is used, how is it protected and for how long is it stored.

- o Design services following the principle of privacy by design and ensure that no more data than necessary is collected and that it is not kept for longer than necessary.

- o Respect consumer rights to access their data, request its deletion, correction and their portability.

At the same time, we encourage companies to follow best practices in privacy protection that go beyond mere compliance with GDPR, such as:

- o Always ask for consent for the use of data for any marketing related practices, even if they could be considered a legitimate interest under GDPR.

- o Ensure that consumers can easily view and directly control which third parties have access to their data.

- o Ensure privacy related information is easily accessible and gathered in one single place, instead of scattered across the privacy policy, terms and conditions, etc, to make sure the consumer can get a good overview of how his/her data will be used and assess this prior to entering into any contract.

### Cybersecurity

The Directive on security of network and information systems (NIS Directive) obliges operators of essential services to put in place appropriate cybersecurity measures to avoid serious vulnerabilities in their systems. It is of the utmost importance that operators of essential services from the energy sector comply with the provisions of this Directive. Member States should also ensure a consistent implementation of this Directive, namely on the selection of 'operators of essential services' (e.g. in Germany, only companies that reach a threshold of 500.000 customers are identified as an operator of essential service).

While BEUC supports CEER recommendations in the recent CEER report on cybersecurity, we believe that one more recommendation should be added, ie. manufacturers of internet of things devices such as smart meters should implement security by design and by default principles. This is because connected devices available in the EU are designed and manufactured without the most basic security features embedded in their software. In fact, EU does not have a proper legal framework to address the cybersecurity of the connected products that consumers buy. Therefore, a minimum set of security measures should be obligatory for all connected products as a condition for putting them on the market.

The lack of security of connected products represent a risk for consumers' privacy, property (e.g. if someone hacks a smart lock) and/or safety (e.g. possible risks when somebody misuses functionalities of electricity smart meters esp. the possibility to remotely disconnect the household. What happens if someone hacks your car while you're driving it?). These aspects on their own should be sufficient to force the European legislator to act and ensure their security. But the lack of security of connected products also represents a risk to society as these products can be used as part of a 'botnet' attack to take down critical infrastructures such as the power plant of an entire city (e.g. what if a hacker exploits the vulnerability of thousands of smart meters and turns them on and off uninterruptedly?). Our Belgian member, Test Achats, tested the security of a smart home. They installed 19 popular smart devices in the house (including a fridge, an alarm system, a thermostat, a printer, a children's tablet, a door lock, a speaker and a vacuum cleaner robot) and two ethical hackers found vulnerabilities in more than half of the cases just within 5 days.

## Artificial Intelligence

The shift towards Artificial Intelligence (AI) and automated decision making (ADM) will soon change the way in which markets and our societies function. Tasks and decisions are increasingly carried out by self-learning machines which execute orders autonomously. In the energy sector, AI is expected to play an important part of the smart grids to better manage the energy system with increasing share of renewables and predict peaks in demand and supply, using machine learning. From a consumer perspective, there are several areas where AI could make our lives easier. For example, AI could help optimise the household's electricity consumption based on automatic learning about the usual consumption of each individual household, and thereby increase the comfort in people's homes and make energy bills more affordable.

On the other hand, there are many questions, for instance how to ensure consumers are sufficiently protected when decisions are entrusted to self-learning and smart machines? How can we avoid exploitation of consumer biases? We also share concerns raised in the CEER consultation paper with regards to risks when something goes wrong, ie. if due to an algorithm the consumer ends up paying higher price, or the algorithm does not manage the temperature in the house sufficiently. There are many potential risks associated with the use of AI, including competition, price discrimination, lack of transparency and accountability, or loss of control over consumers' data.

Due to the lack of transparency of algorithms resulting in 'algorithm blackbox' consumers do not know how their personal data is analysed or by whom. In such an environment, consumers are highly vulnerable to being manipulated. This may lead to economic and social harm. For example, with the implementation of smart technologies, algorithms learn what is happening in the house. This could then lead to behavioural profiling, targeted advertising and possibly also to predicting behaviour that might be used to evaluate the creditworthiness of the consumer. Moreover, algorithms could be programmed to collude through the automatic adjustment of prices based on price monitoring technologies. This illustrates that consumers risk facing non-transparent markets, higher search costs and welfare losses.

Consumers should be sufficiently protected and have adequate rights to be able to reap all the benefits markets with AI/ADM can offer. Consumers' trust in AI can be supported by strong consumer rights, especially:

☒- Consumers should have a right to transparency, ie. companies providing services to consumers that are based on automatised processes should be obliged to provide meaningful information so that the consumer can truly understand the consequences of ADM. For example, in case of personalised pricing, consumers should be informed that the offer is personalised and on which main parameters this price is based. Before an automated decision-making process is carried out, consumers should have a right to be informed about what data will be processed by whom and for which purpose.

☒- Consumers should have a right to accountability. Whether an algorithm-based decision is accurate, fair, or discriminative can only be assessed if there is algorithmic control by those who have access to the data basis and can understand which and how decision criteria are applied. As a general principle, companies must be able to demonstrate that they comply with the law, such as rules on consumer or data protection, as well as rules on non-discrimination. Accountability also implies that companies must put in place technical options which give access to competent authorities allowing them to assess whether, for example, certain group of consumers is discriminated. At the same time, consumers should have access to justice if AI-associated risks materialise.

While horizontal legislation is in place, it seems to be insufficient for the digital area. For instance, EU rules which deal with pre-contractual information requirements, such as the Consumer Rights Directive, are out of date. Therefore, a thorough analysis is needed on whether EU consumer law as well as the sector-specific rules are fit for the AI/ADM age. [19] Moreover, while the GDPR is in place, there are many questions with regards to its practical implications in the context of AI, such as how to ensure that AI only uses data that are lawfully obtained, relevant and limited to what is necessary for the particular purpose.

Increasing use of algorithms (esp. self-learning) will also require regulators to better understand whether, and if so in which circumstances, algorithms can harm consumers and competition. This may become even more challenging as potential harms are more difficult to detect. Regulators in different sectors (e.g. consumer protection, energy, data protection and competition) need to act within their competences to ensure that these technologies are designed to respect EU laws e.g. by making companies accountable for the programming of their algorithms in a way that breaches their legal obligations.

## Personalised pricing

The rollout of new technologies such as smart meters will result in increasing amount of data that will create the conditions for personalized pricing, a form of price discrimination. If not transparent, personalised pricing may result in lower consumers' trust in the market, growing perception of unfairness and thereby increasing disengagement of consumers in essential markets that are already falling short.

Surveys show that consumers are reluctant to be subject to price personalisation. This is because price personalisation requires a company not only to constantly monitor the activity of their customers, but to build detailed profiles of them. While some consumers might find this useful for instance to obtain personalised offers, the wide majority are sceptical of businesses data practices. For example, according to survey on attitudes toward data collection and use done by our UK member Which?, only a small proportion of the UK population (13%) are unlikely to be concerned about the potential ways in which the data could be used. On the contrary, the wide majority feels powerless about how firms use their data, including for the purpose of tailoring offers.[20] In a survey carried out by Citizens Advice, 84% of people said they felt uncomfortable with personalised pricing in essential service markets and 3 in 4 people say that if they encountered personalised pricing they wouldn't trust their provider.[21]



It is particularly important to consider the impact of personalized pricing on vulnerable consumers because they are often less sensitive to price increases and could pay significantly more for services in a price personalisation scenario. Regulators should therefore analyse the distributional impact of personalised pricing, especially in markets with low switching rates and long-term contracts where inactive consumers can suffer loyalty penalties. [22]

Although personalised pricing is not prohibited per se under EU law, different areas of law should be considered, namely competition law, data protection law and consumer law. Further analysis is provided in BEUC's contribution to the OECD. [23]

#### Bundled offers

Bundled offers are becoming commonplace in different sectors. Although these offers can provide good deals, they can also lead to complex contracts, lack of comparability, higher bills and lock-in situations. In many cases, additional products or services are provided by service providers different from the energy retailer, and therefore raise questions around the role of different regulators and in terms of enforcement of different laws. Personalised pricing may add yet another layer of complexity and increase consumer's inertia as it will be even more difficult to compare and choose the best offer for the consumer.

Bundling is likely to increase with new technologies (such as PV panels or batteries), new business models and innovative services such as demand side flexibility services. Clear responsibility schemes and redress mechanisms capable of acting across industry sectors are needed to ensure the efficient treatment and settlement of disputes involving service providers from different sectors. For instance, demand side flexibility will rely on enabling technology such as smart appliances and smart meters. Questions such as who is responsible if something goes wrong with my smart washing machine (is it the product manufacturer or the software provider?) will arise. Consumers should be able to get answers to their questions from a single contact point and should not have the responsibility of identifying where the fault comes from.

#### New intermediaries

While the Clean Energy for All Europeans package addressed some new business models and initiatives, there are still many question marks. For instance, while redress and alternative dispute resolution are rather clear when it comes to a customer-supplier relationship (including disputes involving citizens or renewable energy cooperatives and landlord-tenant contracts), the National Energy Ombudsmen Network (NEON) points out the lack of clarity in case where the contractual relationship involves other players (for instance in case of peer-to-peer exchange through platforms, consumers may not be able to easily access redress) and lack of consumer rights due to outdated legal framework (eg. ADR Directive does not apply to C2C disputes). [24]

Studies from other sectors indicate similar challenges. For instance, the European Commission's online peer-to-peer (P2P) study showed that 60% of consumers are not aware or are uncertain of their rights and responsibilities in consumer-to-consumer transactions or about who to turn to when something goes wrong. In addition, about 40% of users who offer their services on such platforms say they do not know or are not assured about their rights and responsibilities. Based on experience in other sectors, several BEUC member organisations highlighted the need and the challenge of enforcing key pieces of legislation better, such as the Unfair Commercial Practices Directive.[26] Last but not least, our UK member, Citizens Advice, has recently published a report [27] looking at some additional risks a smart future could pose to consumers.

[18] Fit for the consumer? Do's and don'ts of flexible electricity contracts, BEUC analysis, 2019, available at:

[https://www.beuc.eu/publications/beuc-x-2019-016\\_flexible\\_electricity\\_contracts\\_report.pdf](https://www.beuc.eu/publications/beuc-x-2019-016_flexible_electricity_contracts_report.pdf)

[19] Automated Decision Making and Artificial Intelligence, BEUC Position Paper available at:

[https://www.beuc.eu/publications/beuc-x-2018-058\\_automated\\_decision\\_making\\_and\\_artificial\\_intelligence.pdf](https://www.beuc.eu/publications/beuc-x-2018-058_automated_decision_making_and_artificial_intelligence.pdf)

[20] Which?, "Control, Alt or Delete? The Future of Consumer Data" (2018), Policy Report,

<https://www.which.co.uk/policy/digitisation/2659/control-alt-or-delete-the-future-of-consumerdata-main-report>

[21] Citizens Advice, "A Price of One's Own. An investigation into personalized pricing in essential markets", <https://www.citizensadvice.org.uk/Global/CitizensAdvice/Consumer%20publications/A%20price%20of%20one's%20own%20final.pdf>

[22] For instance, according to report by Citizens Advice, consumer disengagement means UK customers in the energy market overpay for standard variable tariffs by a staggering £1.4 billion a year. Citizens Advice found that this loyalty penalty costs consumers up to £987 a year across six essential markets. It is often paid by those who can least afford it, ie. consumers on lower incomes or pensioners. Citizens Advice, "A Price of One's Own. An investigation into personalized pricing in essential markets", <https://www.citizensadvice.org.uk/Global/CitizensAdvice/Consumer%20publications/A%20price%20of%20one's%20own%20final.pdf>

[23] 'Personalised Pricing in the Digital Era – note by BEUC for the OECD joint meeting between the Competition Committee and the Committee on Consumer Policy, November 2018, [https://one.oecd.org/document/DAF/COMP/WD\(2018\)129/en/pdf](https://one.oecd.org/document/DAF/COMP/WD(2018)129/en/pdf)

[24] After the Clean Energy Package: Towards a Prosumer-Rights Framework, National Energy Ombudsmen Network, April 2019, <http://www.neon-ombudsman.org/2019/04/23/after-the-clean-energy-package-towards-a-prosumer-rights-framework/>

[25] Exploratory study of consumer issues in online peer-to-peer platform markets, European Commission, 2017

[http://ec.europa.eu/newsroom/just/item-detail.cfm?item\\_id=77704](http://ec.europa.eu/newsroom/just/item-detail.cfm?item_id=77704)

[26] For more details, please, see BEUC position paper 'Ensuring consumer protection in the platform economy' 2018, available at: [https://www.beuc.eu/publications/beuc-x-2018-080\\_ensuring\\_consumer\\_protection\\_in\\_the\\_platform\\_economy.pdf](https://www.beuc.eu/publications/beuc-x-2018-080_ensuring_consumer_protection_in_the_platform_economy.pdf)

[27] <https://www.citizensadvice.org.uk/about-us/policy/policy-research-topics/energy-policy-research-and-consultation-responses/energy-policy-research/smarter-protections-potential-risks-for-consumers-in-a-smart-energy-future/>

7. What would a “whole energy system” approach look like – would this unlock more benefits of the digitalisation of the energy system?

Whole system should encompass all energy resources, considering gas and electricity, all types of generation and storage, but also demand side response and the often forgotten energy efficiency. In simple terms, digitalisation (through greater monitoring, automation, and AI for example) brings the opportunity to optimise across all these resources and help us make the most efficient and outcome-focused decisions. This can indeed be a game-changer for the energy sector as it can lead to increased efficiency and reliability of the energy system, better integration of renewable energy sources as well as improved supply assets and infrastructure by running better for longer.

Whole system approach is therefore necessary to achieve well-functioning energy market that is decentralised and digitalised. While the process of digitalisation is advancing in some parts of the energy value chain (such as in transmission networks), more is yet to be done at the generation, distribution and consumer sides. For further details, please, see our responses to questions above.

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

BEUC agrees with CEER’s analysis and believes it is essential for energy regulators to have sufficient resources to fully understand the impact of practices and agreements that shape digitalised energy markets. Regulators should be able to keep up with technological changes by monitoring the cost of essential services for different consumer groups, maintaining oversight of digitalised energy markets and identifying need for further consumer protections. At the same time, regulators should further integrate behavioural science into their daily work which can help them to design and test remedies with behavioural market failures to help consumers make better choices and prevent companies from exploiting consumer biases. Regulators should seek views of consumer organisations and increase cooperation with these organisations which will allow them to benefit from their knowledge, closeness to consumers and ability to enhance consumer awareness and engagement.

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models (“sandboxes”). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Regulators should pursue

Please explain your choices to the above question in the comment box below.

The whole system approach will require energy regulators to act on different fronts. In our responses to questions above, we point out areas and issues which should be reflected in regulatory proposals by CEER. Below we list additional points on CEER's draft proposals:

First, strong market surveillance, law enforcement, as well as efficient redress tools must be put in place to contribute to an effective protection of energy consumers. Digitalised energy markets will also require a multi-disciplinary approach. Thus, it is necessary that the different competent authorities work together to provide a coherent and efficient response. Competition, consumer and data protection authorities as well as energy regulators should work in tandem. Competition policy should not be seen as an isolated policy. Especially in the digital environment, it is closely related to other EU policies. While competition policy seeks to protect the competitive process to ensure that companies can compete on the merits and therefore offer a wide range of innovative products and services to consumers, consumer policy is about ensuring that consumers are able to make informed choices and their free will is not manipulated by firms to generate an anti-competitive advantage over rivals or to unfairly extract more value from consumers (e.g. excessive data collection). The Clean Energy package aims to give consumers more choice, strengthen their rights, and enable everyone to participate in the energy transition. For this reason, it is important that there is a consistent approach in the enforcement of relevant laws. This is particularly important for the design of remedies, which need to be designed and implemented in full compliance with different areas of law. Moreover, the use of AI/ADM will also require strengthened cooperation among authorities across sectors - for instance data protection authorities, energy regulators and consumer protection agencies should work together to face the problem of information asymmetry and fairness of contractual clauses that provide the rights and obligations of the consumer vis-à-vis the supplier of the AI based service.

Secondly, energy regulators should closely monitor the impact of new offers and emerging business models on consumers and adapt protections to the needs of consumers where necessary. For instance, some consumers will be able to benefit from demand response offers while these offers may be less suitable for others. Therefore, regulators should ensure that especially consumers in vulnerable situations are well protected and supervise the market so that there are no unfair clauses for tariff changes. Offers should be understandable, transparent and comparable and regulators should monitor the impact of demand response offers and the occurrence of bill shocks. Robust compliance and enforcement of relevant legislation (e.g. GDPR) is essential to prevent unlawful selling or sharing customers' data. New services will also require strengthened cooperation among regulators, ADR bodies and other relevant authorities across sectors. This requires better coordination and information sharing among relevant authorities especially where cross-cutting issues arise.

Thirdly, further regulatory measures will be needed to unlock the benefits of digitalisation for all, not only to those who already shop around. A smart regulatory design can help ensure that regulatory compliance costs do not end up discouraging innovation. In some cases, other governance forms may be used where possible undesirable effects of innovation cannot be foreseen until it reaches the market. In certain sectors, the concept of 'regulatory sandboxes' is being explored as a tool that can help foster innovation. Sandboxes allow innovators to trial new products, services and business models in a real-world environment, without some of the usual rules applying. Examples of sectors where regulatory sandboxes have been established include the Fintech area [28] of the energy market [29]. In order not to compromise consumer rights and protections, criteria however need to be developed to guide the case-by-case assessment by authorities of whether a new product or service qualify to enter a sandbox. Such criteria should include the innovative nature of a product/service, a demonstrated impossibility or high unlikelihood to be developed without a sandbox, and clear benefits of the product/service for the consumers. Sandboxes should be limited in time and monitored throughout their duration. They should in no way serve as a shortcut to avoid regulation [30], nor should they be a means to change regulation on a permanent basis. We therefore believe that this activity should not be among priorities of NRAs.

Fourthly, we support the review of network tariffs which, in our view, should better reflect real use of the grid and consider increasing self-generation and demand-response as well as further electrification of the transport sector. More differentiated schemes that foster flexibility options of demand and supply, involving all electricity producers and consumers should be analysed. This analysis should include the distributional impact on different consumer groups and made transparent in order to safeguard fairness. Recent research on the concept of fairness in network tariffs commissioned by BEUC indicates that more and better understanding of the distributional impacts is needed especially at national level. Cost-reflectivity is a good principle of fairness, but far from perfect in practice. Many things come to play, so that is difficult to assess if a tariff is truly cost-reflective. A substantial part of costs cannot be directly allocated, therefore any claim to correct cost allocation implies a large measure of ambiguity. In view of these difficulties, other elements will need to come into play in order to make decisions on tariff structures. Moreover, the effect of forecast models and assumptions can be massive: good models and assumptions might help to understand better the effects. However, models should not be stand-alone decision-making tools. Many uncertainties will need to be considered also outside a model. The research also points out that designing tariffs that are fair to consumers is not a one size fits all. Many parameters come at play which will vary across countries.[31]

Furthermore, we believe that some draft regulatory proposals by CEER need to be completed, for instance proposals on cybersecurity. While BEUC supports CEER recommendations in this area, we believe that one more recommendation should be added, ie. manufacturers of internet of things devices such as smart meters should implement security by design and by default principles.

Last but not least, we believe some draft proposals seem to overlap and will require adjustments:

o) According to the draft proposal 7, NRAs should review network tariffs to ensure these are fit for the future. In our view, the

scope of this analysis should be broader than indicated in CEER's proposal and include also actions envisaged under draft regulatory proposal 9. Clarification is also needed on which tasks are for CEER and where ACER is better placed to take action.

o[2] In terms of draft proposal 8, regulators should not only identify barriers to a level playing field for alternative technologies but also assess if consumers' protections need to be reinforced on these new marketplaces.

o[2] Draft proposal 10 gives a mandate to DSOs to explore market-based procurement for flexibility services. However, we believe it is the task of the regulator to assess flexibility marketplaces and review network tariffs. NRAs should also analyse whether there is a level playing field for all players and technologies (including small households). Also, draft proposal 11 could be integrated under proposal 10.

Considering regulators' limited resources, below we indicate proposals 3-7 as those that should be prioritised. However, in our view, draft proposal 8 should also be among the key actions (as also explained in our response above).

[28] According to a report published by the European Supervisory Authorities (ESAs) in January 2019, five competent authorities had established operational regulatory sandboxes (DK, LT, NL, PL and UK) at the time the report was drafted, and several others (LT, NO, AT, ES and HU) had mentioned preparations under way.

[29] See eg. the UK regulator for gas and electricity market, Ofgem's note on sandboxes.

[30] See also BEUC response to the European Commission consultation on Fintech.

[31] Designing distribution network tariffs that are fair for different consumer groups – report for BEUC, Centre for Competition Policy, October 2018, available at: [https://www.beuc.eu/publications/beuc-x-2018-099\\_designing\\_distribution\\_network\\_tariffs\\_that\\_are\\_fair\\_for\\_different\\_consumer\\_groups.pdf](https://www.beuc.eu/publications/beuc-x-2018-099_designing_distribution_network_tariffs_that_are_fair_for_different_consumer_groups.pdf)

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 1]

Regulatory proposal 3

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 2]

Regulatory proposal 4

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 3]

Regulatory proposal 5

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 4]

Regulatory proposal 6

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 5]

Regulatory proposal 7

10. Do you have any other general observations to make on the topic of this consultation paper?

## Survey response 54

### Contact details and treatment of confidential responses

Contact details: [Organisation][ ]

NETZ BURGENLAND

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]

### CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?

Digital technologies are already widely used on the energy system. Digitalization is already improving the safety, productivity, accessibility and sustainability of energy systems. It is also raising new security and privacy risks as well as changing markets, businesses and employment: new business models are emerging, while some other would be out of the market soon.

Digitalisation will have a huge impact on the energy system, in combination with the growth of distributed energy resources, penetration of renewable energy, demand-side management, electrical vehicle and smart grid technologies:

1.  Digitalisation could increase productivity of the energy system

However in order to achieve this theoretical increase in the productivity (DSO perspective), and at the same time maintaining network stability, DSO would need to invest in digitalisation, where medium & small size DSO utilities across Europe will need to make huge efforts in compare to bigger ones, for achieving a similar goal, thanks to economics of scale. Therefore NRA shall take into account that again no one size fits all and that digitalization shall be incentivised however taking into account the particularities and economies of scale of each utility, where cooperation and common system could be incentivised.

2.  Digitalisation alone could increase the energy demand of the system or lead to higher costs if missued or not deployed in an efficient manner

While digitalisation will most likely reduce the energy intensity and increase efficiency in whole energy system, some side effects of the digitalisation could induce rebound effects that increase overall energy use. Data are growing at an exponential rate: around 90% of the data in the world today were created over the past two years. This data growth has led to increased need for more data center power, cooling, storage, data movement, and management complexity.

3.  Digitalisation will enable large-scale penetration of RES, RES, storage and new technology- investments are needed.

However in order to enable future penetration of DG it is necessary to upgrade the electricity networks so that they have mechanisms that are capable of dealing with the unpredictability of RES, EV, storage and other new technologies that might arise and at the same time adjusting to the energy needs of the consumer, while maintaining the stability of the network. In order to achieve that, massive investments in technology that allows the control, processing and automation of the energy supply are needed. Therefore NRA has to recognise this need for such investments that would enable this penetration while allowing the DSO to maintain the stability in the network.

4.  Digitalisation could improve security and privacy risk

However it is also at the same time a potential threat to the cyber security and privacy in the sector.

5.  Digitalisation enables new services and new players in the energy system

As mentioned in the document, digitalisation enables new services and new players in the system. DSOs have been and will continue to be responsible for the design, maintenance, development, and operation of the distribution system. This transition to a decarbonised energy system as well as technological development has led to changes of current activities carried out by DSOs and the creation of new activities, within or related to the energy system.

For these new activities it has to remain clear that one of primary DSOs' task is to facilitate the energy sector – in particular the energy market – in a neutral manner.

However this also could be a threat where this increased number of players and services in the energy system could decrease the overall efficiency of energy system in a negative way as well as leading to higher customer prices.

6.  Digitalisation brings new platforms and marketplaces that transform the sector

One of the main goals of the Clean Energy package is to enable a flexible open, transparent trade market of energy with equal possibility of participation of every player. Being said that, policy makers will have to ensure that these customers are not disproportionately disadvantaged by the digitalisation and left „behind“.

2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?

1.  Increases the productivity of the existing system

Digitalisation will increase most likely the productivity of the existing system. With regards to DSO productivity, digitalisation could increase the productivity by:

- Reducing operations and maintenance costs
- Improving power plant and network efficiency
- Reducing unplanned outages and downtime
- Extending the operational lifetime of assets.

However in order to improve productivity, DSO would need initially to increase its investment in digitalisation & new technology (research & development) with the uncertainty that in many European countries no incentive regulatory scheme to support digitalisation/innovation have been deployed. Furthermore, medium & small size DSO utilities across Europe will need to make huge efforts in compare to bigger ones, for achieving a similar goal, thanks to economics of scale. Therefore NRA shall take into account that, again, no one size fits all and that digitalization has to be fairly incentivised, taking into account the particularities and economies of scale of each DSO utility, where cooperation and common systems/platforms could be incentivised.

2.  Enables new products and services that alter electricity demand;

Digitalisation will have a huge impact on the electricity demand, in combination with the growth of distributed energy resources, penetration of renewable energy, demand-side management, electrical vehicle and smart grid technologies, where new business models are emerging, while some other would be out of the market soon. However this also could be a threat to the customer, where this increased number of players and services in the energy system could decrease the overall efficiency of energy system in a negative way as well as leading to higher customer prices, if digitalisation is not deployed in an efficient manner.

DSOs have been and will continue to be responsible for the design, maintenance, development, and operation of the distribution system. This transition to a decarbonised energy system as well as technological development has led to changes of current activities carried out by DSOs and the creation of new activities, within or related to the energy system.

For these new activities it has to remain clear that one of primary DSOs' task is to facilitate the energy sector in a neutral manner and this shall remain as it is.

3.  Brings new digital marketplaces that transform the way the sector transacts?

One of the main goals of the Clean Energy package is to enable a flexible open, transparent trade market of energy with equal possibility of participation of every player. However due to the penetration of new players and services in the market, energy markets will need to be adapted accordingly, while tariffs and energy consumption have to send the right signals to the market, in order to develop a well-functioning efficient market.

3. In your view, what are the most important value propositions for consumers, which should be prioritised?

In our view the most important value proposition for consumers are cost saving, convenience and increase consumer participation. All of these three propositions should be prioritised. However, even if all of these is achieved, some consumers will remain inactive and left „behind“. Therefore I believe that one of the key challenges for policy makers will be ensuring that these customers are not disproportionately disadvantaged by the digitalisation (e.g. they should not face a disproportionate share of costs for networks). As mentioned in the document, it will be important to consider measures to ensure that benefits are available to a wide range of consumer as well as consider how to protect those customers.

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.

Yes, in our view digitalisation will lead to more consumer direct participation (Solar panel, EV charging) and participation through aggregators, virtual communities, local citizens communities... Actually one of the main goals of the Clean Energy package is to enable a flexible open, transparent trade market of energy with equal possibility of participation of every player. However, as mentioned previously, most consumers will remain inactive. Therefore one of the key challenges for policy makers will be ensuring that these customers are not disproportionately disadvantaged by the digitalisation

5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?

In our opinion key enablers for consumers are smart meters in combination with smart mobiles and IoT, including an effective use of network and system data, linking with areas with significant new opportunities through use of digitalisation such as whole system considerations. On top of that, overall system information shall be shared among the customers and regulatory schemes shall incentivise DSOs in order to unlock this benefits and avoid that customers are left „behind“.

6. What are the main risks for consumers arising from digitalisation of the energy sector?

As mentioned in the document, we agree that there are risks associated directly with data, and in particular privacy and data protection, competition issues and cybersecurity.

7. What would a “whole energy system” approach look like – would this unlock more benefits of the digitalisation of the energy system?

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

I agree in the analysis, specially with regards to the information that regulators collect from the companies that they regulate, that may be available in the future also through other means, reducing information asymmetry. Nowadays regulators are collecting unendless data. Therefore an agile & simplified data exchange would be wellcome, where only the necessary data would be exchanged for the sake of efficiency and transparency in the system.

Furthermore, regulators shall act as enablers for digitalisation, providing the DSOs with the necessary incentives (differencing between small, medium and big size companies) to face digitalizacion with an "optimal" approach and the needed investments.

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being "left behind" by developments.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

Regulators should pursue



9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models ("sandboxes"). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Regulators should pursue

Please explain your choices to the above question in the comment box below.

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 1]

Regulatory proposal 5

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 2]

Regulatory proposal 6

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 3]

Regulatory proposal 7

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 4]

Regulatory proposal 9

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 5]

Regulatory proposal 11

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 6]

Regulatory proposal 12

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 7]

Regulatory proposal 13

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 8]

Regulatory proposal 8

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 9]

Regulatory proposal 2

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 10]

Regulatory proposal 4

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 11]

Regulatory proposal 3

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 12]

Regulatory proposal 10

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 13]

Regulatory proposal 14

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 14]

Regulatory proposal 1

10. Do you have any other general observations to make on the topic of this consultation paper?

We just would like to highlight that clear market rules and definition of roles and responsibilities of different market players (i.e. NRAs, DSOs, aggregators, suppliers, ESCOs, others ...), are necessary to avoid obstacles (conflicts of interest or overlapping tasks) to a proper implementation of the clean energy package.

The current regulatory framework and market design does not necessarily preclude the emergence of decentralised energy trading that digitalisation brings, but it should be questioned if it does enough to enable it and also if potential risks are properly mitigated.

DSOs are in fact the neutral market facilitator that ensure the reliability and stability of the system while facilitating the commercial activities of other market actors and above all safeguarding the interests of customers, being the managing of Demand Response part of its natural responsibility.

Therefore we believe that a profound change of the electricity market is also needed, in order to develop a new decentralised scenario while maintaining the reliability and stability of the system. DSO tariffs should be cost reflective to include the massive investment needed, to ensure that prices are sending the right signals to the market and should not be used as an incentive for additional retailer benefits.

---

## Survey response 55

### Contact details and treatment of confidential responses

Contact details: [Organisation][ <input type="checkbox"/>
---

Enel SpA
----------

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]
---

### CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?
---

Today Europe is undergoing a profound change. Innovative technologies on digitalization and automation are likely to become main actors on the transition. Artificial Intelligence for instance will be a major enabler for innovation, productivity and economic growth. It will help address societal challenges and deliver tangible benefits for citizens in areas such as healthcare, public security, transportation, energy management and disaster management.

In the short term we expect that digitalization will allow customers to increase their knowledge in the energy field and this will lead them to a greater interaction with the markets, a more efficient behavior, an increase in the number of consumers with a “greener appetite” and benefit from additional services.

Suppliers will optimize their business, tailor new offers and improve their communication towards customers. This tailoring has the potential to change consumer into actively participating prosumers, which could result into a major use of new digitalized strategies in consumer’s daily routines involving also transport or heating and cooling.

System operators will benefit from new tools to manage their grids more efficiently and integrate an increasing amount of variable renewables in the system. In the long term, interaction between intelligent appliances, smart grids and home platforms – mediated by or on behalf of consumers – will usher in a new era with radically different consumption patterns centered on automation and remote controls. Therefore, regulation must ensure that network operators such as DSOs are incentivized to invest in/use smarter and digital solutions and that privacy and security including cybersecurity, are safeguarded.

2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?
--

We fully agree that options a and b are truly relevant to foster the change on the energy system and that digitalization can contribute to decreasing future grid costs. New digital solutions and services will change customers’ relation with energy by:

- improving their knowledge on energy markets,
- allowing them to take informed decisions regarding their energy behavior and to interact anytime with the markets,
- providing them with new business-models, with a win-win deal based on energy efficiency solutions.

Regarding the impact of flexibility platforms, we would like to remind the importance of ensuring an efficient interoperability with other platforms;

3. In your view, what are the most important value propositions for consumers, which should be prioritised?

The possibility for consumers to become active participants in the market and to be able to generate cost savings (also through the revenues stemming from the services delivered to the power system) on their electricity bill will be at the core of the value proposition. The key enabler behind is demand response.

Demand-side response is a topical tool to manage loads efficiently.

It is a key element in EU's energy policy and should be prioritized. Indeed, as also stated by the European Commission, demand response is a valid and competitive way of increasing flexibility in addition to other options such as flexible generation, storage and better interconnection.

DR can be ensured either through services offered by energy aggregators (explicit DR) or by introducing price signals at consumer level (implicit DR)

In the former case, it is vital to set up proper regulatory and economic conditions to foster participation by all aggregators present in one market.

In the latter case, consumers will have to be incentivized to become more 'energy efficient' in their consumption by introducing 'dynamic prices' (e.g. time of use tariffs).

Attention should be paid also to setting the correct framework for the development of energy communities will allow consumers located across the country to digitally aggregate their energy production and consumption, share it among community members and deliver services to the grid in a cost-efficient manner.

Utilization of services like DR also make it possible to fully unlock the potential of electrification of transport both in terms of its development and in terms of potential value extraction from EV capabilities through smart charging to offer services to the grid.

Many draft Integrated National Energy and Climate Plans submitted by Member States to the Commission, omit to investigate the potential of demand response and the contribution of all decentralized energy resources to increase system flexibility. Without quantitative KPIs on DR in the NCEPs to track effective deployment of Demand response, it will be impossible to unlock all its potential.

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.

Yes, digitalisation will allow the customer to play a more active role within the electricity system, as stated in question 2. better understand his energy bills, to know how his energy behavior will change the bill and to choose from which kind of source he wants to be supplied.

Market regulation should contain clear roles and responsibilities between players, including the possibility to sell customers flexibility through independent aggregators that will share savings between the players and consequently, will become key players on the market.

In light of the transformation of the business that will be caused by digitalization, it will be important to ensure that all new stakeholders that will participate in future markets will fairly contribute to cover the costs they contribute to generate (e.g. network costs, policy costs and levies).

5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?

- Competitive and liberalised markets: Increased competition on markets can allow customers to foster the development of a real diversity of offers and services and to make informed choices.

- Swift and careful implantation of Market Design legislation

- Establishment of market flexibility services, including new markets for services that until now have been often provided as mandatory requirements (e.g. reactive power for voltage control).

- The regulatory regime will have to be modernised to incentivize DSOs to accelerate the digitalization of the distribution network.

- A new set of rules to ensure proper system functioning and DSOs-TSOs greater cooperation is required, in order to cope efficiently and securely with the new challenges faced by the system.

- Demand response development indicators at NCEP of each country.

- Smart EV charging systems deployment, to balance loads and provide efficient services to customers.

- Regulatory sandboxes, to test the new services into a controlled environment that replicate features of the electricity system without affecting it, coordinated with the relevant grid operators.

- An enabling smart grid infrastructure: Smart grids and smart meters with appropriate high performance functionalities and the availability of near real-time metering data to the customer.

6. What are the main risks for consumers arising from digitalisation of the energy sector?

- Competitive and liberalised markets: Increased competition on markets can allow customers to foster the development of a real diversity of offers and services and to make informed choices.
- Swift and careful implantation of Market Design legislation
- Establishment of market flexibility services, including new markets for services that until now have been often provided as mandatory requirements (e.g. reactive power for voltage control).
- The regulatory regime will have to be modernised to incentivize DSOs to accelerate the digitalization of the distribution network.
- A new set of rules to ensure proper system functioning and DSOs-TSOs greater cooperation is required, in order to cope efficiently and securely with the new challenges faced by the system.
- Demand response development indicators at NCEP of each country.
- Smart EV charging systems deployment, to balance loads and provide efficient services to customers.
- Regulatory sandboxes, to test the new services into a controlled environment that replicate features of the electricity system without affecting it, coordinated with the relevant grid operators.
- An enabling smart grid infrastructure: Smart grids and smart meters with appropriate high performance functionalities and the availability of near real-time metering data to the customer.

7. What would a "whole energy system" approach look like – would this unlock more benefits of the digitalisation of the energy system?

We agree on the need to move towards a more holistic approach in regulation. Some innovative investments may have high benefits for the system as a whole, but under the ordinary regulatory framework, DSOs may be incentivized to prefer traditional solutions. Therefore a smart regulation should enable to promote the holistically most effective innovation, allowing DSO to internalize the positive externalities of their investments for the system.

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

We appreciate the analysis made by CEER and the key areas highlighted, especially on the novelty on how intermediaries should be regulated, to allow a fair competition compared to suppliers.

We also welcome the idea of a more flexible and adaptive regulatory framework for the development of solutions that would better answer new customers' requests.

Nowadays, one of the main barriers for the future developments is that more than half of the total energy price is made of components which are not related to the energy supply. Moreover, focusing the comparison on energy prices does not make it possible to bring out the value brought by the innovative services. Indeed, in most of the cases it is impossible to convert the price of a service in €/kWh,

Digitization is one of the main factors enabling the evolution of energy markets because, in addition to allowing the development of new business models, it simplifies and fluidizes the interactions between customers and operators.

In order to allow a further efficiency of the market, digitization can also play a key role in the development of new tools to combat thefts and free riding, a phenomenon that discourages investments and is a major obstacle to competitiveness development.

In this context, the NRAs could enhance the data management hubs already operating in some European countries to counteract the so-called energy tourism of end customers, evaluating the possibility to implement the "supplier objection" in cases of confirmed and significant arrears of the customer or the consultation of databases to provide information on the "solvency" of end customers.

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

Regulators should NOT pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models ("sandboxes"). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Regulators should pursue

Please explain your choices to the above question in the comment box below.

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 1]

Regulatory proposal 6

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 2]

Regulatory proposal 9

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 3]

Regulatory proposal 5

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 4]

Regulatory proposal 7

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 5]

Regulatory proposal 8

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 6]

Regulatory proposal 10

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 7]

Regulatory proposal 14

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 8]

Regulatory proposal 3

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 9]

Regulatory proposal 13

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 10]

Regulatory proposal 12

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 11]

Regulatory proposal 11

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 12]

Regulatory proposal 4

---

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 13]

Regulatory proposal 1

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 14]

Regulatory proposal 2

10. Do you have any other general observations to make on the topic of this consultation paper?

Customer segmentation divides customers according to a wide range of factors including type of business or energy behaviors, helping suppliers to understand their needs and willingness to move to more efficient or renewable solutions. To avoid useless offers or marketing, offers should be based on appropriate clusters that will guide consumers seeking to reduce energy bills and make a positive impact on the environment (not for taking benefit of the customers with higher afford capacity)).

Pay as you go pricing models applied to households may jeopardize full system costs recovery. This kind of offers should be limited to models in which this risk is appropriately considered and avoided.

Regarding DSOs neutrality, we would like to highlight that the Directive on Common rules for the internal market in electricity (recast) clarifies the tasks of DSOs, which include the integration of electric vehicles, data management and the procurement of network services to ensure flexibility. Such flexibility services can improve the efficiency of distribution networks, e.g. by optimizing network planning. DSOs would be required to draw up network development plans containing the planned investments for the next three to five years.

The development and dissemination of new technologies, such as new generation meters, can represent a fundamental tool also to address the unpaid bills. This is not only because it makes it easier to disconnect, but also thanks to the possibility of managing prepaid models. Customer counters who are in debt (or repeatedly) could be setup in order to access only this type of offer (of each seller on the market, therefore; in the UK in the event of major delinquencies, a "prepaid" meter is installed for the customer).



---

## Survey response 59

### Contact details and treatment of confidential responses

Contact details: [Organisation][ <input type="checkbox"/>
---

KEPKA - Consumers Protection Center
-------------------------------------

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]
---

### CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?
---

The process of digitalisation encompasses nearly all aspects of our modern society. New technologies changed the way we communicate with our family, the way we access goods and services and it starts changing the way we consume energy services too.

Smart grid, smart home, smart meters, smart devices and connected appliances: we are heading towards the “smart” era. Digital technologies and Internet of Things (IoT) can bring exciting times and enormous benefits. Surveys show that 67% of Europeans believe that digital technologies have a positive impact on their quality of life (1). Number of connected devices will grow worldwide - conservative estimates predict that there will be almost 31 billion by 2020, 75 billion by 2025 (2) . The potential for IoT benefits is enormous and the expectation is that new technologies will make our lives easier and more comfortable. For instance, smart technologies can optimise energy consumption of households, save them money and reduce environmental impacts. They can also improve mobility and efficiency in smart cities.

New technologies can however represent also greater challenges and new risks for consumers. For instance, smart technologies and consumer data-driven products and services can have a negative impact and undermine consumers' fundamental rights to privacy and data protection, if the consumer is not in control of his/her data. Further challenges such as security or liability are addressed below.

Digitalisation is often described as a revolution to which consumers should adapt and the main focus is on technology converting data into value for the energy sector. However, digitalisation will only be successful if it puts the consumer, not the technology, at the centre and is shaped in such a way that it facilitates the shift towards sustainable, greener energy system.

Notes:

1. European Commission, Special Eurobarometer 460, Attitudes towards the impact of digitalisation and automation on daily life, May 2017

2. <https://www.statista.com/statistics/471264/iot-number-of-connected-devices-worldwide/>

2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?

Increased productivity, new products and services as well as new business models are expected to make the energy system more interactive and flexible. These changes will have numerous implications on regulators' work. For instance, digitalised energy system will require reliable infrastructure that is ready to cope with increasing cyber threats and data privacy breaches. It will also require out of silos approach and stronger cooperation among different authorities.

Moreover, proper transposition and implementation of the new electricity market rules (set under the Clean Energy for All Europeans package) will be key to translate expected consumer benefits into practice. New services such as demand side response or business models promoting decentralised energy generation will shake up the 'old-fashioned' industry only if consumers' engagement is rewarded, adequate consumer protections are in place and privacy and security are ensured. Broadly, there are particular risks for those who lack sufficient savings, are not motivated to engage, lack trust or are digitally excluded. There should still be fair outcomes for these groups.

It is expected that new technologies will make it possible for residential flexible electricity consumption to become more commercially attractive and play a bigger role in the stability and efficiency of the system. The reason for this future potential in the household sector is twofold. First, through digitalisation, energy supply and demand can be matched almost in real time. As a direct consequence many consumer products such as smart meters, thermostats, heating and cooling appliances can be integrated into networks that can help to optimise energy consumption. Also, home automation can facilitate flexible energy consumption in the residential sector. Second, transport will increasingly use electricity as its source of power. As more and more consumers will be switching to electric vehicles, car batteries could be integrated in the grid as a storage facility for surplus energy and become a source of energy supply when the car is not in use.

Increasing share of renewables, rolling out new technologies such as smart meters, storage and smart building technologies and putting more electric vehicles in the streets require rethinking the way energy system works. Electric vehicles can indeed be a challenge to the power system due to the increase in electricity demand during the peak periods but thanks to cutting edge technology, electric vehicles could also deliver solutions to the grid by providing their batteries as storage for surplus electricity from renewable sources. Decentralisation and digitalisation may also lead to rebound effects, increasing consumer demand. Understanding and preventing or correcting such rebound effects will be a major challenge for policy makers and regulators.

While lots of focus has been put on aggregators or energy communities, innovation in the energy sector is underway and other business models are likely to emerge in tomorrow's energy market and therefore, regulators need to have powers to ensure consumers are empowered and adequately protected. National Regulatory Authorities (NRAs) should systematically map and analyse the impact of new tariffs and services on different consumer groups, if/how these groups can access the benefits of new deals and whether there are risks for particular groups.

The CEER's consultation paper rightly highlights the diversity of service choice that could be available to some consumers. However, it is worth recognising the diversity of experiences people will have. In particular, how people might engage with technologies other than buying them directly, installations, contract lengths, switching as well as moving between market offers and access to redress.

There may be questions for how we offer choice to consumers with limited autonomy, for example those who live in rented or social housing. This sector could also face additional barriers, in terms of data privacy and security.

Finally, digitalisation could also affect customer service within the energy industry. This could be as broad as how consumers communicate with their provider, for example through a voice assistant, and how they receive information. Regulators will need to consider how these changes will impact consumer outcomes and how they might wish to enforce consumer protections. Regulators should also consider the pace of change, and ensure that consumers who do not wish to engage in digitalisation (for instance, by keeping phone options open) are not disadvantaged.

3. In your view, what are the most important value propositions for consumers, which should be prioritised?

KEPKA agrees with value propositions for energy consumers (ie. cost savings, convenience, choice, consumer participation) outlined in the CEER consultation paper but we also suggest comfort and sustainability as additional propositions. The focus should be indeed on helping consumers to save on their energy bills, increasing convenience, making more sustainable choices and allowing all consumers to participate in energy markets (either individually or via intermediaries) so that they can benefit from innovative services.

It is important to note these value propositions may not always stack - cost savings may be sacrificed for increased convenience and vice versa. In addition choice may quickly become limited once significant investment has been made towards particular models. Nevertheless, easy and meaningful choice between and within market models will be an important nudge for consumers, and one form of engagement in the energy market. At the same time, privacy has an intrinsic value for consumers as surveys show that consumers are concerned about how their personal information is being used, by whom and for what purposes.

Financial savings are one of the main drivers for consumers to engage in the energy market. However, as the complexity of energy markets is likely to increase with growing number of offers, bundles and pricing structures, consumer preferences are shifting towards prioritising easy use and convenience services helping them to save their time. For instance, studies on consumers' acceptability of demand response offers conclude that the savings which would trigger consumer action and lead to lasting changes in behaviour may need to be rather high. This is in line with the findings of BEUC's German member organisation vzbv-Verbraucherzentrale Bundesverband. When asked about time of use tariffs, two-thirds of German consumers want to save money and fear having to pay too much. Also, ease of use, convenience and privacy were essential for consumers.

Consumers need to be able to trust that smart technologies and new services improve their lives without trade-offs for them, their privacy or the environment. Companies should offer privacy by design within their technologies and services, only accessing the data they need to deliver offers. Overall, new technologies and services should result in consumers' homes being a comfortable energy efficient living space in which consumers can benefit from self-generation, smart and interoperable appliances as well as manage their consumption through safe and consumer-friendly smart metering systems if they choose so. Opting for smart home features should not come at the cost of consumer safety or privacy and should not put a burden on them when it comes to liability.

Benefits of digitalisation and innovation should be accessible to all consumers, not only to engaged ones. This is particularly important as even current energy markets are not easy to navigate (eg. due to unclear information, lack of understanding of tariffs ) and energy illiteracy remains a problem. New services can be supported by different types of enabling technologies such as smart devices so consumer participation will require upfront investments. Those who do not have financial means will need incentives (including financial ones) to be able to access those technologies. Therefore, policy makers and regulators should analyse which consumer groups will need further protections and additional incentives. Particular attention should be paid to consumers in vulnerable situations, such as low income households or elderly people. Digitalised markets must ensure that all consumers can benefit and the risk that vulnerable consumers can be excluded must be addressed.

Consumer engagement in energy markets will be influenced also by access to an affordable, high-quality and high-speed internet connection. Digitalisation in the energy sector without ensuring internet access for all can result in more inequalities. At the same time, digital energy solutions should be inclusive as consumers have different needs, values and expectations. Those lacking IT skills or with no internet access are less likely to benefit from cheaper offers available online. In particular, elderly and disabled people are more likely to be digitally excluded. These groups may find it harder to use energy displays or appliances and may be unable to access key information in a timely way. There may also be greater reliance on phone lines which can be expensive and deter customers from engaging with their supplier. In order to avoid digital divide and increase the usefulness and uptake of digital energy solutions, it is important to consider specific needs of different consumer groups, their access to relevant tools, literacy level and incapacities. It will be key to involve consumers and consumer organisations when designing new tools and services.

Last but not least, some consumers could choose not to seek for other offers. Their choice should be respected, and they should not be 'punished' with disproportionately high prices. It should be always kept in mind that electricity is an essential service that must be accessible and affordable to all.

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.

The way consumers use energy is changing and will be influenced by digitalisation and technological progress within and outside the energy sector. Dynamics in electricity markets are going to be affected by various service providers not only from the energy sector but also by telecom companies, digital firms and so-called prosumers that increasingly compete with 'traditional' energy incumbents. New businesses and community initiatives delivering innovative services that may be attractive to consumers start to emerge. Services including smart technologies, renewable energy (such as community-based solar services), demand response as well as switching services may offer compelling value propositions to consumers. While these developments are expected to result in more consumers engaging in energy markets, there are several issues which will determine the level of consumer participation and will need regulators' attention and intervention (eg. how to help consumers to easily navigate complex markets, how to ensure all consumers can access the various benefits of innovation and how to keep competitive pressure).

For consumers to engage, energy markets must be easily manageable, offer real choice and competing prices. Complexity in understanding the value of new technologies and market propositions poses a barrier to engagement. Consumers will need tools they can trust so that they can understand what the financial value may be, transparency if personalised pricing occurs and the ability to compare different offers on the market. Indeed, new pricing structures, offers by new business players as well as bundled offers will make it challenging for consumers to navigate the market and KEPKA has been advocating for comparison tools to include dynamic price contracts, aggregators' offers as well as bundles. Consumers are not energy professionals so service providers should clearly communicate and design their offers according to consumer needs.

It is important to highlight the risk new energy terminology may pose, when considering price comparison. The sale of 'warm hours' may be particularly complex to compare against kilowatt hours (kWh). Research from our UK member, Citizens Advice, found this was the case for a small number of consumers who were engaged in a trial of 'heat as a service'.

We also observe new energy offers, similar to those in telecoms. For instance, our Portuguese member, DECO, reported a new offer which provides natural gas and electricity for fixed monthly fees including energy consumption and grid access. Consumers need to choose a pack of kilowatt hours (kWh) that they think they will need for a 12-month period. When they consume more than the chosen package, they need to pay for additional kWh but when they consume less, they get no credit or reimbursement.

Consumers have different needs, values and expectations and may therefore engage in different ways: some will engage directly (for instance by opting for time of use tariffs, dynamic price contracts or by producing electricity in their homes), others will prefer to engage with intermediaries offering services that simplify their lives (eg. helping them to find best energy deal for them). It should also be borne in mind that not all consumers will be willing or able to engage in the energy market. Policy makers and regulators should therefore differentiate between the various consumer segments in analyses and interventions in increasingly digitalised energy markets.

The Clean Energy for All Europeans legislative package aims to redesign the electricity market, support clean energy technologies and innovation. Although it includes rules that aim to open the door to new service providers, allow consumers to actively participate in the energy transition with new rights and protections, new pricing models as well as new intermediaries will need to be carefully monitored by regulators. Different pricing models and tariff designs can lead to confusion among consumers and result in no major impact on switching behavior or consumer satisfaction. Therefore, NRAs should be ready to introduce additional consumer protections where needed. Moreover, the Clean Energy package aims to tackle existing barriers consumers are facing when adopting renewables but NRAs should closely monitor the implementation and if these barriers are eliminated. At the same time, more needs to be done to enable especially tenants to join renewable energy projects. NRAs should strengthen their monitoring in this area to make sure consumers can effectively exercise their rights. When considering the impact of prosumers on the system, it should be noted that the impact of self-consumption (by household) on networks remains limited.

## 5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?

Consumers will engage in the market if it is easy, entertaining and financially worthwhile, if they can trust and have access to well-designed tools. There is a number of enablers of digitalisation, such as smart meters and home energy management as well as data from these technologies that may facilitate innovative services and emergence of new intermediaries. Below, we provide a consumer perspective on some of these enablers and point out related challenges.

### Smart meters

Smart meters are being rolled out to consumers at different paces in the EU. While they may provide benefits to consumers such as precise billing, real-time information about usage and access to demand response services, they pose new challenges such as added costs or data protection. Smart meters also provide benefits (e.g. improved network planning and management) and savings to distribution companies, which are not necessarily passed on to consumers.

With increased home automation, the interplay of the smart meter and intelligent household appliances is gaining in importance as home automation will make it easier for consumers to engage in demand response. Demand response is at the nexus of the energy and digital sector and -if broadly taken up by households- will be just part of the concept of the smart home. From a consumer perspective, a smart home should be a comfortable, safe, healthy and energy efficient living space. In it consumers could benefit from self-generation, smart and interoperable appliances. Also, they should be able to manage their consumption through consumer-friendly smart metering systems if they choose so. Opting for smart home features should however not jeopardize consumer interests and clear liability rules in case of failure should be in place. Furthermore, monitoring of unusual consumption patterns in real time should lead to services for consumers warning them of possible problems (either sudden very high usage or very low usage or strongly fluctuating usage may signal this).

### Demand response offers

New electricity offers are expected to be facilitated due to updated electricity markets rules. For instance, shorter imbalance settlement periods are seen as a key enabler for demand side response/ flexibility as suppliers are exposed to the real costs of the energy their customers consume and have incentive to offer time of use tariffs or help their customers save energy.

Smart, flexible electricity offers, if well designed, can indeed provide consumers with better deals. In order for these offers to be a success for consumers, they must be clearly communicated, easy to navigate, financially worthwhile and without any tradeoffs with regards to consumer's privacy. New offers should be designed in such a way so that consumers do not face disproportionate financial risks undermining their ability to pay the bill. For instance, report by our UK member, Citizens Advice, provides an overview of different pricing models, such as dynamic time of use tariffs, subscription-based offers or benchmark pricing and their potential impact on different consumers groups. The report highlights that loosening regulations may imply weakening some consumer protection. Research from Citizens Advice finds consumer also want better information to compare prices and switch more easily as well as tailored advice on load shifting which could guarantee cost savings.

As more and more consumers are expected to sign up to flexible electricity offers in the near future, BEUC conducted an analysis looking at how consumer-friendly these offers are. The analysis concludes that several companies have good, although sometimes complex, information available on their pricing policies. Others make very unclear references to the market price and fail to specify what it is. We also observed some rather old-fashioned contract terms and conditions – including clauses that could lock consumers in and which included unclear information and disproportionate termination fees. Based on this analysis, we drew a number of model provisions and recommendations for companies so that consumers can make informed choice and easily exercise their rights:

- o Ensure marketing and communication materials provide clear and complete information on offers, including how the tariff and rewards levels are set. All information should be provided in the same place before the customer commits to the services.
- o Inform consumers if flexible electricity offers are adequate for their consumption patterns, and look out for any signs of vulnerability. Inform consumers also about the material necessary (eg. battery) to benefit from the offer.
- o Provide clear, accessible and up-to-date tariff levels regularly. Communicate using mediums that work and at the touchpoints that are most relevant to consumers.
- o Evaluate frequently your tariffs and support consumers. Provide consumers with tools to save money, and to protect themselves against bill shocks. This should include the provision of additional services that are useful for optimising electricity consumption.
- o Allow consumers to pay bills by installments whenever the amount to be paid exceeds the average charged in the past.
- o Allow consumers to easily terminate the contract and switch. In case early termination fees for a fixed term contract are applied, they should be linked to an advantage that was given to the consumer. In such cases, energy companies should be obliged to demonstrate the real cost to be able to charge these fees.
- o Be clear about the duration of the contract and termination. In case of tacit renewal, the consumer should be able to terminate the contract monthly and free of charge after the agreed contract period.

### New initiatives and business models

CEER rightly points out new business models such as peer-to-peer trading, energy communities and flexible marketplaces. These models can allow integration of renewables, storage and other sources of flexibility and provide better service to consumers.

For instance, research by Citizens Advice concluded that consumers are generally positive about community energy. Interviewees

believed they were saving money, reducing their carbon footprint, and some felt more engaged with their energy usage. At the same time, this research includes examples of problems such as: consumers not understanding information they received about the project, reliability of technology (such as faults with solar panels), metering issues (not being able to view real time data, meters not being accessible), issues with installation or a key partner to the community organisation, such as an energy supplier, going out of business. There may be other challenges for consumers, particularly with regards to data protection, contractual issues and liability so these models should be carefully monitored. For instance, whenever communities act as aggregators, by selling electricity to tenants, tenants should be able to decide if they want to participate in this scheme. Also, they should always keep their rights as energy consumers and be able to exercise them.

New initiatives can disrupt traditional industries and markets, putting pressure on incumbent actors. For instance, easier tariff switching is most likely to provide the biggest benefits for the largest number of consumers. We also observe increasing interest in collective initiatives such as energy switching campaigns organised by consumer organisations around Europe where many consumers saved on their energy bills. Due to increased competitive pressure, some companies will adapt and all consumers can consequently benefit from more affordable and better services.

New technologies create conditions for intermediaries that can for instance identify better offer for the consumer and allow for automated switching. While some consumers may prefer convenience, others may not feel comfortable with losing control over switching. There can be also question marks about real savings or when consumers get switched to sub-optimal tariffs. Other intermediaries may rather focus on advising consumers on how to become more energy efficient or simplifying consumers' lives by offering services that will manage consumers' bills for number of services (eg. energy, insurance, telecoms etc.). While we observe other business models and examples of trading platforms in the energy sector, it is unclear what their legal status will be (generators, aggregators, power exchanges, ESCOs or others?) and their impact on consumers. Policy makers and energy regulators will need to ensure that these parties are adequately regulated and that consumers are protected. Regulators should also consider how they might understand consumer outcomes across different models, actors and automated systems as well as enforce regulation.

#### Access to data

New technologies, such as smart meters, can provide more detailed and revealing data than what is currently processed. There are risks related to the increased monitoring and tracking of consumers' activities, behavioural profiling, targeted advertising, the loss of control of the data that is being collected and the increasing risk of data breaches. For example, energy consumption data could be used for purposes completely disconnected from the provision of energy services, such as to determine behavior that might indicate creditworthiness. From a consumer perspective, it is important that consumers have the right to access and control all the data generated by the smart meter and other smart devices at home. Data management procedures should provide consumers with an overview, as well as control of, who uses the data from their smart devices.

The collection and processing of data can help to improve services and develop innovative products for consumers. Data can be classified taking into account two parameters: on one side the nature of the data and, on the other side, according to its economic role.

Firstly, according to the nature of the data, we always need to distinguish between personal and non-personal data. Personal data fall under the scope of GDPR which lists the legal basis for personal data processing. Some industry players raise questions around the implementation of GDPR and that it is unclear which data from smart meters could be used for certain purposes such as management of increasingly decentralized grid and under which legal basis. Further guidance by the European Data Protection Board (EDPB) may therefore be needed.

Secondly, according to their economic role and under a competition rationale we can differentiate between: Data as an 'input' to innovation (which is data that is collected and incorporated into the production of goods and services) and data as an 'output', which is data as a final product (e.g. financial data). This classification is important for the competitive process because when data is considered as an input, it is possible that firms acting as de facto data holders do not have an incentive to allow other parties to access that data. This is due to the fact that data can provide a very important advantage for the data holders over competitors since the latter would not have the same chances to develop products and services that rely on that data.

It is also important to emphasise the revised Electricity Directive which sets rules on the exchange of data among energy suppliers and aggregators as well as on non-discriminatory access to data. Broadly speaking, Member States should put in place rules under which data can be accessed under non-discriminatory conditions and ensure cybersecurity and data protection as well as the impartiality of the entities which process data. Member States or competent authorities should specify the rules on the access to data of the final customer by eligible parties. This legislation is a step into the right direction and a similar approaches should be followed in other sectors. For instance, in the case of connected devices, de facto data holders might deny access to data generated by the use of the connected device and therefore prevent the development of competitive after-sales services. Although the GDPR will kick-in when it comes to personal data, in such case the data portability right of Article 20 might be insufficient due to its limited scope of application (it applies to data actively provided by the consumers and processed on the basis of consent or of a contract) but can be certainly used as a role model. For instance, based on the data portability right, data could be transmitted to third parties for the purpose of enabling the consumer to receive services from these parties, thereby opening up markets for data-based services to competition.

---

While setting rules on data access, we believe it important to approach the data economy from a consumer and people centric perspective by exploring how data should be used to develop a pro-competition ecosystem in which consumers can enjoy a wide variety of innovative products under fair conditions. The data ecosystem must be built in a way in which it fosters competition and brings in innovative services whilst respecting data protection rights.

A solid governance model for data sharing can be ensured by a generally applicable data access regime, accompanied by more sector-specific data access legislation focusing on 4 pillars: (1) Guarantee functioning and competitive markets,(2) Protect consumers, (3) Promote the public interest and (4) Ensure consistent oversight and enforcement.

Access to data needs to boost consumer choice, welfare and the development of services with a social utility. Data governance model should not be seen as a means to stimulate the commercialisation of users' data in a secondary market.

#### Impact of digitalisation on Distribution System Operators

Digitalisation as well as decentralisation will have a significant impact on different energy market players, including Distribution System Operators (DSOs). Strong regulation of DSOs is necessary to ensure efficiency growth, correct pricing, innovative services and rising quality of service.

Thanks to digitalisation, DSOs will gain more insight into their traditionally 'passive' networks and access to more granular data. Any use of network data must be compatible with the DSO's neutral market facilitator role and should not lead to discriminatory access to certain market players. It must be clear what is meant by data needed for different services (including new ones), what is the added value for consumers, how will data be used and with whom will it be shared. To access consumers' personal data (eg. from smart meters) for network planning, DSOs should demonstrate what they would use the data for and what benefits they can generate from receiving that data. They have to justify why they want a certain granularity of data.

Generally, the risk is that if a single company is the data holder, it may try to restrict access to the data generated by consumers, therefore restrict competition and cut-off consumers from innovative products and eventually better deals. If this is done under a regulated activity, it might also have an "unfair" competitive advantage, limiting entry into the market.

## 6. What are the main risks for consumers arising from digitalisation of the energy sector?

Consumer welfare and well-being requires the existence of competitive markets driven by choice and innovation. Also, the legislation must be fit and updated to current practices, such as in case of online contracts for energy supply and the cooling-off period that consumers are entitled to (for instance, it is not clear yet which company should consumers pay for the energy consumed during that period, when they decide to cancel the contract).

New forms of abuse and the accumulation of market power, algorithmic manipulation, gatekeeping and exploitative practices are threatening openness and innovation in numerous markets. At the same time, new technologies and the Internet of Things test the limits of many well-established principles of consumer protection (for instance privacy, liability and safety). Below we describe some challenges relate to new technologies, new services and possible cross-sectoral issues that will require cooperation among authorities across sectors. In this respect, CEER's Partnership for the Enforcement of European Rights (PEER) is of particular importance.

### Consumers not in control of their data

By making smart meters a common feature in European households, previously unseen amounts of data will be generated, stored and distributed. One of the main consumer concerns related to smart meters is the impact on their privacy because data collected through smart meters can show what is happening in a house.

BEUC's recent analysis of a few dynamic price contracts and aggregators' offers found out that none of the contracts had data protection policies that would be acceptable from a consumer perspective and fully comply with the GDPR. Worst examples include contracts where data is shared with third parties that have no direct link with the service, lack of clear information on what type of data are collected and/or shared, lack of information on consumer's right to oppose that data are shared, lack of information on the right to delete data or to carry them on as well as insufficient information on duration of data storage. The analysed contracts all contained complex data protection provisions, that can however only very partly be considered to be GDPR compliant. Therefore, companies should ensure full compliance with GDPR, in particular:

- o Be clear what data is collected, who has access to that data, for which purposes it is used, how is it protected and for how long is it stored.

- o Design services following the principle of privacy by design and ensure that no more data than necessary is collected and that it is not kept for longer than necessary.

- o Respect consumer rights to access their data, request its deletion, correction and their portability.

At the same time, we encourage companies to follow best practices in privacy protection that go beyond mere compliance with GDPR, such as:

- o Always ask for consent for the use of data for any marketing related practices, even if they could be considered a legitimate interest under GDPR.

- o Ensure that consumers can easily view and directly control which third parties have access to their data.

- o Ensure privacy related information is easily accessible and gathered in one single place, instead of scattered across the privacy policy, terms and conditions, etc, to make sure the consumer can get a good overview of how his/her data will be used and assess this prior to entering into any contract.

### Cybersecurity

The Directive on security of network and information systems (NIS Directive) obliges operators of essential services to put in place appropriate cybersecurity measures to avoid serious vulnerabilities in their systems. It is of the utmost importance that operators of essential services from the energy sector comply with the provisions of this Directive. Member States should also ensure a consistent implementation of this Directive, namely on the selection of 'operators of essential services' (e.g. in Germany, only companies that reach a threshold of 500.000 customers are identified as an operator of essential service).

While KEPKA supports CEER recommendations in the recent CEER report on cybersecurity, we believe that one more recommendation should be added, ie. manufacturers of internet of things devices such as smart meters should implement security by design and by default principles. This is because connected devices available in the EU are designed and manufactured without the most basic security features embedded in their software. In fact, EU does not have a proper legal framework to address the cybersecurity of the connected products that consumers buy. Therefore, a minimum set of security measures should be obligatory for all connected products as a condition for putting them on the market.

The lack of security of connected products represent a risk for consumers' privacy, property (e.g. if someone hacks a smart lock) and/or safety (e.g. possible risks when somebody misuses functionalities of electricity smart meters esp. the possibility to remotely disconnect the household. What happens if someone hacks your car while you're driving it?). These aspects on their own should be sufficient to force the European legislator to act and ensure their security. But the lack of security of connected products also represents a risk to society as these products can be used as part of a 'botnet' attack to take down critical infrastructures such as the power plant of an entire city (e.g. what if a hacker exploits the vulnerability of thousands of smart meters and turns them on and off uninterruptedly?). Our Belgian member, Test Achats, tested the security of a smart home. They installed 19 popular smart devices in the house (including a fridge, an alarm system, a thermostat, a printer, a children's tablet, a door lock, a speaker and a vacuum cleaner robot) and two ethical hackers found vulnerabilities in more than half of the cases just within 5 days.



## Artificial Intelligence

The shift towards Artificial Intelligence (AI) and automated decision making (ADM) will soon change the way in which markets and our societies function. Tasks and decisions are increasingly carried out by self-learning machines which execute orders autonomously. In the energy sector, AI is expected to play an important part of the smart grids to better manage the energy system with increasing share of renewables and predict peaks in demand and supply, using machine learning. From a consumer perspective, there are several areas where AI could make our lives easier. For example, AI could help optimise the household's electricity consumption based on automatic learning about the usual consumption of each individual household, and thereby increase the comfort in people's homes and make energy bills more affordable.

On the other hand, there are many questions, for instance how to ensure consumers are sufficiently protected when decisions are entrusted to self-learning and smart machines? How can we avoid exploitation of consumer biases? We also share concerns raised in the CEER consultation paper with regards to risks when something goes wrong, ie. if due to an algorithm the consumer ends up paying higher price, or the algorithm does not manage the temperature in the house sufficiently. There are many potential risks associated with the use of AI, including competition, price discrimination, lack of transparency and accountability, or loss of control over consumers' data.

Due to the lack of transparency of algorithms resulting in 'algorithm blackbox' consumers do not know how their personal data is analysed or by whom. In such an environment, consumers are highly vulnerable to being manipulated. This may lead to economic and social harm. For example, with the implementation of smart technologies, algorithms learn what is happening in the house. This could then lead to behavioural profiling, targeted advertising and possibly also to predicting behaviour that might be used to evaluate the creditworthiness of the consumer. Moreover, algorithms could be programmed to collude through the automatic adjustment of prices based on price monitoring technologies. This illustrates that consumers risk facing non-transparent markets, higher search costs and welfare losses.

Consumers should be sufficiently protected and have adequate rights to be able to reap all the benefits markets with AI/ADM can offer. Consumers' trust in AI can be supported by strong consumer rights, especially:

☒☒ Consumers should have a right to transparency, ie. companies providing services to consumers that are based on automatised processes should be obliged to provide meaningful information so that the consumer can truly understand the consequences of ADM. For example, in case of personalised pricing, consumers should be informed that the offer is personalised and on which main parameters this price is based. Before an automated decision-making process is carried out, consumers should have a right to be informed about what data will be processed by whom and for which purpose.

☒☒ Consumers should have a right to accountability. Whether an algorithm-based decision is accurate, fair, or discriminative can only be assessed if there is algorithmic control by those who have access to the data basis and can understand which and how decision criteria are applied. As a general principle, companies must be able to demonstrate that they comply with the law, such as rules on consumer or data protection, as well as rules on non-discrimination. Accountability also implies that companies must put in place technical options which give access to competent authorities allowing them to assess whether, for example, certain group of consumers is discriminated. At the same time, consumers should have access to justice if AI-associated risks materialise.

While horizontal legislation is in place, it seems to be insufficient for the digital area. For instance, EU rules which deal with pre-contractual information requirements, such as the Consumer Rights Directive, are out of date. Therefore, a thorough analysis is needed on whether EU consumer law as well as the sector-specific rules are fit for the AI/ADM age. Moreover, while the GDPR is in place, there are many questions with regards to its practical implications in the context of AI, such as how to ensure that AI only uses data that are lawfully obtained, relevant and limited to what is necessary for the particular purpose.

Increasing use of algorithms (esp. self-learning) will also require regulators to better understand whether, and if so in which circumstances, algorithms can harm consumers and competition. This may become even more challenging as potential harms are more difficult to detect. Regulators in different sectors (e.g. consumer protection, energy, data protection and competition) need to act within their competences to ensure that these technologies are designed to respect EU laws e.g. by making companies accountable for the programming of their algorithms in a way that breaches their legal obligations.

## Personalised pricing

The rollout of new technologies such as smart meters will result in increasing amount of data that will create the conditions for personalized pricing, a form of price discrimination. If not transparent, personalised pricing may result in lower consumers' trust in the market, growing perception of unfairness and thereby increasing disengagement of consumers in essential markets that are already falling short.

Surveys show that consumers are reluctant to be subject to price personalisation. This is because price personalisation requires a company not only to constantly monitor the activity of their customers, but to build detailed profiles of them. While some consumers might find this useful for instance to obtain personalised offers, the wide majority are sceptical of businesses data practices. For example, according to survey on attitudes toward data collection and use done by our UK member Which?, only a small proportion of the UK population (13%) are unlikely to be concerned about the potential ways in which the data could be used. On the contrary, the wide majority feels powerless about how firms use their data, including for the purpose of tailoring offers. In a survey carried out by Citizens Advice, 84% of people said they felt uncomfortable with personalised pricing in essential service markets and 3 in 4 people say that if they encountered personalised pricing they wouldn't trust their provider.

It is particularly important to consider the impact of personalized pricing on vulnerable consumers because they are often less sensitive to price increases and could pay significantly more for services in a price personalisation scenario. Regulators should therefore analyse the distributional impact of personalised pricing, especially in markets with low switching rates and long-term contracts where inactive consumers can suffer loyalty penalties.

Although personalised pricing is not prohibited per se under EU law, different areas of law should be considered, namely competition law, data protection law and consumer law. Further analysis is provided in BEUC's contribution to the OECD.

#### Bundled offers

Bundled offers are becoming commonplace in different sectors. Although these offers can provide good deals, they can also lead to complex contracts, lack of comparability, higher bills and lock-in situations. In many cases, additional products or services are provided by service providers different from the energy retailer, and therefore raise questions around the role of different regulators and in terms of enforcement of different laws. Personalised pricing may add yet another layer of complexity and increase consumer's inertia as it will be even more difficult to compare and choose the best offer for the consumer.

Bundling is likely to increase with new technologies (such as PV panels or batteries), new business models and innovative services such as demand side flexibility services. Clear responsibility schemes and redress mechanisms capable of acting across industry sectors are needed to ensure the efficient treatment and settlement of disputes involving service providers from different sectors. For instance, demand side flexibility will rely on enabling technology such as smart appliances and smart meters. Questions such as who is responsible if something goes wrong with my smart washing machine (is it the product manufacturer or the software provider?) will arise. Consumers should be able to get answers to their questions from a single contact point and should not have the responsibility of identifying where the fault comes from.

#### New intermediaries

While the Clean Energy for All Europeans package addressed some new business models and initiatives, there are still many question marks. For instance, while redress and alternative dispute resolution are rather clear when it comes to a customer-supplier relationship (including disputes involving citizens or renewable energy cooperatives and landlord-tenant contracts), the National Energy Ombudsmen Network (NEON) points out the lack of clarity in case where the contractual relationship involves other players (for instance in case of peer-to-peer exchange through platforms, consumers may not be able to easily access redress) and lack of consumer rights due to outdated legal framework (eg. ADR Directive does not apply to C2C disputes).

Studies from other sectors indicate similar challenges. For instance, the European Commission's online peer-to-peer (P2P) study showed that 60% of consumers are not aware or are uncertain of their rights and responsibilities in consumer-to-consumer transactions or about who to turn to when something goes wrong. In addition, about 40% of users who offer their services on such platforms say they do not know or are not assured about their rights and responsibilities. Based on experience in other sectors, several BEUC member organisations highlighted the need and the challenge of enforcing key pieces of legislation better, such as the Unfair Commercial Practices Directive. Last but not least, our UK member, Citizens Advice, has recently published a report looking at some additional risks a smart future could pose to consumers.

7. What would a "whole energy system" approach look like – would this unlock more benefits of the digitalisation of the energy system?

Whole system should encompass all energy resources, considering gas and electricity, all types of generation and storage, but also demand side response and the often forgotten energy efficiency. In simple terms, digitalisation (through greater monitoring, automation, and AI for example) brings the opportunity to optimise across all these resources and help us make the most efficient and outcome-focused decisions. This can indeed be a game-changer for the energy sector as it can lead to increased efficiency and reliability of the energy system, better integration of renewable energy sources as well as improved supply assets and infrastructure by running better for longer.

Whole system approach is therefore necessary to achieve well-functioning energy market that is decentralised and digitalised. While the process of digitalisation is advancing in some parts of the energy value chain (such as in transmission networks), more is yet to be done at the generation, distribution and consumer sides. For further details, please, see our responses to questions above.

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

KEPKA agrees with CEER's analysis and believes it is essential for energy regulators to have sufficient resources to fully understand the impact of practices and agreements that shape digitalised energy markets. Regulators should be able to keep up with technological changes by monitoring the cost of essential services for different consumer groups, maintaining oversight of digitalised energy markets and identifying need for further consumer protections. At the same time, regulators should further integrate behavioural science into their daily work which can help them to design and test remedies with behavioural market failures to help consumers make better choices and prevent companies from exploiting consumer biases. Regulators should seek views of consumer organisations and increase cooperation with these organisations which will allow them to benefit from their knowledge, closeness to consumers and ability to enhance consumer awareness and engagement.

---

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

Regulators should pursue

---

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models (“sandboxes”). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Regulators should pursue

Please explain your choices to the above question in the comment box below.

The whole system approach will require energy regulators to act on different fronts. In our responses to questions above, we point out areas and issues which should be reflected in regulatory proposals by CEER. Below we list additional points on CEER's draft proposals:

First, strong market surveillance, law enforcement, as well as efficient redress tools must be put in place to contribute to an effective protection of energy consumers. Digitalised energy markets will also require a multi-disciplinary approach. Thus, it is necessary that the different competent authorities work together to provide a coherent and efficient response. Competition, consumer and data protection authorities as well as energy regulators should work in tandem. Competition policy should not be seen as an isolated policy. Especially in the digital environment, it is closely related to other EU policies. While competition policy seeks to protect the competitive process to ensure that companies can compete on the merits and therefore offer a wide range of innovative products and services to consumers, consumer policy is about ensuring that consumers are able to make informed choices and their free will is not manipulated by firms to generate an anti-competitive advantage over rivals or to unfairly extract more value from consumers (e.g. excessive data collection). The Clean Energy package aims to give consumers more choice, strengthen their rights, and enable everyone to participate in the energy transition. For this reason, it is important that there is a consistent approach in the enforcement of relevant laws. This is particularly important for the design of remedies, which need to be designed and implemented in full compliance with different areas of law. Moreover, the use of AI/ADM will also require strengthened cooperation among authorities across sectors - for instance data protection authorities, energy regulators and consumer protection agencies should work together to face the problem of information asymmetry and fairness of contractual clauses that provide the rights and obligations of the consumer vis-à-vis the supplier of the AI based service.

Secondly, energy regulators should closely monitor the impact of new offers and emerging business models on consumers and adapt protections to the needs of consumers where necessary. For instance, some consumers will be able to benefit from demand response offers while these offers may be less suitable for others. Therefore, regulators should ensure that especially consumers in vulnerable situations are well protected and supervise the market so that there are no unfair clauses for tariff changes. Offers should be understandable, transparent and comparable and regulators should monitor the impact of demand response offers and the occurrence of bill shocks. Robust compliance and enforcement of relevant legislation (e.g. GDPR) is essential to prevent unlawful selling or sharing customers' data. New services will also require strengthened cooperation among regulators, ADR bodies and other relevant authorities across sectors. This requires better coordination and information sharing among relevant authorities especially where cross-cutting issues arise.

Thirdly, further regulatory measures will be needed to unlock the benefits of digitalisation for all, not only to those who already shop around. A smart regulatory design can help ensure that regulatory compliance costs do not end up discouraging innovation. In some cases, other governance forms may be used where possible undesirable effects of innovation cannot be foreseen until it reaches the market. In certain sectors, the concept of 'regulatory sandboxes' is being explored as a tool that can help foster innovation. Sandboxes allow innovators to trial new products, services and business models in a real-world environment, without some of the usual rules applying. Examples of sectors where regulatory sandboxes have been established include the Fintech area of the energy market. In order not to compromise consumer rights and protections, criteria however need to be developed to guide the case-by-case assessment by authorities of whether a new product or service qualify to enter a sandbox. Such criteria should include the innovative nature of a product/service, a demonstrated impossibility or high unlikelihood to be developed without a sandbox, and clear benefits of the product/service for the consumers. Sandboxes should be limited in time and monitored throughout their duration. They should in no way serve as a shortcut to avoid regulation, nor should they be a means to change regulation on a permanent basis. We therefore believe that this activity should not be among priorities of NRAs.

Fourthly, we support the review of network tariffs which, in our view, should better reflect real use of the grid and consider increasing self-generation and demand-response as well as further electrification of the transport sector. More differentiated schemes that foster flexibility options of demand and supply, involving all electricity producers and consumers should be analysed. This analysis should include the distributional impact on different consumer groups and made transparent in order to safeguard fairness. Recent research on the concept of fairness in network tariffs commissioned by BEUC indicates that more and better understanding of the distributional impacts is needed especially at national level. Cost-reflectivity is a good principle of fairness, but far from perfect in practice. Many things come to play, so that is difficult to assess if a tariff is truly cost-reflective. A substantial part of costs cannot be directly allocated, therefore any claim to correct cost allocation implies a large measure of ambiguity. In view of these difficulties, other elements will need to come into play in order to make decisions on tariff structures. Moreover, the effect of forecast models and assumptions can be massive: good models and assumptions might help to understand better the effects. However, models should not be stand-alone decision-making tools. Many uncertainties will need to be considered also outside a model. The research also points out that designing tariffs that are fair to consumers is not a one size fits all. Many parameters come at play which will vary across countries.

Furthermore, we believe that some draft regulatory proposals by CEER need to be completed, for instance proposals on cybersecurity. While BEUC supports CEER recommendations in this area, we believe that one more recommendation should be added, ie. manufacturers of internet of things devices such as smart meters should implement security by design and by default principles.

Last but not least, we believe some draft proposals seem to overlap and will require adjustments:

o According to the draft proposal 7, NRAs should review network tariffs to ensure these are fit for the future. In our view, the

scope of this analysis should be broader than indicated in CEER's proposal and include also actions envisaged under draft regulatory proposal 9. Clarification is also needed on which tasks are for CEER and where ACER is better placed to take action.

o In terms of draft proposal 8, regulators should not only identify barriers to a level playing field for alternative technologies but also assess if consumers' protections need to be reinforced on these new marketplaces.

o Draft proposal 10 gives a mandate to DSOs to explore market-based procurement for flexibility services. However, we believe it is the task of the regulator to assess flexibility marketplaces and review network tariffs. NRAs should also analyse whether there is a level playing field for all players and technologies (including small households). Also, draft proposal 11 could be integrated under proposal 10.

Considering regulators' limited resources, below we indicate proposals 3-7 as those that should be prioritised. However, in our view, draft proposal 8 should also be among the key actions (as also explained in our response above).

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 1]

Regulatory proposal 3

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 2]

Regulatory proposal 4

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 3]

Regulatory proposal 5

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 4]

Regulatory proposal 6

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 5]

Regulatory proposal 7

10. Do you have any other general observations to make on the topic of this consultation paper?

N/A

---

## Survey response 60

### Contact details and treatment of confidential responses

Contact details: [Organisation][ <input type="checkbox"/>
---

Vattenfall
------------

Please, mark the box if you wish your response to be treated as confidential. [If you wish your response to be treated as confidential]
---

### CEER Public Consultation on Dynamic Regulation to Enable Digitalisation of the Energy System

1. What impact do you consider that digitalisation will have on the energy system and which are the most important?
---

Smart Meters are important for Vattenfall to help customers with better insights in their energy usage, a better functioning of the (local) energy market and can help to increase flexibility and energy security of supply.

Access to energy data, faster and more secure data communication, increased processing power and better algorithms to draw relevant conclusions from data (supported by AI and machine learning) are some of the major drivers of change to make the energy sector more efficient, fit in renewable energy and offer better solutions to customers. Digitalisation is also in many ways an enabler for managing major challenges facing the energy sector such as decarbonisation, increased use of variable renewable electricity sources, demand flexibility and smart grids.

In a more decentralised energy system, where power increasingly is produced from variable renewable sources connected at distribution level, digitalisation will help maintain system stability and support economic transactions in a cost-effective way.

Additionally, digitalisation could speed up the change in business model from selling electricity as a stand-alone product to integrating electricity in products, function and service offerings. I.e. if you buy an electric vehicle a favourable electricity contract with certain specifications will be included. Since the margins in the supplier business are small today this will require that suppliers either cut costs, find new revenues or both.

Already today there is legislation such as the GDPR with the important purpose of protecting individual's personal data. The proposed eprivacy regulation from the EU Commission, with the focus to protect personal data in electronic communication, will complement the GDPR. It is important that these regulations are well aligned and to find the right balance, so that the regulations help protect personal data and at the same time don't limit new business and opportunities.

This also means that coherent regulation is needed for all relevant sectors and irrespectively where the needed raw data is generated. In addition, regulation must ensure that a clear distinction is upheld between commercial players and monopoly business (DSO:s and TSO:s).

2. What are your views on the changes for the energy system highlighted in chapter 2 of the consultation paper: a. Increases the productivity of the existing system; b. Enables new products and services that alter electricity demand; and c. Brings new digital marketplaces that transform the way the sector transacts? And are these the most relevant?

We regard the following changes (in priority order) as the most important and relevant for the energy system:

(b) Enables new products and services that alter electricity demand and creates new opportunities for customers. This is already happening, i.e. with new players that offer automatic switch of supplier to keep the customers' electricity bills as low as possible. New centralised datahubs with a more efficient power of attorney management will make such services easier; datahub, new smart meters with fine-grained remote reading (used for settlement) and near real-time local access to measurements values (not used for settlement) in combination with connected appliances that can measure their individual consumption and remotely controlled will enable demand side management. Peer to peer solutions and prices that follow the availability of renewables, give the customers the possibility to act on prices and to get the best offer.

(a) Increases the productivity of the existing system. As mentioned above digitalisation can automate many interactions that are managed manually or semi-automatically today, thus decrease the cost-to-serve. Higher data quality (i.e. electronic remote reading of measurement values instead of manual reading on site) will mean less need to correct mistakes.

(c) Brings new digital marketplaces that transform the way the sector transacts. This is an important development, but our estimate is however that c will take longer than a and b. One example could be peer to peer solutions based on block-chain technology, where prosumers trade with one another directly and another digital market place for flexibility trading outside established markets.

3. In your view, what are the most important value propositions for consumers, which should be prioritised?

Local optimisations for a more balanced national system is important. Also of high importance from a customer perspective is convenience/simplification, i.e. the possibility to be more active in the electricity market, demand flexibility, own production) in an easy way that doesn't include time consuming actions. Digitalisation will make it possible for market actors such as suppliers, aggregators, manufacturers of smart appliances and Energy Service Companies (ESCO) to automatically manage the consumers "electricity business" according to certain pre-set conditions (i.e. savings, indoor climate, comfort levels, carbon emissions etc). Digitalisation will also make it possible to visualise the outcome of the energy management for the consumer.

With more access to data a service company could also make sure that customers have appliances that are optimal for the agreement. The service provider could also manage charging of EV:s, proactive maintenance on boilers, heat exchangers used for district heating, prosumer owned powerplants (especially if sensors are integrated) and so on.

A possible further development are so called integrators (multiple service providers) that offer to manage several similar low interest infrastructure services (i.e., electricity, gas, district heating, water, loans, financial services, insurances, telecom services).

4. In your view, will digitalisation lead to more consumer participation in energy markets? Please provide your reasoning.

It is very likely that customers will become more indirectly active ("active by proxy") by outsourcing their energy management to a service company (i.e. electricity supplier, ESCO, aggregator or a company that combines several of these roles). Aggregators are needed since the amount of potential contradictions (i.e. local grid constraint and system wide energy markets) are complex. Therefore, it is important that regulation doesn't create barriers for such service companies to evolve. Current legislation serves the purpose of protecting consumers against unserious actors well, which is important for the customers' acceptance of new services.

5. What are the key enablers needed to unlock the benefits of digitalisation for consumers?

- Smart meter and energy consumption information in near real-time.
- Digital infrastructure with common standards. This is a challenge since much of the infrastructure and appliances are developed in sectors outside the energy business.
- Real market-based incentives both for the suppliers and consumers. One incentive could be cost savings, higher price volatility could be an enabler for demand flexibility. Decreased carbon emissions could be an incentive in energy systems with a large share of production based on fossil fuels. The incentives should also include the (possible) congestions in the network.
- Common rules and the same interpretation of legislation concerning digitalisation on all European markets. Digital services are independent of national borders and are characterised by economy of scale. Different regulation in different markets will drive unnecessary costs without giving any benefits to customers. This could hamper innovation and slow down rollout of services in all markets.



6. What are the main risks for consumers arising from digitalisation of the energy sector?

Internal system errors as well as hacking could have much more negative consequences than today and could take longer to correct. To get access to the new services the customer gives suppliers access to his/her data. Providing secure systems and handling personal data carefully is therefore of high importance to Vattenfall. It is of utmost importance that all actors, new and current, make sure that digitalisation is done in such a way that the digital systems both become reliable and robust in themselves and able to withstand cyberattacks from the outside. Already today there is EU legislation to increase cyber security and personal data protection (GDPR) that protects the customers well.

7. What would a “whole energy system” approach look like – would this unlock more benefits of the digitalisation of the energy system?

Digitalisation affects all parts of society, not only the energy sector. Much of the “basic” technology will happen outside the energy sector. To achieve economy of scale, innovation and rapid rollout of digital solutions, it is important to minimise the need for special standards and regulation within the energy sector and instead rely on digitalisation legislation covering all relevant areas, as the GDPR does.

Within the energy sector digitalisation will create opportunities to solve “old” as well as “new” problems in new ways. To be able to use the most cost-efficient solution over time, the network operator needs to have a full set of tools at its disposal. Digitalisation can help balance demand, supply and capacity on the grid and help these work together more efficiently.

There is a risk that a player who tries to use digitalisation to solve their “own” problems will create problems for other players. One example: demand flexibility resources could be used to solve problems in the distribution grid, transmission grid, for the system responsible or for the electricity market. The problem is that if you only focus on solving problems in one of these sectors you can introduce problems in the other sectors, as well as denying them flexibility resources that has already been used for another purpose. But with a whole energy approach, where digital tools are used to identify how flexibility resources should be used to create the largest benefits for the system as a whole, this sub-optimisation problem can be managed.

8. Do you agree with the analysis presented here on the key areas in which energy regulators should focus?

In general, we agree with the analysis and the key challenges identified. But we have in our answer highlighted areas that should be prioritised from a supplier perspective and tried to put more emphasis on some areas that we think could be developed further. It is also important to make use of existing regulation, to evaluate GDPR before making new legislation.

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [1. DSOs to focus on the quality of their network data and data on distributed energy resources connected to their networks within the relevant legal framework, to ensure they utilise data effectively where this will improve efficiency of their planning, operations and investment, and where necessary improve the accuracy of their records. It is important that network data collated is interoperable and the best institutional arrangements are determined for holding the data. Learn from those who move first in this area, for example through developing digital twins.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [2. Where new entrants (whether distributed resources or new retail business models) are at a competitive disadvantage through lack of access to industry data, consider how to level the playing field. For example, if it is difficult for storage to know where best to connect, or the extent to which revenues may be available in future from providing constraint management solutions, so DSOs should consider providing interactive maps and/or network data and models, without endangering security and avoiding any misuse potential. If it is difficult for new entrants to develop products due to lacking consumer data that incumbents already have for their customers, consider provision of aggregated or anonymised data, ensuring compliance with the GDPR and protection of commercially data of third parties.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [3. For data privacy and competition issues, energy regulators should work with the authorities responsible for data protection and competition to ensure mutual understanding of the issues in the energy sector and to ensure energy companies adopt best practice.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [4. For cybersecurity, as a minimum, take forward the recommendations in the recent CEER report, including that: • Even non-Operator of Essential Services (OES) actors should apply cybersecurity standards as close as possible to those of OES. • NRAs should encourage meeting compliance with the Directive on Security of Network and Information Systems and provide support in transposing horizontal regulation into sector-specific best practices. • NRAs need to be prepared to monitor and evaluate cybersecurity expenditure, particularly of regulated entities. • Management in energy-sector entities, including NRAs, should provide clear guidance on cybersecurity governance, including, the proper place and role for the chief information security officer (CISO). • TSOs/DSOs/Suppliers should have a cybersecurity strategy and they should set clear and effective cybersecurity measures prior embracing new technologies such as Cloud computing or systems for the handling of Big Data. • CEER and ACER may promote cultural change through activities such as partnerships and awareness campaigns.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [5. NRAs to monitor experience with new products and consider whether additional steps to empower or protect consumers are needed, and energy regulators to cooperate with other regulators through PEER to promote effective consumer protection. CEER to publish a summary of experience across Europe once there is sufficient experience to learn from, considering also lessons from telecoms and financial services markets where relevant. Particular attention is merited on distributional issues – whether some parts of society are being “left behind” by developments.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [6. Regulators to consider best model for regulation of intermediaries including responsibility for balancing and, where applicable, capacity requirements where they are selling energy. Where not already in place, consider arrangements for a default supplier for inactive customers.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [7. As part of their regular processes, NRAs to review network tariffs to ensure they are fit for the future. Active customers who utilise new technology must receive cost-reflective signals reflecting the costs and benefits they bring to the network. All consumers, including those who are unable or choose not to engage, should pay a fair contribution towards the fixed costs of the system.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [8. Regulators to monitor development of platforms and new marketplaces and seek to establish adequate oversight and feedback from stakeholders. Where barriers are identified, regulators to promote a level playing field for alternative technologies.]

Regulators should pursue

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [9. As part of their regular processes, NRAs to review network tariff regulation to remove capex bias and encourage the use of flexibility services where economic. CEER to monitor progress in implementing the recommendations of the Conclusions paper and collate best practices.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [10. DSOs to explore market-based procurement for flexibility services, considering use of a flexibility marketplace where efficient and reviewing whether network tariffs send the right signals for network users.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [11. DSOs and TSOs to review product definitions for grid services which make most efficient use of the services that distributed resources are able to provide without unnecessary restrictions (such as high minimum size requirements), as far as practical consistent across markets.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [12. Regulators to review progress on TSO/DSO relationship in a more decentralised system and where necessary engage more closely in discussions to define respective responsibilities. ]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [13. NRAs to strengthen their expertise, skills and capability in the digital realm.]

9.1 Which of the specific draft regulatory proposals should regulators pursue? Which should they not undertake? In both cases, please explain the reasoning for your answer. [14. Regulators develop best practice approaches to enable trials of new products and business models (“sandboxes”). CEER to provide a forum for exchange of learning from both EU-funded and national trials and studies and to feed back into the parameters for new trials.]

Please explain your choices to the above question in the comment box below.

There are several draft proposals regarding cyber security and data privacy (3, 4). We agree that these are essential for the digitalisation of the energy system, but also think it is important that the energy sector doesn't develop special regulation on these areas. It's therefore of utmost importance that the regulators focus on influencing general regulation for cyber security and data privacy rather than trying to develop special legislation for the energy sector. We also think that it is important to evaluate and learn from current regulatory initiatives such as GDPR and eprivacy before launching new ones.

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 1]

Regulatory proposal 6

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 2]

Regulatory proposal 8

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 3]

Regulatory proposal 3

9.2 Bearing in mind that resources will not allow progress on all actions simultaneously, please indicate your top 5 priorities for action by regulators in the near term. [Rank 4]

Regulatory proposal 4

10. Do you have any other general observations to make on the topic of this consultation paper?

Innovation is important both to the actors on the free market and to the DSO in regard to its role and responsibilities.

A major consequence of digitalisation is that the boundaries between different business areas (especially low interest background services such as electricity, energy management, telecom, financial services, insurances and so on) become blurred. They will in part use the same data, add offerings from other business to their own and create bundled service offerings from all these sectors. It would therefore be counterproductive, increase costs and make innovation more difficult if regulators would develop separate regulation for digitalisation within the energy business. A more constructive approach would be to focus on general digitalisation legislation covering all the above-mentioned areas, such as GDPR and the eprivacy regulation. For this kind of legislation special consequence analyses are needed to assess the impact on the energy business. It is also important to evaluate existing legislation before introducing new and to put trust in the market.

Existing price comparison tools would benefit from including more aspects than price, for example simplicity, time-saving and sustainability, to give the customers a more complete picture of the service offered. It would also be good to clarify who is responsible if customers are erroneously switched on the basis of bad data.