ERGEG's Public Consultation Paper on Draft Guidelines of Good Practice on Regulatory Aspects of Smart Metering for Electricity and Gas

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A EURELECTRIC Response paper

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EURELECTRIC welcomes the initiative taken by ERGEG in drawing up its draft guidelines of good practice on Regulatory Aspects of Smart Metering and is pleased to contribute to the consultation in a joint-position of its suppliers and DSOs.

EURELECTRIC sees Smart Metering as a promising technology that can substantially empower electricity customers to become active managers of their consumption and potentially production. By the same token, we believe that smart meters will greatly contribute to a more efficient distribution grid management, as well as improving the accuracy, efficiency and speed of data exchange between market actors, system operators and customers.

EURELECTRIC considers that these guidelines come at a timely moment, since national authorities and regulators are currently in the process of implementing the requirements set by the recently adopted 3rd Electricity Directive.

EURELECTRIC welcomes ERGEG's suggestion that the complete value chain should be taken into account: this is not only important for the cost benefit analysis but this should also be taken into account when defining the smart meter and the related market processes. The assignment of roles and responsibilities to different market parties should be clarified in order to minimize costs and maximize benefits. For this, all stakeholders should be involved in the discussion.

In particular, EURELECTRIC strongly supports the approach chosen by ERGEG in clearly separating essential services from optional services. As emphasized in its earlier position papers[1], EURELECTRIC thinks that this is an appropriate way to reconcile cost-efficiency with customer choice and free markets. We feel that building too many functionalities into the meter may for example make it harder to upgrade services in the future. Moreover, any system should separate those benefits and costs which accrue to all customers from those which accrue to certain customer groups, such as the 'energy aware'. This principle is central in ERGEG's guidelines.

EURELECTRIC fully agrees that setting the minimum requirements is the correct starting point for harmonisation of Smart Metering in the European market and recommends that ERGEG strongly supports the development of open standards for smart metering.

EURELECTRIC is convinced that standardisation will be crucial to ensure maximum interoperability and hence increase cost-efficiency and improve competitiveness in the market. In this regard, EURELECTRIC fully appreciates that ERGEG has been conducting an active watching brief on the draft smart meter functionalities developed under the ESO

[1] - EURELECTRIC's Position Paper: Building a European Smart Metering Framework suitable for all Retail Electricity Customers
- EURELECTRIC Networks Committee paper on "The Role of DSOs as Information Hubs

Mandate 441. It is indeed highly important that services or functionalities defined by ERGEG are in line with ongoing work by Mandate 441, work in the Open Meter Project and in the European Commission's TF Smart Grids. There should not be any conflicts between functionalities defined by these parties.

Moreover, EURELECTRIC feels that investments and the need for standardisation are critically interlinked. The roll-out of Smart Meters in the European Union will imply large investments in new assets and processes on the one hand and stranded costs on the other hand (current meter park and associated systems). Given the scope of investments at stake, EURELECTRIC sees a clear need to avoid being locked in either a technology or limited functionalities as this would result in additional stranded costs in the future.

Based on the knowledge from the Nordic experience, EURELECTRIC would like to point out also that a full rollout should not cause major stranded investments for the companies that already have installed Automatic Meter Reading systems which are not fully compliant with all minimum requirements proposed by ERGEG. National energy regulators will have an important role to play in ensuring a fair balance between a consistent level playing field (i.e. minimum requirements) and the need to minimise stranded assets. Where unavoidable, companies should be either given a transition period or a compensation for the lost assets.

Still with a view to avoid sunk costs in the future, EURELECTRIC encourages ERGEG to determine EU harmonised standards and apply them, as soon as possible, for all new meter installations within the European Union. In this way, the technology shift would be started immediately without any additional drowned costs by *wrong* investments. The minimum requirements should be designed in the way that in the future, the new installed meters do not - under their lifetime of approximately 10-15 years - create bottlenecks, sunk costs or hinder the development in the electricity market.

Finally, whilst ERGEG's Guidelines of Good Practice define a helpful set of standards for regulators, it remains at a high level of details when it comes to the truly regulatory aspects of smart metering, which EURELECTRIC expected to be the core of the document. We would recommend that a final version of these GGP comments on how best and through which instruments (self-regulation, codes of practice, regulatory oversight) one should regulate the smart metering roll-outs and systems in the EU. EURELECTRIC also regrets that the EU wide draft guidelines do not specify that the Smart meter roll-out should be grid-tariff financed and the costs recovered considering the widespread benefits of Smart meters to all actors of the electricity value chain and even beyond. In its final guidelines, ERGEG could also outline some recommendations for the much-needed economic incentives which will be critical for investment in Smart meters.

- **Detailed comments to suggested minimum customer services**

The focus of these GGP is on the customer and on establishing both the minimum and the optional services that smart meters should enable market actors to offer to their customers. This inevitably raises questions about how the complex roles and responsibilities should best be divided among different stakeholders. EURELECTRIC believes that guidance should be provided on the roles of competitive and regulated participants.

In this regard, a clear distinction should for example be made between metering services (e.g provision of metering data etc.), often regulated, and post-metering services (e.g. home automation etc.) that should be open to market competition. Also it should be clear that the focus is on the smart meter alone, leaving out other possible elements of a metering system on customer premises.

Recommendation 1. Information on actual consumption, on a monthly basis

EURELECTRIC is convinced that informing the customer about his/her energy consumption will be crucial to incentivising the customers to actively participate in the market and be more energy efficient. It will be essential that customers are informed about their consumption and net production as well as their costs and earnings if they are to be able to regulate their consumption better.

EURELECTRIC therefore supports giving accurate energy consumption information on a regularly basis to those customers who have a smart meter and supports ERGEG's recommendation that this information would not necessarily be presented through monthly billing. However, since the 3rd Electricity Directive does not define what 'frequent information' means, it thus leaves for Member States and/or NRA's to decide on the minimum frequency (monthly, bimonthly, quarterly). We believe that the subsidiarity principle should be respected within the boundary as proposed by the European Commission in their interpretative notes (i.e. not less frequent than once a month). Moreover, privacy is an issue that must not be disregarded when defining the degree of detail in which consumption information is supplied.

As a result, customers could be offered to receive bills based on their actual consumption on a monthly basis, but suppliers should be allowed to continue to also offer to their customers the possibility to opt for an equally spread payment scheme ("budget billing") with an annual reconciliation bill.

EURELECTRIC would like to emphasize however, that this customer feedback should be delivered in a cost- effective and standardised way, for example by using internet and mobile solutions, not necessarily through the use of an in-house display. Market operators should be able to implement and offer to their customers the feedback service or device they consider as the most appropriate solution.

Apart from the billing and customer information purposes, EURELECTRIC believes that the frequency of the meter readings will be essential for innovative products offered by suppliers and in the medium term for demand-side-management services. The basis for these innovative products and services lies in the upstream processes. In this regard and with a view to set up the most future-proof infrastructure, EURELECTRIC considers that smart meters should in the first place be technically able to perform on the basis of the same interval as applied in the wholesale market. This will be important for the balancing and settlement processes handled by Balance Responsible Parties and System Operators. In this way, aggregators would be able to participate in the bidding process on wholesale markets and would contribute to the future synchronisation of European wholesale and retail markets. In this regard, and where this does not already exist, 15 minute meter reading should be recommended for systems reasons, once this can be implemented in a cost effective way. The actual use of this service will however be left to market dynamics.

EURELECTRIC advocates a customer centric model, where the supplier is the main point of contact with the customer. In view of this, and given the need to provide both cost and consumption information for the customer together, we recommend the supplier takes on this responsibility. Nevertheless, there is a clear need for thorough assessments to be carried out on a national level, to determine how roles and responsibilities, with regard to such smart meter-related services should be assigned, including data ownership, security and privacy aspects.

Recommendation 2. Accurate metering data to relevant market actors when switching supplier or moving

EURELECTRIC supports this functionality and feels that remote reading should definitely be a minimum requirement for the new meters to be installed, as it is in principle more efficient and accurate than manual meter reading and as it facilitates swift and reliable switching.

Recommendation 3. Bills based on actual consumption

Smart meters will allow for improvements in the accuracy and efficiency of information flows between DSOs and suppliers, enabling customers to be billed based on their actual consumption and contributing to the correct functioning of retail electricity markets. Settlement and balancing arrangements should no longer be based upon estimated volumes, but on the real ones.

However, suppliers should be allowed to also offer to their customers the possibility to opt for an equally spread payment scheme (“budget billing”) with an annual reconciliation bill. Information on actual consumption on a frequent basis will in that case be made available in another way.

Recommendation 4. Offers reflecting actual consumption patters

The availability of interval meter reading would allow suppliers to considerably improve the load profiling of their customers and enable them to customize their commercial offers so that they reflect actual consumption patterns.

As mentioned above, EURELECTRIC believes that optimising the use of electricity and increasing customers' participation in the market requires metering in shorter intervals. What data and how it will be made available to customers should be left to arrangements between the supplier and the customer – and might, where appropriate, be communicated to the DSO. This is important since location, the typical pattern of consumption and the nature of the relevant wholesale market will affect how consumption profiles can be impacted using market mechanisms.

EURELECTRIC notes that the potential of using shorter intervals (see comments on recommendation 1) as a way to stimulate customers' energy efficient behaviours or prompt demand response depends on attractive business models and innovative products (e.g. dynamic pricing) becoming available. Smart meters should hence be technically equipped to enable market operators to offer more intelligent products.

Moreover, the number of different Time of Use (ToU) registers needs to be defined. Clearly, the absolute minimum will be two. Given the increasing share of intermittent power sources, more ICT and demand flexibility (e.g. EVs, electric heating and cooling), Time of Use should be based on actual demand/supply (short term price signals) rather than time. Different conditions on different markets call for different registers. For example, local conditions based on summer/winter season, power mix and load curves can make it relevant to have different time of use registers, both in terms of number and - naturally - price level. This issue (item 4 b) should be further assessed and a uniform solution at EU level is probably not an appropriate solution.

For customers that both generate and consume electricity, EURELECTRIC emphasises that the energy should be measured separately in both directions to maximize the use of different prices for input and output (consumption and generation should be measured separately and not only the net exchange with the grid). Small customers may have an option to "net" the different directions (feed in versus take off) during each month. This means that the metering is "netted" monthly but only on the invoice. This "derogation" should however not be implemented or be abolished if its leads to market distortions. We also see that increase of the amount of consumers who also have own production may lead to a change in tariff structure towards more fixed or capacity related network tariff components and/or tariff components based on demand.

Recommendation 5. Power capacity reduction/increase

EURELECTRIC is strongly convinced that in the future, demand-side management mechanisms will become essential to enhance Europe's energy efficiency. Incentivising changes to energy use to off-peak times will play a key role and smart meters should enable such changes.

Besides, it is important to remember that Member States have different welfare policies. For example, in some countries e.g. disconnecting due to non-payment is not considered a social problem, because there are rules that postpone disconnection in the case of vulnerable customers. However, we agree that remote disconnection and reconnection is useful especially for short term rental properties and in case where those who can pay won't pay.

In the same vein, another important point is the possibility for suppliers to collect debts through pre-payment functions embedded in smart meters. This service which can contribute to enhance customers' awareness on their electricity consumption and to prevent high electricity debts, should be regarded as a basic requirement and is likely to be more prominent in the context of the turndown of EU economies.

EURELECTRIC sees it as essential to make a distinction between load management based on commodity price signals (which can in some cases improve the overall efficiency of the energy system) and load management for an enhanced operation of the grid. In terms of demand-side management, we indeed expect steerable devices on the customer's side (via a Home-Area Network) to contribute much more to demand-side management than the capacity reductions induced directly by Smart Meters.

EURELECTRIC would very much look forward to discussing this issue further with ERGEG to understand better the exact scope and implications of this functionality. Each market Regulatory authority will need to specify clearly which organisations will be responsible for this functionality and what services this party can deliver to other stakeholders.

Recommendation 6. Activation and de-activation of supply

EURELECTRIC considers indeed that remote de-activation and re-activation should be part of the minimum functionality of smart meters as this will strongly enhance operational efficiency of both DSOs and suppliers. For obvious reasons, these functionalities should be activated by DSOs and suppliers.

Recommendation 7. Only one meter for those that both generate and consume electricity

EURELECTRIC deems it essential that smart meters are able to separately measure the import, export and net consumption of electricity. Many benefits would accrue from this approach:

- Having a separate measurement of export is useful for the attribution of green power certificates or CHP certificates, sales of the produced energy, balancing of the production portfolio.

- Having a separate measurement of the gross export is useful for the measurement of achieved energy savings; the minimum supply of green energy; transparent billing, social public service obligations and forecasting and balancing of the demand portfolio.

-Having a separate measurement of net exchange with the grid is useful for compatibility with storage and attribution of labels of origin.

Given the operational complexity of this functionality, EURELECTRIC would very much look forward to discuss this issue further with ERGEG.

Recommendation 8. Access on customer demand to information on consumption data

EURELECTRIC considers that one should distinguish between the direct access to **raw data** and access to the **data that has been checked and verified**. In most Member States, this is done by the DSO or a meter data company. It should always be clear to the customer who has access to his data and what is done with it. We also note that integrity, privacy and security issues between market actors regarding consumption data are complex and require detailed analysis, in particular insofar as they can act as a barrier to the integration of Europe's retail markets.

When it comes to checked and verified data, an important question is also about how often these values shall be reported and updated on e.g. a customer web portal. For example, the cost of updating hourly values daily on portal might be much lower than updating the portal with the same values real time.

- **Comments to suggested optional customer services**

EURELECTRIC would like to point out that the optional customers services below should not be narrowed down to smart metering services as they are likely to be provided through other systems and hence should not hinder roll out of smart meters which do comply with the minimum customer services.

Recommendation 9. Alert in case of non-notified interruption

EURELECTRIC supports this being an optional service. Measurement data from the grid and its customer connection might for example help DSOs in their analysis of the development and reasons of component failures and grid outages.

Recommendation 10. Alert in case of high energy consumption

EURELECTRIC recommends leaving this to market conditions. It should be up to suppliers and ESCO's to offer such services to customers, in particular because it is very much depending on the types of products the customer has chosen.

Recommendation 11. Interface with the home

Smart meters will open new opportunities for end-customers to manage their energy consumption. In particular, we believe that home-automation will offer the ability to customers to control individual appliances in response to the information obtained from the meter data.

How the interface between the meter and the home should be organised, should however be left to market conditions. It should be up to suppliers and ESCO's to offer such services to customers. Likewise, it should be customer's choice to decide whether this information should be available to third parties.

Recommendation 12. Information on Voltage Quality

EURELECTRIC supports this being an optional service.

Recommendation 13. Information on Continuity of Supply

EURELECTRIC supports this being an optional service.

- **Comments to other recommendations**

Recommendation 14. When making a cost benefit analysis, an extensive value chain should be used.

A thorough Cost Benefit Analysis must be a prerequisite in order to evaluate the cost recovery and the distribution of incentives resulting from both the roll-out of smart meters and the implementation of specific services. EURELECTRIC supports this recommendation for it to cover the whole value chain. 'Narrow' Cost-Benefits Analyses which only focus on the costs and benefits of smart meters for DSOs, and neglect costs and benefits for[2], customers, suppliers, balance responsible parties, producers,

[2] Looking at the listed advantages of smart metering, it was felt that profiling, data aggregation and balancing were not only relevant for distributors but also for suppliers.
In the case of profiling and data aggregation, the availability of interval metering for customers connected to the distribution network will allow suppliers to considerably improve the load profiling of their customers. As for balancing, accurate data on customers off-takes will allow suppliers/shippers to accurately balance their position.

transmission system operators, aggregators, ESCOs and society as a whole should not be conducted.
If in some countries the benefit over the whole value chain is lower than the costs for a full roll-out, the country should be free to stay in a market driven roll-out for those customers that can create benefits.

Recommendation 15. All customers should benefit from smart metering

EURELECTRIC supports this recommendation in particular with respect to the 80% target as set out in annex I of the 2009/72/EC Electricity Directive. However, a number of impact assessments and market studies show that only part of the customers may actively follow their consumption and adapt their behaviour/consumption pattern on the basis of the information and price signals offered via smart metering. Thus, less proactive customers might experience less extensive benefits despite the gains obtained at both the system and the society level as outlined in recommendation 14 of the ERGEG consultation document.

Recommendation 16. No discrimination when rolling out smart meters

EURELECTRIC supports this recommendation.

Recommendation 29. Customer control of metering data

EURELECTRIC fully concurs with ERGEG's stance that 'the key is that the customer must be the one who decides who should have access to what data and when.' However, we feel the document is weaker for the fact that it does not give much detail as to *how* this principle should be upheld. Leaving this task up to the 'national agencies dealing with privacy issues' could be considered insufficient. In our view, it should be specified in either primary/secondary legislation or in the licenses or mandates issued to supply or distribution companies, who is the owner of data. We feel ERGEG should encourage national Regulators to ensure a code of practice is drawn up at a Member State level on how data is safeguarded by those who the customer decides should have access to it. The DSOs and suppliers who do have access to it should then live up to the code of practice. At least the following privacy & security fundamentals need to be addressed, based on a risk analysis:
- End-to-end security;
- Privacy by design.

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