



Guidelines of Good Practice on Regulatory Aspects of Smart Metering for Electricity and Gas

Evaluation of responses

**Ref: E10-RMF- 29-05a
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INFORMATION PAGE

Abstract

On 21st June 2010, ERGEG launched a public consultation on Draft Guidelines of Good Practice (GGP) on Regulatory Aspects of Smart Metering for Electricity and Gas (Ref: E10-RMF-23-03). The draft GPP outlined a number of recommendations focused on customer services, roll-out of smart meters, cost benefit analysis and data security and integrity. The recommendations aim to present guidance regarding the European Commission's 3rd Energy Package provisions regarding the installation of intelligent metering systems.

This document accompanies the final GGP and provides the evaluation of responses to the public consultation on the Draft GGP. Annex 3 provides a list of the respondents and a detailed evaluation of the responses received.

Target audience

Energy suppliers, traders, those that both generate and consume electricity, gas/electricity customers, gas/electricity industry, consumer representative groups, transmission and distribution network operators, Member States, academics and other interested parties.

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Related documents

CEER/ERGEG documents

- “ERGEG Final Guidelines of Good Practice on Regulatory Aspects of Smart Metering for Electricity and Gas”, February 2011. Ref.E10-RMF-29-05, http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_CONSULT/CLOSED%20PUBLIC%20CONSULTATIONS/CUSTOMERS/Smart%20metering/CD/E10-RMF-29-05a_GGP_SM_EoC_8-Feb-2011.pdf
- “ERGEG Public Consultation Paper on Draft Guidelines of Good Practice on Regulatory Aspects of Smart Metering for Electricity and Gas”, June 2010. Ref.E10-RMF-23-03, http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_CONSULT/CLOSED%20PUBLIC%20CONSULTATIONS/CUSTOMERS/Smart%20metering/CD/E10-RMF-23-03_Paper.pdf

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- “EREGEG Position Paper on Smart Grids. An EREGEG Conclusions Paper” June 2010. Ref: E10-EQS-38-05, http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_CONSULT/CLOSED%20PUBLIC%20CONSULTATIONS/ELECTRICITY/Smart%20Grids/CD/E10-EQS-38-05_SmartGrids_Conclusions_10-Jun-2010_Corrige.pdf
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- “European Energy Regulators’ 2010 Work Programme”, December 2009, Ref. C09-WPDC-18-03, http://www.energy-regulators.eu/portal/page/portal/EER_HOME/C09-WPDC-18-03_public-WP2010_10-Dec-09.pdf
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- CEER 4th Benchmarking Report on Quality of Electricity Supply. Ref. C08-EQS-24-04, December 2008. http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/CEER_EREGEG_PAPERS/Electricity/2008/C08-EQS-24-04_4th%20Benchmarking%20Report%20EQS_10-Dec-2008_re.pdf
- “EREGEG Report on Smart Metering with a Focus on Electricity Regulation”, October 2007. Ref. E07-RMF-04-03, http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/CEER_EREGEG_PAPERS/Customers/2007/E07-RMF-04-03_SmartMetering_2007-10-31_0.pdf

External documents

- Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC, <http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:211:0055:0093:EN:PDF>
- Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in gas and repealing Directive

2003/54/EC, <http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:211:0094:0136:EN:PDF>

- Mandate M/441: DG ENTERPRISE initiative, Standardisation mandate to CEN, CENELEC and ETSI in the field of measuring instruments for the development of an open architecture for utility meters involving communication protocols enabling interoperability, 12 March 2009, <http://www.cen.eu/cen/Sectors/Sectors/Measurement/Documents/M441.pdf>
- Interpretative note on Directive 2009/72/EC concerning common rules for the internal market in electricity and Directive 2009/73/EC concerning common rules for the internal market in natural gas - retail markets, 22 January 2010, http://ec.europa.eu/energy/gas_electricity/interpretative_notes/doc/implementation_notes/2010_01_21_retail_markets.pdf
- Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC, <http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:140:0016:0062:EN:PDF>
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- Directive on energy end-use efficiency and energy services 2006/32/EC of the European Parliament and of the Council of 5 April 2006 on energy end-use efficiency and energy services, <http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:114:0064:0064:EN:PDF>
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- Directive 2002/91/EC of the European Parliament and of the Council of 16 December 2002 on the energy performance of buildings, <http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:001:0065:0071:EN:PDF>
- Standard EN 50160 - Voltage Characteristics in Public Distribution Systems
- Standard IEC 61000-4-30 - Testing and Measurement Techniques. Power quality measurement methods

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EXECUTIVE SUMMARY

The basis for ERGEG's GGP on Regulatory Aspects of Smart Metering for Electricity and Gas stems from provisions in Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas (hereinafter 3rd Package). The GGP will hopefully contribute to the effective implementation of the Directives as well as the continuous development of the European electricity and gas markets.

The 3rd Package contains provisions regarding intelligent (or smart) metering systems, with the aim of better informing customers of their consumption and helping to increase awareness of energy consumption. According to the 3rd Package, Member States shall ensure implementation of smart metering systems, where roll-out of smart meters is assessed positively, the purpose being to ensure the active participation of customers in the electricity and gas supply market¹.

The draft GGP suggested 29 recommendations. The final GGP contains 28 recommendations. The draft GGP was open to public consultation from June - September 2010 and the outcome of the consultation has been processed according to ERGEG public consultation procedures including one public hearing and one closed hearing (for the respondents). This document presents ERGEG's evaluation of the responses received. These have been taken into account in the final GGP.

ERGEG finds, from the answers received, that there is strong support for the provision of further guidance to the 3rd Package provisions. Out of the 54 stakeholders responding to the public consultation document, the vast majority were in favour of the draft recommendations but also presented very valuable comments to them. As a result, ERGEG has removed three recommendations, added two new ones and made modifications and clarifications to most of the others. ERGEG is very thankful for the high level of response and stakeholder participation that has been displayed throughout this process. In particular, at the ERGEG workshop on smart metering in December 2009, the public consultation in the summer 2010 and in the ERGEG respondents' hearing in October 2010.

¹ Directive 2009/72/EC and 2009/73/EC, Annex I, par. 2

Background

In 2010, ERGEG produced a Public Consultation Paper on Draft Guidelines of Good Practice (GGP) on Regulatory Aspects of Smart Metering for Electricity and Gas for the following reasons:

1. The implementation of the 3rd Package is one of ERGEG's seven priority areas during 2010. ERGEG's 2010 Work Programme² notes that energy regulators – within the ambit of their responsibilities – can help influence the 'greening' of the energy sector, and one important step in that direction could be the implementation and use of smart metering
2. ERGEG seeks to engage in a more proactive policy of customer empowerment.

ERGEG developed 29 draft recommendations that were divided into three main groups: electricity; gas; electricity and gas.

² European Energy Regulators' 2010 Work Programme, 10 December 2009, Ref. C09-WPDC-18-03

ELECTRICITY	
Minimum customer services	1. Information on actual consumption, on a monthly basis
	2. Accurate metering data to relevant market actors when switching supplier or moving
	3. Bills based on actual consumption
	4. Offers reflecting actual consumption patterns
	5. Power capacity reduction/increase
	6. Activation and de-activation of supply
	7. Only one meter for those that both generate and consume electricity
	8. Access on customer demand to information on consumption data
Optional services	9. Alert in case of an non-notified interruption
	10. Alert in case of high energy consumption
	11. Interface with the home
	12. Information on voltage quality
	13. Information on continuity of supply
Costs and benefits	14. When making a cost benefit analysis, an extensive value chain should be used
Roll-out	15. All customers should benefit from smart metering
	16. No discrimination when rolling out smart meters
GAS	
Minimum customer services	17. Information on actual consumption, on a monthly basis
	18. Accurate metering data to relevant market actors when switching supplier or moving
	19. Bills based on actual consumption
	20. Offers reflecting actual consumption patterns
	21. Access on customer demand to information on consumption data
Optional services	22. Hourly flow capacity reduction/increase
	23. Enabling activation and de-activation of supply
	24. Alert in case of high energy consumption
	25. Interface with the home
Costs and benefits	26. When making a cost benefit analysis, an extensive value chain should be used
Roll-out	27. All customers should benefit from smart metering
	28. No discrimination when rolling out smart meters
ELECTRICITY AND GAS	
Data security & integrity	29. Customer control of metering data

Table 1: ERGEG **draft** guidelines of good practice on regulatory aspects of smart metering (in a non-priority order)

Objective and purpose of this paper

On 21st June 2010, ERGEG launched a public consultation on Draft Guidelines of Good Practice (GGP) on Regulatory Aspects of Smart Metering for Electricity and Gas (Ref: E10-RMF-23-03). The consultation ended on 3rd September 2010. It presented the following questions:

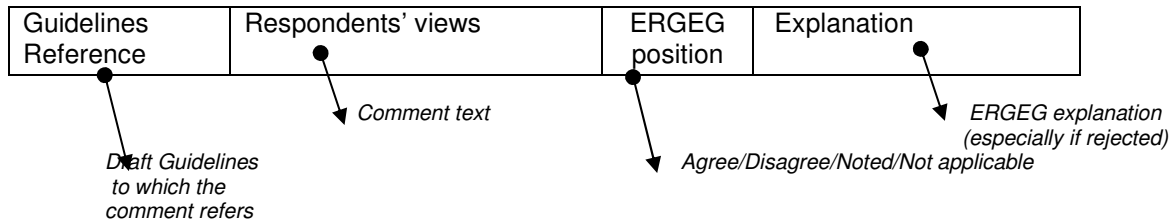
- A: Should any recommendations be left out of the final GGP?
- B: Are any insightful recommendations not present?
- C: Should any recommendations be complemented or changed in any other way?
- D: Electricity - When interval metering is applied, which interval should be used for customers? (*draft recommendation 4*)
- E: Gas - When interval metering is applied, which interval should be used for customers? (*draft recommendation 20*)
- F: Electricity - When Time of Use registers are applied for customers and those that both generate and consume electricity, what would be an appropriate number of registers? (*draft recommendation 4*)
- G: Gas - When Time of Use registers are applied for gas customers, what would be an appropriate number of registers? (*draft recommendation 20*)
- H: Electricity - What further services should be envisaged in order to allow consumers and those that both generate and consume electricity to be aware and active actors in smart grids? (*draft recommendation 13*)

54 respondents provided comments to the draft recommendations: 12 responses from industry associations, (6 European, 6 national), 10 from energy companies, 10 from DSO's and DSO associations, 5 consumer associations (2 European, 3 national), 9 metering equipment and IT providers, 4 research and consultancy firms, and 4 public authorities at national level.

The purpose of this paper is to evaluate the comments received and indicate where changes have been made in relation to the Draft GGP. ERGEG would like to point out that the respondents' views presented in Annex 3 are a reflection and summary of the comments given. A list of the respondents and an evaluation of the responses is also found in Annex 3.

1 Analysis of responses

ERGEG has evaluated the responses provided in the public consultation, principally in terms of applicability and consistency. For each comment, the following evaluation template has been used:



Additionally, where comments were provided which were not attributed to a specific consultation question, ERGEG has put them under General comments.

Comments with which ERGEG agrees are reflected in the final document Guidelines of Good Practice on Regulatory Aspects on Smart Metering for Electricity and Gas (Ref. E10-RMF-29-05).

2 Outcomes of the Public Consultation

2.1. Revised suggested recommendations for smart metering

After considering the comments from the 54 stakeholders responding to the public consultation document, ERGEG has decided that three draft recommendations are to be deleted from the final GGP (gas rec. 22 on hourly flow capacity reduction/increase; electricity rec. 12 on information on voltage quality; and electricity rec. 13 on information on continuity of supply). Voltage quality and continuity of supply are instead mentioned in the recommendation on Customer control of metering data.

As can be seen in the responses, all draft recommendations have received comments. Where ERGEG finds it appropriate, these will be reflected in the explanatory text following each recommendation in the final GGP. However, we would like to highlight already here that draft recommendations 3 and 19 (electricity and gas: Bills based on actual consumption) will be clarified as a result of the comments received to emphasise that bills should, *if the customer so chooses*, reflect actual consumption.

Two recommendations will be added to the final GGP: software to be upgraded remotely, for electricity and gas respectively. The final recommendations will also be changed so that there are no longer minimum or optional recommendations - they are simply recommendations.

Following full analysis and consideration of the responses received, ERGEG's Final GGP therefore presents 28 recommendations, as summarised in Table 2.

ELECTRICITY AND GAS	
Data security & integrity	E/G 1. Customer control of metering data
ELECTRICITY	
Customer services	E 2. Information on actual consumption and cost, on a monthly basis, free of charge
	E 3. Access to information on consumption and cost data on customer demand
	E 4. Easier to switch supplier, move or change contract
	E 5. Bills based on actual consumption
	E 6. Offers reflecting actual consumption patterns
	E 7. Remote power capacity reduction/increase
	E 8. Remote activation and de-activation of supply
	E 9. All customers should be equipped with a metering device capable of measuring consumption and injection
	E 10. Alert in case of non-notified interruption
	E 11. Alert in case of exceptional energy consumption
	E 12. Interface with the home
	E 13. Software to be upgraded remotely
	Costs and benefits
Roll-out	E 15. All customers should benefit from smart metering
	E 16. No discrimination when rolling out smart meters
GAS	
Customer services	G 2. Information on actual consumption and cost, on a monthly basis, free of charge
	G 3. Access to information on consumption and cost data on customer demand
	G 4. Easier to switch supplier, move or change contract
	G 5. Bills based on actual consumption
	G 6. Offers reflecting actual consumption patterns
	G 8. Remote enabling of activation and remote de-activation of supply
	G 11. Alert in case of exceptional energy consumption
	G 12. Interface with the home
	G 13. Software to be upgraded remotely
Costs and benefits	G 14. When making a cost benefit analysis, an extensive value chain should be used
Roll-out	G 15. All customers should benefit from smart metering
	G 16. No discrimination when rolling out smart meters

 Table 2: ERGEG's **final** guidelines of good practice on regulatory aspects of smart metering

Considerations

EREG considers it important, in light of the responses received, that the following is taken into account when interpreting the GGP:

- To implement smart metering systems in a “future proof” manner is difficult. Therefore, the GGP focuses on output such as services rather than technical issues
- ERGEG strongly supports the delivery of open standards and an interoperable architecture by the European Standardisation Organisations (ESOs) in due time in order to allow Member States to fulfil the provisions in the 3rd Package.
- ERGEG intends for the recommendations in the GGP to be a starting point rather than an exhaustive list, considering the ongoing developments in this area.

2.2. Next steps

The outcome of the public consultation will be reflected in the Guidelines of Good Practice on Regulatory Aspects of Smart Metering for Electricity and Gas (Ref. E10-RMF-29-05), which have been published alongside this document.

Annex 3 - Evaluation of responses

Responses received

Responses were received from the following organisations:

	Organisation	Abbreviated name	Country of Origin
	Respondent Group – Authorities		
1	Bundesministerium für Arbeit, Soziales und Konsumentenschutz - Consumer Policy Directorate of the Austrian Federal Ministry of Labour, Social Affairs and Consumer Protection	BMASK	AT
2	Le médiateur national de l'énergie – The national energy ombudsman	MNE	FR
3	Swiss Federal Electricity Commission	EICom	CH
4	Österreichische Bundesarbeitskammer - Austrian Federal Chamber of Labour	BAK	AT
	Respondent Group – Consumer Associations		
5	Altroconsumo	Altroconsumo	IT
6	Confédération de la Consommation, du Logement et du Cadre de Vie - Consumption, Housing and Quality of Life	CLCV	FR
7	Confédération Syndicale des Familles	CSF	FR
8	The European Consumers' Organisation	BEUC	EU
9	The European Consumer Voice in Standardisation	ANEC	EU
	Respondent Group – Energy Companies		
10	ČEZ, a.s.	CEZ	CZ
11	EDF	EDF	FR
12	EDF DÉMÁSZ	EDF DÉMÁSZ	HU
13	EDF Energy	EDF Energy	UK
14	Edison S.p.a.	Edison	IT
15	EnBW Energie Baden-Württemberg AG	EnBW	DE
16	E.ON	E.ON	DE
17	Stadtwerke München GmbH	SWM	DE
18	Vattenfall Nordic	Vattenfall Nordic	SE
19	Verbund AG	Verbund	AT
	Respondent Group – Grid Operators		
20	EANDIS	EANDIS	BE
21	Électricité Réseau Distribution France	ERDF	FR
22	European DSO Association for Smart Grids	EDSO-SG	EU
23	European Union of the Natural Gas Industry – Distribution System Operators Committee	Eurogas DSO	EU
24	Gaz Réseau Distribution France	GrDF	FR
25	Groupement Européen des Entreprises et Organisations de Distribution d'Énergie	GEODE	EU

26	Netbeheer Nederland - the Association of Energy Network Operators in the Netherlands	Netbeheer Nederland	NL
27	Public Power Corporation – Distribution Network Department	PPC	GR
28	SPP – distribúcia	SPP	SK
29	Synergrid	Synergrid	BE
Respondent Group – Industry Associations			
30	Bundesverband der Energie- und Wasserwirtschaft e.V. - German Association of Energy and Water Industries	BDEW	DE
31	Bundesverband Neuer Energieanbieter e.V. - Federal Association of New Energy Suppliers	BNE	DE
32	Bundesverband WindEnergie e.V. – German WindEnergy Association	BWE	DE
33	EURELECTRIC	EURELECTRIC	EU
34	European Federation of Local Energy Companies	CEDEC	EU
35	European Federation of Public Service Unions	EPSU	EU
36	European Union of the Natural Gas Industry – Supply & Markets Development Committee	Eurogas S&M	EU
37	Fédération Belge des Entreprises Électriques et Gazières	FEBEG	BE
38	International Federation of industrial energy consumers	IFIEC Europe	EU
39	Svensk Energi - Swedish Energy Association	Svensk Energi	SE
40	Technical Association of the European Natural Gas Industry	MARCOGAZ	EU
41	Verband kommunaler Unternehmen - German Association of Local Utilities	VKU	DE
Respondent Group – IT Providers			
42	Deutsche Telekom	Deutsche Telekom	DE
43	Elster	Elster	DE
44	eMeter	eMeter	USA
45	Ericsson	Ericsson	SE
46	European manufacturers of gas meters	FACOGAZ	EU
47	European Smart Metering Industry Group	ESMIG	EU
48	HM Power AB	HM Power	SE
49	Landis+Gyr AG	Landis+Gyr	CH
50	SAP	SAP	DE
Respondent Group – Research and Consultancy Firms			
51	Bartak, Gerhard Dipl.-Ing.	Bartak	AT
52	Interactive Institute	Interactive Institute	SE
53	Sia Partners	Sia Partners	BE
54	SP Technical Research Institute of Sweden	SP	SE

Evaluation of responses

General comments

ERGEG notes that, overall, the respondents are very positive towards ERGEG's work on the issue of smart metering and in particular towards ERGEG making recommendations in this area on a European level. On a general note, one respondent points out potential risks such as price volatility from industry to consumers when demand response schemes are enabled. ERGEG recognises that this is indeed true. However, the purpose of the demand response scheme is to allow the customer to be able to pay a price that reflects the actual price on the wholesale market. This would give the customer a correct price when consuming and also the ability to use energy when the prices are low. Today, this possibility is not a prevailing one and the customer cannot adjust consumption patterns according to high or low prices - giving the customer no choice at all but to pay the bill.

Throughout, the respondents raised the concern of standardisation and encouraged ERGEG to continue supporting the ongoing standardisation work undertaken, for example, by Mandate M/441 and the Open Meter project. At the same time, the need for interoperability and open interfaces were considered to be key issues that need to be ensured to better enable a cost efficient approach towards smart metering in the future. ERGEG fully agrees with this and intends to continue working closely with the standardisation initiatives that have been launched.

Several respondents raised the concern that ERGEG should take into account the differences in market design/structure when making the final recommendations - thus not limiting the scope of the recommendations and their applicability. ERGEG agrees with this approach and considers that it is important at this point to look at smart metering from a perspective of delivered benefits rather than which service provider that should deliver which outcome.

Many respondents raised a general concern that the difference between electricity and gas was not duly taken into account and that the services/recommendations on electricity and gas need to be further developed and in some cases restricted to electricity only. ERGEG agrees with this and has sought to further define and limit the services suggested in the final GGP to reflect this.

One respondent pointed out that most recommendations seem to ignore the fact that current smart metering objectives cover only 80% of the electricity meters. ERGEG believes, however, that all customers should be able to benefit from smart metering

One respondent questioned why ERGEG has recommendations that are out of the scope of the 3rd Package. The number of functionalities would not be used and thus create costs that would exceed the benefits. ERGEG recognises that all services listed in the consultation document might not be part of the GGP; however ERGEG notes that the 3rd Package is not clear/specific on what is meant by a smart/intelligent metering system but rather focuses on what the customer needs to be able to be active on the energy markets. These basic needs of the customer form the basis of all the services suggested by ERGEG and ERGEG expects that these services will bring the benefits foreseen in the 3rd Package.

Several respondents suggested that ERGEG should clearly define for which costs the service provider responsible for the roll-out of smart metering should be compensated. One stakeholder proposed that the NRAs should without delay or discount accept all additional costs, presumably as a part of the network tariff. ERGEG underlines that this report and the final GGP will not give any advice on how the tariff structure should look at a national level. Furthermore, ERGEG will not in this report give recommendations on which party should pay for the smart metering roll-out since this is a choice for the Member States to make and may depend on whether an economic assessment is made and the parameters it contains, including how the costs should be divided.

Consultation Question A: Should any recommendations be left out of the final GGP?

Rec. No.	Respondents' views	ERGEG's position	Explanation
1	Two respondents want to be able to satisfy this recommendation without remote meter reading.	Noted	<p>ERGEG recognises that meter values could be gathered without remote meter reading. However, ERGEG recognises that remote meter reading is one of the most essential functionalities proposed by Mandate M/441, F1.</p> <p>In ERGEG's opinion, to be able to manage efficiently the numbers of future meter readings remote meter reading is a key capability in a smart metering system.</p>
	One respondent points out that this recommendation clashes with proposed national legislation whereby consumption information is provided on a bi-monthly basis unless the customer explicitly asks for more frequent updates.	Noted	<p>ERGEG recognises that national legislation as of today may not always be in line with the recommendations proposed in this report. However, these recommendations are aimed at future use of intelligent metering systems, which sometimes will require changes in national legislation.</p> <p>ERGEG believes that the customer should be properly informed of actual electricity consumption and costs frequently enough to enable him/her to</p>

Rec. No.	Respondents' views	ERGEG's position	Explanation
			<p>regulate electricity consumption, as stated in Directive 2009/72/EC, Annex I, par. 1 i.</p> <p>ERGEG believes that monthly is the minimum time frame for this information to the customer to regulate his/her consumption.</p>
2	<p>Two respondents say that remote meter reading is not required in order to provide customers that are switching suppliers or moving with the information they need.</p>	Noted	<p>ERGEG recognises that meter reading does not have to be conducted remotely in order to perform a switch or moving. According to the 3rd Package, a switch should take no longer than three weeks. In ERGEG's opinion, to efficiently be able to manage the numbers of future switches, remote meter reading is a key capability in a smart metering system.</p>
3	<p>Two respondents believe that customer self-reading can adequately handle this recommendation and suggest that remote reading should be an optional service instead of a compulsory one.</p>	Noted	<p>ERGEG recognises that meter reading does not have to be conducted remotely in order to have bills based on actual consumption. In ERGEG's opinion, to efficiently be able to convey accurate and prompt information for billing purposes, remote meter reading is a key capability in a smart metering system.</p>

Rec. No.	Respondents' views	ERGEG's position	Explanation
	One respondent points out that household customers usually prefer fixed monthly payments with annual reconciliation.	Agree	ERGEG does not intend to interfere with the contract terms on the payment method that the customer decides to sign up for.
4	One respondent says that one daily reading transferred monthly from meters is sufficient for most purposes.	Noted	ERGEG recognises that interval metering could be applied only to some classes of user, while ToU registers could be applied to smaller customers. When interval metering is applied, it should be customised according to the relevant time period used in the market.
	One respondent believes implementing this recommendation would be too expensive.	Noted	
5	Three respondents say that this recommendation adds unacceptable costs to the smart meter roll-out.	Noted	
	One respondent sees no need for this service given current load profiles of household customers. They also point out that such a service would complicate the relationships between customers, suppliers, and grid operators.	Noted	ERGEG believes that smart meters should be capable of recording consumption/ injection on a parametrisable time basis and that it should be set at a minimum at hourly. Smart meters shall enable meter values to be stored in a buffer with a capacity in line with the meter reading frequency.

Rec. No.	Respondents' views	ERGEG's position	Explanation
	<p>One respondent says that remote management services should not be made part of the mandatory service provided by the DSO.</p>	<p>Disagree</p>	<p>ERGEG recognises that today the load increase and decrease is a service performed manually which is costly. ERGEG notes that remote disablement and enablement is one of the functionalities proposed by Mandate M/441, F4. In ERGEG's opinion, to be able to manage efficiently the customer requests and enabling suppliers making offers using this capability, remote performance is a key capability in a smart metering system.</p> <p>At this point, ERGEG does not address who should be responsible for this service.</p>
<p>6</p>	<p>Six respondents do not see a need for this functionality in the meter since customers can active and deactivate manually through other means.</p>	<p>Disagree</p>	<p>ERGEG notes that this service was not intended for the customer to do manually in his/her dwelling. This service is to be initiated/requested by the customer but performed by the relevant service provider.</p> <p>Today, this service is performed on site by the relevant service provider and is therefore very costly for customers. It also takes time for this service to be performed.</p>

Rec. No.	Respondents' views	ERGEG's position	Explanation
			<p>In ERGEG's opinion, to be able to manage efficiently the customer requests on activation and deactivation of supply, remote management is a key capability in a smart metering system.</p>
	<p>Two respondents are concerned about security.</p>	<p>Agree</p>	<p>ERGEG agrees that concerns about security issues are of utmost importance and this will be reflected in the final GGP.</p>
	<p>One respondent rejects this recommendation for customer protection purposes.</p>	<p>Noted</p>	<p>ERGEG notes that this service has to be initiated/requested by the customer. When this capability is applied by a party other than the customer, it must always be in line with the national regulatory framework.</p>
<p>7</p>	<p>Five respondents reject this recommendation, mainly for reasons of cost. They state strongly that the choice of meter should not be left to customers but to distribution companies or meter operators as these actors always have a more realistic view of the kind of metering equipment that is required.</p>	<p>Disagree</p>	<p>ERGEG recognises that having two metrological units in one meter will incur some extra costs initially, as will all the services suggested in this report. However, this extra cost should be considered alongside other benefits when making an economic assessment when deciding on a roll-out.</p> <p>ERGEG believes that in order to promote micro (and distributed) generation the meter installed should be capable of measuring injected as well as consumed energy, so avoiding the need to change</p>

Rec. No.	Respondents' views	ERGEG's position	Explanation
			the meter in case a customer decides to become a producer.
9	Ten respondents say that this recommendation should be rejected. It does not provide any additional benefits, justifying the extra costs, to neither grid operators nor customers according to these respondents.	Disagree	<p>ERGEG notes that the electricity meter already sends a distress signal to the metering operator before shutting down. The cost driver in this case would be the information sent by the metering operator/ESCO/etc. via sms or by other means of communication agreed upon with the customer.</p> <p>ERGEG recognises that this service will incur some extra costs initially, as will all the services suggested in this report. However, this extra cost should be considered alongside other benefits when making an economical assessment when deciding on a roll-out.</p> <p>ERGEG believes that this service could allow the customer to prevent damages to his/her home devices in case of non-notified interruptions occur while he/she is out of home.</p> <p>ERGEG has also proposed that a reasonable fee could be charged for this service.</p>
10	Four respondents say that this functionality should not be part of the smart metering infrastructure and that it should be left to the	Agree	ERGEG recognises that the benefits of the service would be of great interest for

Rec. No.	Respondents' views	ERGEG's position	Explanation
	market to offer this service to those customers that really want it.		<p>the customers, in particular vulnerable customers.</p> <p>ERGEG recognises that the service does not need to be part of the smart metering system itself. However, the meter has to be able to enable the service and as such is included in the GGP recommendations.</p>
11	Two respondents say that the interface between meters and home networks should be left to the market, and that it is up to customers to decide which parties should have remote access to the home network.	Agree	ERGEG agrees that the meter shall allow the possible development of HAN-services. This means that there should be an open interface/gateway making it possible for service providers to develop services to interested customers.
	One respondent says that the whole idea behind home networks – that customers can react to price signals in a meaningful way – is flawed and that customer demand on the contrary is highly inflexible.	Disagree	According to the 3 rd Package, it is important that customers are properly informed of actual electricity consumption and costs frequently enough to enable them to regulate their own electricity consumption.
12	Six respondents are of the opinion that information on voltage quality is useful for the system operators - who already perform this measurement. The customers (except industrial customers) have no interest in voltage quality that could be misleading and increase the number of complaints.	Partially agree	ERGEG agrees that information on voltage quality is already collected. ERGEG does not agree that the customer has no interest in information on their voltage quality. ERGEG finds it important that the customer have the right to know

Rec. No.	Respondents' views	ERGEG's position	Explanation
			his/her voltage quality. This will be reflected in the final GGP.
13	Six respondents are of the opinion that information on continuity of supply is only useful for those system operators who already perform this measurement. Two respondents believe that this function would only be possible with an additional battery.	Agree	ERGEG agrees that information on continuity of supply is already collected. However, ERGEG finds it important that the customer have the right to know his/her continuity of supply. This will be reflected in the final GGP.
15	Two respondents believe that regulation should not make mandatory to reach 100% of the customers as reaching all customers could add significant cost to the roll-out, without reasonable economic justification.	Agree	If assessed positively and a roll-out is decided, all customers should be eligible to obtain a smart meter. ERGEG believes that the roll-out should include all customers. However, ERGEG realises that there might be small exceptions due to special circumstances and this possibility will be reflected in the final GGP.
16	One respondent states that the customer should decide about which kind of smart meter and when it should be installed.	Disagree	ERGEG believes that it should be a customer choice to decide which service is suitable for him/her. It is NRAs' duty to ensure interoperability in the metering system. The services in the final GGP are to be seen as the core capabilities. ERGEG recognises that for making a CBA feasible there have to be some basic parameters for the calculation, not depending on the customers' different

Rec. No.	Respondents' views	ERGEG's position	Explanation
			choices.
17	One respondent is doubtful about the value of this recommendation for most household customers and proposes providing consumption information annually instead.	Disagree	<p>ERGEG believes that the customer should be properly informed of actual gas consumption and costs frequently enough to enable him/her to regulate the gas consumption, as stated in Directive 2009/73/EC, Annex I, par. 1 i.</p> <p>ERGEG believes that monthly is the minimum time frame for this information to the customer to regulate his/her consumption.</p>
	One respondent points out that this recommendation clashes with proposed national legislation whereby consumption information is provided on a bi-monthly basis unless the customer explicitly asks for more frequent updates.	Disagree	<p>ERGEG recognises that national legislation as of today may not always be in line with the proposed recommendations in this report. However, these recommendations are aimed at future use of intelligent metering systems, which sometimes will require changes in national legislation.</p>
18	One respondent believes that in the case of switching supplier, the current system of getting relevant data by physical reading, self-reading or estimating is sufficient.	Disagree	<p>Considering that according to the 3rd Package provisions regulation should allow switching to be performed easily (and within three weeks), ERGEG believes that remote meter reading (useful to fulfill many other recommendations) is useful to provide information to the customer.</p>

Rec. No.	Respondents' views	ERGEG's position	Explanation
20	<p>Three respondents believe that this functionality is not applicable for gas since gas demand is more rigid than the electricity one.</p>	Noted	<p>ERGEG recognises the differences between gas and electricity demand. The use of interval metering or ToU registers allows the development of innovative pricing formulas which reflect actual consumption as stated in Directive 2009/73/EC, Chapter 2, Art. 3, par. 8, Annex I, par. 1 I. This view can be taken into consideration when defining the suitable interval or the number of registers.</p>
	<p>One respondent is worried that this feature could turn into possible penalizations for customers.</p>	Noted	<p>ERGEG's opinion is that customers should of course not be penalised but believes that the customer should be informed about the costs of the usage divided into the different time periods. To enable this service, the metering interval needs to be divided into periods that would be less than monthly or at least different ToU registers are necessary to provide this information to the customer. It is up to NRA to prevent customers from being penalised from the use of this information by suppliers.</p>
22	<p>Ten respondents believe that this recommendation should be removed because in many cases it's technically unfeasible or unuseful.</p>	Agree	<p>This recommendation will be deleted from the final GGP.</p>

Rec. No.	Respondents' views	ERGEG's position	Explanation
23	Three respondents stressed the importance of further and accurate investigations on security issues related to remote activation and de-activation of gas supply.	Noted	ERGEG recognises that this service should be more detailed. This feature should allow the party responsible for metering (not the customer him/herself) to perform de-activation from remote without sending crews on site. As for activation, it is more complicated and must be thoroughly performed (on site).
	Two respondents state that the customers already have the option today of reducing or completely lowering gas flow when absent by using various devices.	Noted	
24	Five respondents suggest that this feature should be removed because a high increase in gas consumption is subjective and depends on many circumstances (weather, housing condition, etc.)	Disagree	ERGEG recognises that this recommendation is important for customers to be able to manage better their energy consumption.

Rec. No.	Respondents' views	ERGEG's position	Explanation
25	One respondent believes that the offering of services such as home automation should be left to the market.	Noted	<p>ERGEG believes that the offer of such services should be left to the relevant parties according to each national market design. However, the possibility for such a service must be included in the meter's functionalities.</p> <p>According to the 3rd Package, it is important that customers are properly informed of actual gas consumption and costs frequently enough to enable them to regulate their own gas consumption.</p>
	One respondent says that the whole idea behind home networks – that customers can react to price signals in a meaningful way – is flawed and that customer demand on the contrary is highly inflexible.	Disagree	ERGEG recognises that this service is of high importance. There should be an open interface/gateway making it possible for service providers to develop services to interested customers.
27	One respondent believes that regulation should not make mandatory to reach 100% of the customers as reaching all customers could add significant cost to the roll-out, without reasonable economic justification.	Noted	ERGEG believes that the roll-out should include all customers. However, ERGEG realises that there might be small exceptions due to special circumstances, for instance customers using only gas for cooking and this will be reflected in the final GGP.
28	One respondent states that the customer should decide which kind of smart meter and when it should be installed.	Disagree	ERGEG believes that it should be a customer choice to decide which service is suitable for him/her. It is NRAs' duty to

Rec. No.	Respondents' views	ERGEG's position	Explanation
			<p>ensure interoperability in the metering system. The services in the final GGP are to be seen as the core capabilities.</p> <p>ERGEG recognises that for making a CBA feasible there have to be some basic parameters for the calculation, not depending on the customer's different choices.</p>
29	<p>One respondent disapproves of this requirement as it would involve DSOs obtaining a declaration of consent from every single customer.</p>	Disagree	<p>ERGEG wishes to clarify that the metering data required to fulfil regulated duties are always available to the relevant parties and that customer's should be informed about it. When authorised by the customer, other service providers requesting information shall state what information is needed and with what frequency.</p>

Consultation Question B: Are any insightful recommendations not present?

Respondents' views	ERGEG's position	Explanation
One respondent stated that vulnerable customers should be more considered.	Noted	ERGEG recognises that the issue of vulnerable customers has not been treated in the consultation document. ERGEG will address the issue in the final GGP.
One respondent hopes that the proposals contained in its Part 1.3 (smart meter financing; remote upgrading of smart meters; monitor or oversee of the sales and marketing by the regulator and the possibility for regulators to measure output/outcomes, with quantifiable criteria within the regulatory framework to measure the effectiveness of the smartness requirements) could become recommendations.	Partly agree	ERGEG already recognises the importance of some of these topics. They will be partially reflected in the final GGP.
One respondent asks for a clear answer to the question who will pay, how much and who will benefit or lose if the user of distribution has to be enforced. (question of providing incentives)	Noted	ERGEG recognises that there is uncertainty among stakeholders on who should pay for installing smart metering systems and how they could be financed. ERGEG will not at this point make any recommendations regarding this.
Two respondents advise to mention the risk of increasingly technical complexity when talking about additional functionalities and services.	Noted	
Two respondents note that the NRA must assure economic incentives for smart meters investments when roll-out of smart meters is launched.	Noted	ERGEG recognises that the CBAs will differ between Member States, due to different market designs including tariff structures. ERGEG will therefore not give

Respondents' views	ERGEG's position	Explanation
<p>One respondent specifies that a crucial element is the regulatory financial framework for the investments of the DSO/metering operator, like ROI, depreciation periods (that should correspond with the technical reality) and compatibility with imposed cost reduction programs.</p>		<p>any detailed recommendation on these issues.</p>
<p>Two respondents recall that ERGEG takes the individual market conditions of each of the Member State into consideration: DSO led roll-out, supplier led or a liberalized market.</p>	<p>Agree</p>	<p>ERGEG does not intend in this document to address who should to what.</p>
<p>One respondent stresses the importance of technical and commercial interoperability.</p> <p>One respondent argues in the same direction but more specific: NRA and grid operators should ensure that smart meters use common technology, so that a change in grid operator or energy supplier does not come with extra costs for the grid user due to such as different software and/or communication protocols.</p> <p>Three respondents stress the necessity of standardisation referring to communication/communication interface.</p>	<p>Agree</p>	<p>The comment refers to the M/441 which is mandated by the European Commission to make sure that there will be technical interoperability.</p> <p>ERGEG agrees that standardisation is necessary. The recommendations in the GGP are in line with Mandate M/441.</p>
<p>Eight respondents want ERGEG to strongly support the development of EU-harmonised and open standards for meters and metering that will be crucial to increase cost-efficiency and improve competitiveness in the market.</p>	<p>Agree</p>	
<p>One respondent supports the introduction of an open gateway with open protocols so service providers can access data from the customers without contacting the energy provider.</p>	<p>Agree</p>	<p>ERGEG agrees, as long as the customer has authorised this access.</p>
<p>One respondent sees an arising importance in prioritisation of</p>	<p>Noted</p>	<p>ERGEG recognises that handling a vast</p>

Respondents' views	ERGEG's position	Explanation
data use and charging for data because of the complex relationships between customers, network operators and energy suppliers.		amount of data puts new demands on service providers.
One respondent calls for introducing standardised minimum requirements for all new meter installations by ERGEG (and that without delay), which are: hourly metering of consumption and generation; remotely update; remotely (dis)connect, customer interface.	Noted and Agree	ERGEG recognises the need to have the possibility to remotely update the smart metering systems. This will be reflected in the final GGP. The method used to perform programme software upgrades using ICT instruments must comply with European MID directive 2004/22/EC and subsequent transposition provisions.
One respondent recalls that the installation of smart meters must be able to support future proof solutions, this to guarantee in the future the efficiency of investments made today.	Noted	
One respondent calls for a mandatory installation regardless of other circumstances.	Disagree	ERGEG recognises that if the economic assessment is positive and a roll-out is decided by a Member State, the installation of smart metering systems will be mandatory.
One respondent mentions the importance of overcoming privacy issues.	Agree	ERGEG recognises that this is an important issue, which is reflected in the recommendation on Customer control of metering data.
One respondent supports different tariff rates.	Agree	This is reflected in the recommendation on Offers reflecting actual consumption patterns.

Respondents' views	ERGEG's position	Explanation
<p>One respondent recommends ERGEG define a common procedure for a CBA to be applied in all Member States. One respondent proposes that smart meter roll-out should be grid-tariff financed and the costs should be recovered considering the widespread benefits of smart meters to all actors of the electricity value chain and even beyond, codes of practice, regulatory oversight) one should regulate the smart metering roll-outs and systems in the EU.</p>	<p>Noted</p>	<p>In the GGP, benefits are listed which each Member State can bear in mind when conducting a CBA. However, ERGEG will not give a procedure on how to do the CBA step by step.</p>
<p>Four respondents want to add the recommendation of “Software-Upgrades” (without a new calibration of the meter) as a “future-proofed” function.</p>	<p>Agree</p>	<p>ERGEG recognises that if you need to make changes regarding software you need to do it remotely. The remotely upgrading of the software in the smart metering system helps make the system “future-proof”. The final GGP will reflect this.</p>
<p>One respondent proposes that data are stored locally, except when needed centrally. By using a data-pull approach, privacy issues can be addressed, and this will result in a reduction in data communication requirements. One respondent agreed when saying: data/privacy security (includes limiting communication and/or storage of information only to an extent that is strictly needed for the purpose and anonymization of data (e.g. by aggregation) is strictly needed.</p>	<p>Noted</p>	<p>This advice is linked to the recommendation on Customer control of metering data. However, ERGEG recognises that how each Member State handles this recommendation in detail depends on the national legislation and regulation.</p>
<p>One respondent mentions a local customer interface providing detailed data – referring to recommendation 10 (Interface with home).</p>	<p>Noted</p>	<p>There should be an open interface/gateway making it possible for service providers to develop services to customers.</p>

Respondents' views	ERGEG's position	Explanation
<p>One respondent wants a clear allocation of tasks:</p> <ol style="list-style-type: none"> 1.) European guidelines and national laws state the responsibilities within the energy market. 2.) Secondary legislation should state minimal functional requirements on Smart Metering. <p>Technical standards should state the technical characteristics necessary for interoperability between smart metering solutions.</p>	<p>NA</p>	
<p>One respondent misses issues related to the working staff which will be responsible for rolling-out smart meters and proposes the following additional recommendations:</p> <ul style="list-style-type: none"> • DSOs are responsible for installing the smart meters; • the roll-out plans should ensure that sufficient and qualified workers are available; • companies installing the meters should ensure that workers have the appropriate training and qualifications for replacing old meters and installing smart meters. <p>The national roll-out plans are considered with stakeholders including the social partners and organizations representing low income users.</p>	<p>Noted</p>	<p>ERGEG recognises that the responsible party for installing and rolling out depends on the market model in each Member State.</p> <p>ERGEG supports all relevant issues which are necessary to fulfil a roll-out in a secure and efficient way but will not specify the recommendation in a detailed manner.</p>
<p>Two respondents want to be sure that “first mover” with existing smart metering infrastructure will not be penalized when not fulfilling the ERGEG recommendations. A full roll-out 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. Where unavoidable, companies should be either</p>	<p>Noted</p>	<p>ERGEG recognises that this issue is most likely a part of the CBA in relevant Member States.</p>

Respondents' views	ERGEG's position	Explanation
given a transition period or a compensation for the lost assets.		
One respondent proposes that those stakeholders that are industrial customers with existing AMR-systems should not be affected by these recommendations.	NA	The GGP concerns household-customers and those affected (SMEs) by Annex 1 in the 3 rd Package directives on electricity and gas.
One respondent gives a proposal for structuring the Guidelines: they should be provided on the roles of competitive and regulated participants. 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.	Noted	ERGEG structures the GGP according to several recommendations. If these recommendations can be fulfilled by competitive or regulated parties, ERGEG refers to it in the text. If a market role is under regulated or under competitive regime depends on the market design in each Member State.
One respondent proposes a structure to deal with customer segmentation.	Noted	ERGEG recognises that this is an important issue, however, it must not lead to any discrimination.
One respondent wants to focus on the smart meter alone, leaving out other possible elements of a metering system on customer premises.	Disagree	ERGEG recognises the functionalities in M/441 and the standardisation process. It is obvious that the meter alone will not bring awareness or changes in behaviour. A whole system is needed and therefore ERGEG bears in mind all elements of this system to gain all possible benefits for the customer.
One respondent wants to stress more the effects caused by smart metering referring to electromagnetic disturbances.	Noted	

Respondents' views	ERGEG's position	Explanation
<p>One respondent propose the following recommendations should be added concerning information on the meter:</p> <ul style="list-style-type: none"> 1 displaying Euros (maybe simulated); 2 displaying CO₂ emission level; 3 alert to inform when it is the best moment to consume or inject energy; 4 give a graphical comparison of actual consumption against chosen offer. 	Noted	<p>1, 2: ERGEG recognises the use of having information in Euros instead of kWh as well as CO₂ emissions. However, this information does not need to come from the meter via a display to the customer. There are several possible delivery channels.</p> <p>3, 4: ERGEG feels that this should be left to the market to agree upon.</p>
<p>One respondent prefers the Multi-Commodity/Multi-Utility Approach for Services. (Gas, power, heat, and water)</p>	Noted	<p>ERGEG recognises that this issue could be a part of the CBA in relevant Member States.</p>
<p>One respondent welcomes and supports an extension of the MID to smart metering.</p>	Noted	

Consultation Question C: Should any recommendations be complemented or changed in any other way?

Rec. No.	Respondents' views	ERGEG's position	Explanation
1	<p>Two respondents asked that frequency of meter reading information collected should not be combined, without the express consent of the customer.</p> <p>One respondent points out that many customers today pay a fixed amount every month and ask that the recommendation does not change this.</p> <p>One respondent advocates a separation of collection of metering data for billing purposes and informational purposes.</p>	NA	The recommendation is focused on information, not billing.
	<p>One respondent wanted customers to get consumption information for free, and in the media of their choice. The respondent stressed the importance of hard copy reports for the benefit of customers without access to digital media.</p> <p>Two respondents pointed out the importance of free information and advocates monthly information via the invoice, as well as information at arbitrary points in time via digital media - all for free.</p>	<p>Agree partly</p> <p>NA</p>	<p>As reflected in recommendation 1, ERGEG agrees that information on consumption on a monthly basis should be free of charge. ERGEG does not state through which channels this should be conveyed although we do propose there should be a choice of channels available to the customer.</p> <p>The recommendation focuses on information not on billing.</p>
	<p>One respondent pointed out that this recommendation must not lead to customers that today pay a fixed amount every month with yearly settlement being forced into a scheme where their monthly payments vary.</p>	NA	The recommendation is focused on information, not on billing.

Rec. No.	Respondents' views	ERGEG's position	Explanation
	<p>One respondent sees no benefits for customers with remote meter reading. On the contrary, they believe that utilities will be able to use detailed consumption patterns from customers to design complicated dynamic tariffs that will be beneficial to utilities and detrimental to customers. Therefore, the recommendation should state that regulators should be obliged to help customers choose between complicated offers from utilities.</p>	Disagree	<p>ERGEG recognises that meter values could be gathered without remote meter reading. However ERGEG recognises that remote meter reading is one of the most essential functionalities proposed by the Mandate M/441, F1.</p> <p>In ERGEG's opinion, to be able to manage efficiently the numbers of future meter readings remote meter reading is a key capability in a smart metering system. Furthermore, most countries already have comparison websites that help the customers to choose between offers, many of which are managed by regulators.</p>
	<p>One respondent wants to ensure that customers should be able to read their meters manually.</p>	Noted	<p>ERGEG recognises that there are several ways for a customer to be informed on meter values. To read them on the meter might not always be the most comfortable way.</p>
	<p>One respondent sees monthly reporting as a minimum and would like to see more detailed data collection even though reports directed at customers are aggregated on a monthly level. The respondent wanted utilities to be able to select cost-efficient delivery mechanisms and further wanted to give utilities the right to charge customers for reporting that goes beyond standard reporting.</p>	Agree	<p>This is reflected in the recommendation on Offers reflecting actual consumption, and in the recommendation on Access on customer demand to information on consumption data.</p>

Rec. No.	Respondents' views	ERGEG's position	Explanation
	<p>One respondent agreed with the recommendation (1) but stressed that they did not want to be forced to provide consumption information via an In-home unit, as this would drive up costs significantly. Eight respondents expressed similar concerns and wanted energy companies to have the freedom to select the most cost-efficient delivery mechanism.</p>	Noted	<p>ERGEG does not state through which channel this information should be conveyed, although customers should be provided with a choice of channels.</p>
	<p>One respondent feels monthly consumption reports are insufficient and advocates consumption reports with a precision of one day.</p>	Disagree	<p>ERGEG finds that currently monthly reporting is sufficient, especially considering the free of charge aspect.</p>
	<p>One respondent asked for a central collection agency that would be tasked with collecting meter values from all customers and then distributing these to the relevant actors.</p>	NA	<p>ERGEG will not make any recommendations on the establishment or not of central collection agencies.</p>
	<p>One respondent argued for consumption reports based on fixed time periods, and against reports based on flowing displays and gliding periods, claiming that the latter are less meaningful for customers.</p>	NA	
	<p>Two respondents asked for clarification on which actor would become obliged to provide the service described by this recommendation.</p>	Noted	<p>ERGEG will at this point not make any suggestions on which party is responsible, but ERGEG recognises that this is an important issue which needs to be addressed in possible future work.</p>

Rec. No.	Respondents' views	ERGEG's position	Explanation
	<p>One respondent expressed concerns over costs, and asked for clarification on the form this recommendation would take for customers that also act as micro generators.</p>	Noted	<p>The recommendation states “monthly information on consumption and injection, costs and earnings”. ERGEG does not address through which channels the information should be conveyed, although customers should be provided with a choice of channels.</p>
	<p>One respondent expressed concerns about costs and also proposed that suppliers be responsible for compiling consumption reports, while grid operators would only be obliged to deliver the reports.</p> <p>One respondent recommends that suppliers are given the responsibility for providing consumption reports to customers.</p> <p>One respondent advocated separation of meter collection for billing purposes and information purposes.</p>	Noted	<p>ERGEG will at this point not make any suggestions on which party is responsible.</p>
	<p>One respondent advocated the use of fixed periods for the consumption reports, and expressed opposition to the idea that the reports must be delivered regularly every month.</p> <p>For informational purposes, one respondent advocates the use of fixed time periods, but opposes mandatory monthly reports. The respondent suggests that customers should be able to select monthly, quarterly, or annual reports.</p>	Disagree	<p>Fixed periods should be as a minimum once a month, but there is a freedom to report more often if the customer so chooses.</p>
	<p>One respondent supports regular delivery of consumption reports, but asks for clarification on the meaning of the term “frequent information”.</p>	Noted	<p>Frequent information in this recommendation means minimum once a month.</p>

Rec. No.	Respondents' views	ERGEG's position	Explanation
	<p>One respondent advocates data collection with a very high frequency in order to facilitate demand response and end-user participation in balancing markets. At the same time, the respondent points out that customer privacy concerns must be taken care of.</p>	Noted	See draft recommendation on Access on customer demand to information on consumption data.
	<p>One respondent opposes mandatory consumption reporting requirements and advocates consumption reporting tailored to the needs of individual customers. The respondent points out that German customers so far have shown little interest in consumption reports. Decisions on reporting for micro generators should be taken by individual Member States.</p> <p>One respondent does not recommend setting up a specific time frame (day, week or month). Instead, customers should be capable to request 'on demand' their actual consumption at any time disregarding any billing frequency (i.e.: monthly).</p>	Disagree	ERGEG considers that once a month is a minimum to improve customer awareness.
	<p>One respondent agrees that monthly consumption reports should be provided to customers, and advocates the monthly bill as the appropriate delivery mechanism.</p>	Partly agree	The monthly consumption report is already reflected in the recommendation. ERGEG does not say whether to use the bill for this purpose or not.
2	<p>Six respondents pointed to privacy and security concerns related to this recommendation.</p>	Agree	ERGEG recognises that measures need to be in place as regards to privacy and security aspects of data.

Rec. No.	Respondents' views	ERGEG's position	Explanation
	<p>Four respondents want responsibility for collection, storage, and dissemination of information to legitimate actors placed on one actor only. In general, these respondents did not say whether this should be the grid operator or supplier. One of them, wanted to place responsibility for data management on nationwide central data management agencies.</p>	Noted	<p>At this point, ERGEG does not give any recommendation concerning roles and responsibilities.</p>
	<p>One respondent expressed concerns about the costs of this data management.</p>	Noted	
	<p>One respondent wants historical data to be registered to be able to reconstruct any case of discussion or events in the past (e.g. move in the past).</p> <p>One respondent wants customers to have access to detailed current and historical consumption data in a form that allows customers to compare offerings from different suppliers.</p>	Agree	<p>ERGEG recognises that historical data needs to be stored according to relevant national legislation. ERGEG also recognises that historical data are important for the customer as well as for the market process.</p> <p>Concerning the form of presentation, the information must be presented in a customer friendly way, bearing in mind that customers' understanding of the electricity market is key for their confidence and active participation.</p> <p>This will be reflected in the final GGP.</p> <p>The exact form of the current and historical data will not be addressed in the recommendations. ERGEG also notes that there are already in many countries price</p>

Rec. No.	Respondents' views	ERGEG's position	Explanation
			comparison websites available.
	One respondent advocated against storing data in meters. Meter values should be transferred to central databases, and then made available to relevant stakeholders.	Noted	ERGEG will not make any recommendations on the establishment or not of central collection agencies.
	One respondent wanted metering data for billing purposes to have a time precision of one day - not less.	Noted	
	One respondent does not agree that offering accurate metering data should be a service that customer chooses or not. Indeed when switching or moving, the metering data should be accurate and the accuracy should not optional and above all not free.	Noted	
3	Two respondents pointed out that it was important to make sure that data authenticity and integrity was guaranteed.	Agree	ERGEG recognises that this important for all recommendations, and is especially high lightened in the recommendation on Customer control of metering data.
	Five respondents want utilities to have the freedom to use estimated values in situations where real meter values are lost due to temporary technical problems. One respondent pointed out that in the Netherlands, customers (may) have the right to demand that remote meter reading is not performed for their meter. In such cases, bills must be based on estimated meter values.	Noted	ERGEG recognises that under very special circumstances, according to national regulatory framework on meter value management, this can be the case.

Rec. No.	Respondents' views	ERGEG's position	Explanation
	<p>Ten respondents pointed out that many customers prefer alternative billing methods, e.g. a payment scheme where they pay a fixed amount every month and where differences between the actual consumption and the consumption paid for is reconciled once per year. These respondents, especially one, meant that it was important that this payment option remains in the market.</p>	<p>Agree</p>	<p>ERGEG agrees. This will be reflected in the final GGP. ERGEG does not intend to make recommendations on payments.</p>
<p>4</p>	<p>One respondent strongly opposed to this recommendation since it is not obvious that it will benefit customers. Two respondents are also concerned that dynamic prices may harm customers that do not have the ability to adapt their consumption to price signals. One respondent believes that dynamic pricing will be confusing to customers who might end up picking offers that are bad for them.</p>	<p>Partly agree</p>	<p>ERGEG recognises that different offers increase choice and also the complexity. However, this poses challenges to all service providers regarding clarity of information. This needs to be addressed nationally.</p> <p>ERGEG finds that customers should be able to choose offers reflecting their consumption pattern, to enable them to be active participants in the energy market.</p> <p>Given possible increased complexity of offers, the GGP recommends the implementation of all needed and related measures before these services are made available. These measures could include a review of legislation on e.g. selling methods, contracts and information.</p>

Rec. No.	Respondents' views	ERGEG's position	Explanation
	<p>Four respondents say that price models should be established on the market and not mandated by regulators. One respondent wants to ensure that suppliers are free to offer different products to different market segments. This respondent wants grid operators and suppliers to be able to offer dynamic prices that vary over time in different ways.</p>	<p>Agree</p>	<p>ERGEG does not intend to mandate price models.</p>
	<p>One respondent adds that when a supplier and customer agree on a dynamic tariff, they should be obliged to inform the grid operator since this information is valuable for the grid operator.</p>	<p>Disagree</p>	<p>ERGEG believes that the costs and administrative burden for performing this would be too high.</p>
	<p>Two respondents point out that high meter reading frequencies lead to high volumes of data to manage which in turn leads to higher costs.</p>	<p>Noted</p>	
	<p>Two respondents point out that the use of shorter intervals than monthly readings is not possible for billing purposes (in Germany, for example) based on weights and measures laws in force that have not yet been harmonised throughout Europe.</p>	<p>NA</p>	<p>The recommendation is not focused on billing.</p>
	<p>Three respondents agree that fine-grained ToU is probably best for most household customers. One of them feels that interval metering will probably never be appropriate for household customers, whereas another believes that interval metering will be used for household customers in the long run. One advocates a ToU-like model where periods are changed as conditions change.</p>	<p>Noted</p>	<p>ERGEG considers possibility for the supplier to be able to make offers as a natural development on a market with smart meters installed. But <u>how</u> these offers are constructed should not be mandated.</p>
	<p>One respondent emphasizes flexibility in the meters as increased use of distributed generation may affect the times when there are shortages and surpluses in the system.</p>	<p>NA</p>	

Rec. No.	Respondents' views	ERGEG's position	Explanation
	<p>For those that both generate and consume, two respondents advocate that energy should be measured separately in both directions to enable use of different prices for input and output.</p>	Agree	See draft recommendation on Only one meter for those that both generate and consume electricity
	<p>One respondent points out that the current de facto standard for (household) meter resolution is either 1 kWh or 0,1 kWh. They also point out that since many households have a base consumption in the order of 0,1 kWh per hour, a resolution of at least 0.01 kWh is needed for hourly values to give household accurate hourly values.</p>	Noted	ERGEG considers possibility for the supplier to be able to make offers as a natural development on a market with smart meters installed. But <u>how</u> these offers are constructed should not be mandated.
5	<p>Four respondents bring up the issue of consumer protection</p>	Agree	This recommendation is based on customer initiative. In other situations, already the existing regulatory framework is applicable.
	<p>Four respondents want to make a clear distinction between load management for end-user energy efficiency from load management for enhanced grid operations.</p>	Noted	ERGEG believes that smart meters should be capable of recording consumption/injection on a parametrisable time basis and that it should be set at the minimum at hourly. Smart meters shall enable meter values to be stored in a buffer with a capacity in line with the meter reading frequency.

Rec. No.	Respondents' views	ERGEG's position	Explanation
	<p>One respondent wants to make this recommendation an optional recommendation for household customers. Two also point to legal obstacles in countries such as Germany (where legal obstacles would currently not allow grid companies to go through with the required investments).</p>	Noted	<p>ERGEG recognises that national legislation as of today may not always be in line with the proposed recommendations in this report. However, these recommendations are aimed at future use of intelligent metering systems, which sometimes will require changes in national legislation.</p>
	<p>One respondent wants regulators to be charged with monitoring utilities to detect price fixing schemes.</p>	NA	
	<p>One respondent is of the opinion that power capacity reduction should not be an instrument for energy saving/energy management.</p>	Disagree	<p>ERGEG recognises that today the load increase and decrease is a service performed manually, which is costly. ERGEG notes that remote disablement and enablement are one of the functionalities proposed by the Mandate M/441, F4.</p>
	<p>One respondent says that dynamic pricing is a better tool than capacity reductions for energy management.</p>	Noted	<p>ERGEG finds that both services could be available.</p>
	<p>One respondent points out that capacity management cannot take place unless various contractual issues between suppliers and customers are taken care of. The functionality cannot be delivered without installation of appropriate energy management devices.</p> <p>Four respondents point to the need for complicated technology and the associated high costs.</p>	Agree	<p>This service should be offered, but as with all offers customers can choose to accept or not.</p>

Rec. No.	Respondents' views	ERGEG's position	Explanation
	<p>One respondent calls for a clarification on which actor should provide this service and how this affects other actors. The impact upon all stakeholders of unilaterally controlling the capacity by one of the market parties should be taken into consideration.</p>	Noted	<p>ERGEG will at this point not address which party should provide the service.</p>
	<p>One respondent advocates future proofing smart meters so that the services described in this recommendation can be rolled out later even if they are not provided early on in the smart metering roll-out.</p>	Noted	
6	<p>Four respondents bring up consumer protection issues, especially when it comes to vulnerable customers. One of them asks that the recommendation be rewritten so that it becomes clearer.</p>	Agree	<p>ERGEG notes that this service was not intended for the customer to do manually in his/her dwelling. This service is to be initiated/requested by the customer but performed by the relevant service provider.</p> <p>Today, this service is performed on site by the relevant service provider, and is therefore very costly for the customers. It is also takes time for this service to be performed.</p> <p>In ERGEG's opinion, to be able to manage efficiently the customer requests on activation and deactivation of supply, remote management is a key capability in a smart metering system.</p>

Rec. No.	Respondents' views	ERGEG's position	Explanation
	<p>One respondent wants to make the point that it is important that meters are still remotely manageable even though supply has been deactivated.</p> <p>Six respondents point out that activation must never be fully automatic for security reasons. Activation is a two-stage process where utilities first remotely enable activation, which is then manually confirmed by the customer.</p>	Noted	<p>The regulatory framework should describe in details who is the party responsible for these services and under which conditions they can be performed.</p>
	<p>One respondent wants to add a requirement that there should be support for prepayment metering.</p>	Agree	<p>ERGEG recognises the importance of support for different payment methods. This will be reflected in the final GGP.</p>
	<p>Two respondents say this service should not be mandatory, one due to costs, one due to it being seen in the context of the smart meter home or energy advice.</p> <p>One respondent sees limited value for both customers and utilities.</p>	Disagree	<p>ERGEG notes that this service was not intended for the customer to do manually in his/her dwelling. This service is to be initiated/requested by the customer but performed by the relevant service provider.</p> <p>Today, this service is performed on site by the relevant service provider, and is therefore very costly for the customers. It is also takes time for this service to be performed.</p> <p>In ERGEG's opinion, to be able to efficiently manage the customer requests on activation and deactivation of supply, remote management is a key capability in a smart metering system.</p>

Rec. No.	Respondents' views	ERGEG's position	Explanation
7	<p>Seven respondents express confusion about what bidirectional meters actually are supposed to measure. Most of them point out that net deficit/surplus is not sufficient as many countries have different tariffs for energy produced but locally consumed, energy produced and exported to the grid, and energy imported from the grid.</p>	Noted	ERGEG does not mention net-metering in the recommendation.
	<p>Three respondents claimed that this capability is not possible today. Another claims this capability is already an existing feature of today's meters.</p> <p>Two respondents raised concerns that installing bidirectional meters is sometimes technically challenging, and would like to be able to install bidirectional meters only where it makes sense. Five respondents believe that only utilities know when bidirectional meters are appropriate, and therefore oppose the wording that it is up to those that both generate and consume to choose between one bidirectional meter and two unidirectional meters.</p> <p>The three respondents that are against the recommendation instead worry that utilities will be obliged to install bidirectional meters in every household, both for prosumers and ordinary customers. These respondents point out that bidirectional meters are more expensive than ordinary meters and oppose the recommendation for this reason.</p>	Noted	

Rec. No.	Respondents' views	ERGEG's position	Explanation
8	<p>Five respondents stressed the importance of free access to consumption data. One of them in addition wants information presented in a form that helps customers compare offers from competing suppliers. Another wants to make sure that customers without access to digital media can access their consumption information free of charge.</p>	Agree	<p>The form of the current and historical data will not be addressed in the recommendations. ERGEG also notes that there are already in many countries price comparison websites available.</p> <p>The monthly information should be free of charge.</p>
	<p>Nine respondents mention costs for the data management, and that this could not always be free of charge. There should be a difference between direct access to basic data and other data.</p>	Noted	<p>The monthly information should be free of charge. Furthermore, as already mentioned in the draft recommendation, Member States could consider whether access to information on customer demand could be subject to a fee.</p>
	<p>Five respondents wanted utilities to be able to select a standard cost efficient delivery mechanism. One respondent suggested that national regulators select the standard delivery mechanism, while one advocated a wholly market-based mechanism.</p> <p>Three respondents point out that the meter can be situated in closed or hardly accessible locations</p>	Noted	<p>ERGEG does not state through which channels this should be conveyed.</p>
	<p>Two respondents pointed out that raw, unprocessed consumption data can diverge from verified consumption data that is used for billing purposes.</p>	Agree	<p>ERGEG recognises the importance of presenting information in a customer oriented way. This will be reflected in the final GGP.</p>

Rec. No.	Respondents' views	ERGEG's position	Explanation
	One respondent wanted to add a requirement that consumption information should always include information about cost, not only raw consumed energy.	Disagree	ERGEG recognises that there are values on receiving info on costs. However, the frequency of cost information should be a customer choice.
	One respondent wants to make this recommendation an optional recommendation.	Disagree	ERGEG recognises that this recommendation is important for both customer awareness and data transparency.
	One respondent says that injected energy should be included in the reporting.	Agree	ERGEG agrees, this will be reflected in the final GGP.
	One respondent wanted clarification on which party should be responsible for managing the process of collecting the data, producing the consumption reports, and delivering the consumption reports to customers.	Noted	At this point, ERGEG does not give any recommendation concerning roles and responsibilities.
	One respondent says that it is completely unacceptable to have the option to charge for access to consumption data.	Disagree	ERGEG recognises that costs are not neglectible, and therefore leaves the possibility to charge for information on customer demand. Note that monthly information should be free of charge.

Rec. No.	Respondents' views	ERGEG's position	Explanation
	Three respondents brought up the subject of third party access to consumption data. Issues such as access rights, and costs for third parties.	NA	The comment is not relevant for this recommendation. See recommendation on Customer control of metering data.
	Eight respondents bring up security issues and integrity issues between market actors.	Agree	ERGEG recognises this as one of the key factors for customer confidence in the market. Therefore there is a special recommendation on this: Customer control of metering data.
9	One respondent said that this service might be of some value to grid operators but was unsure to what extent customers would be interested. The respondent wants this recommendation to become an optional recommendation and also asked for clarification on which actor should be tasked with providing the service.	Disagree	See motivation already stated in the recommendation. At this point, ERGEG does not give any recommendation concerning roles and responsibilities.
	Four respondents advocated a best-effort service where customers might be informed of interruptions, possibly with some delay. The respondents meant that faster, guaranteed responses would be too costly. One respondent pointed out that full service would require backup power in meters, a significant cost driver.	Noted	
	One respondent pointed out that in addition to information about interruptions, information about damaging voltage peaks might also be interesting for customers.	Noted	
10	Two respondents want this optional recommendation to become mandatory.	Agree	This will be reflected in the final GGP.

Rec. No.	Respondents' views	ERGEG's position	Explanation
	Ten respondents advocate that the recommendation be kept optional.	Disagree	<p>ERGEG recognises that the benefits of the service would be of great interest for the customers, in particular vulnerable customers.</p> <p>ERGEG recognises that the service does not need to be part of the smart metering system itself. However, the meter has to be able to enable the service.</p>
	Three respondents bring up problems related to privacy issues.	Noted	ERGEG recognises this as one of the key factors for customer confidence in the market. See recommendation on Customer control of metering data.
	One respondent points out that the definition of high consumption is subjective, and another points out that it is difficult for utilities to know if high variability in consumption levels of one customer is natural or not, and warns that a warning system could end up sending out large number of false alarms.	Agree	ERGEG recognises that the alarm levels will naturally differ between customers. This can be handled through an agreement with the customer on where to set the level.
	Four respondents recommend a local solution where alarms are displayed in meters or in-house displays without going through central systems.	Noted	ERGEG recognises that the service does not need to be part of the smart metering system itself. However, the meter has to be able to enable the service.
	Five respondents ask for clarification on which party should be responsible for providing the service.	Noted	At this point, ERGEG does not give any recommendation concerning roles and responsibilities.

Rec. No.	Respondents' views	ERGEG's position	Explanation
	Three respondents oppose the obligation to provide alarms based on the cost of the power since it is difficult for grid operators to know what individual customers are paying suppliers for the electricity they consume.	Agree	The recommendation is focused on consumption.
	One respondent wants alarms based solely on cost - never consumption.	Disagree	ERGEG recognises that cost can vary independently of consumption. The recommendation is focused on consumption.
	Two respondents want to make this a mandatory recommendation.	Agree	This will be reflected in the final GGP.
	Three respondents feel that the recommendation can cause privacy problems.		ERGEG recognises this as one of the key factors for customer confidence in the market. Therefore, there is a special recommendation on this: Customer control of metering data.
	Two respondents express opposition to the requirement that alarms should be sent out immediately. This would lead to very high communication costs and the respondents therefore recommend that utilities be allowed to send alarms with some delay.	Noted	
11	One respondent wants to make this a mandatory recommendation.	Agree	This will be reflected in the final GGP.

Rec. No.	Respondents' views	ERGEG's position	Explanation
	Five respondents prefer to keep this recommendation optional, as it would make meters more expensive.	Disagree	ERGEG recognises that this service is of high importance. There should be an open interface/gateway making it possible for service providers to develop services to interested customers.
	One respondent opposes the recommendation and says that consumption is extremely inelastic, in particular with respect to vulnerable customers. This can result in higher tariffs.	Disagree	ERGEG recognises that information on when the electricity price increases can be a benefit for customers, especially the vulnerable customers.
	Three respondents call for standardisation of interfaces.	Agree	This will be reflected in the final GGP.
12	Four respondents were sceptical towards this recommendation since existing smart meters cannot determine voltage quality according to standards EN 50160 and IEC 61000-4-30, and also that there are different interpretations of voltage quality. Three respondents feel that this service is of limited use to customers.	Noted	The recommendation will be changed to be a part of the recommendation on Customer control of metering data.
13	One respondent proposes that customers have access to information on the losses during the electricity transmission and another respondent wants this recommendation to be mandatory.	Noted	The recommendation will be changed to be a part of the recommendation on Customer control of metering data.
	Three respondents prefer to keep the recommendation optional.	Disagree	The recommendation will be changed to be a part of the recommendation on Customer control of metering data.

Rec. No.	Respondents' views	ERGEG's position	Explanation
	Two respondents point out that many grid operators already have existing systems to monitor continuity of supply.	Noted	The recommendation will be changed to be a part of the recommendation on Customer control of metering data.
	One respondent points out that meters are placed on the border between customer and DSO responsibility and that continuity of supply related information collected from meters therefore could be wrong.	Noted	The recommendation will be changed to be a part of the recommendation on Customer control of metering data.
14	One respondent wants special attention to be paid to costs and benefits for customers. One respondent wants special attention for poor and vulnerable customers.	Noted	ERGEG recognises that an extensive value chain is important; therefore several perspectives have to be taken into account, not the least the customers.
	One respondent is of the opinion that actors from the energy industry are the main beneficiaries of smart metering and should therefore bear the bulk of the costs.	Noted	ERGEG does not say who should bear the main cost burden. This will be a result of the CBA, which will differ from Member State to Member State.
	One respondent suggested that a CBA is repeated several times during a large-scale roll-out as experiences gained during the roll-out can be used to refine the CBA.	Noted	ERGEG recognises that this choice is to be done by the Member State.

Rec. No.	Respondents' views	ERGEG's position	Explanation
	<p>One respondent wanted to include the welfare of employees working in the sector in the CBA.</p>	Noted	<p>ERGEG recognises that this choice is to be done by the Member State.</p>
	<p>Five respondents pointed out that recommendation 14 listed a set of potential benefits but had nothing to say about costs, and called for the addition of costs to the recommendation.</p> <p>Two respondents pointed out that operational costs, in addition to initial investment costs, must be included in the CBA.</p> <p>Two respondents pointed out that costs and benefits would be affected by how the smart metering roll-out is designed, and called for separate CBA analyses for various implementation scenarios.</p>	Noted	<p>ERGEG recognises that the costs are highly depending on what level of service each Member State chooses for the smart metering system. ERGEG therefore leaves this out of the recommendation, but a clarification on this will be reflected in the final GGP.</p>
	<p>Four respondents pointed out that costs and benefits would affect different actors at different times during a roll-out and called for rules where actors that become obliged to implement the programme are given the right to raise revenues from other actors that would otherwise see no direct costs while reaping the benefits. This view was especially prevalent among respondents that assumed that grid operators would become obliged to invest in smart metering technology. These respondents called on regulators to adapt the rules that govern how grid operators raise revenues so that grid operators will be able to recover the costs incurred for the smart meter roll-out that would benefit other actors in the value chain.</p>	Noted	<p>ERGEG recognises that market design differ between the Member State. Therefore, ERGEG will not give any recommendation on the suggested examples.</p>

Rec. No.	Respondents' views	ERGEG's position	Explanation
	<p>Three respondents expressed opposition to the idea that smart meters should be rolled out even if a CBA would show that a roll-out was not profitable. These respondents wanted a roll-out to take place only for those customers for which a roll-out was profitable. These respondents also wanted to focus on a roll-out with a minimum functionality suitable for the vast majority of customers, and let the markets take care of the needs of customers that require functionality beyond the bare minimum.</p>	Agree	<p>ERGEG notes that the recommendation already states "if assessed positively ...".</p>
	<p>Two respondents called for a strong initial focus on clear functional requirements in order to avoid stranded investments.</p>	Agree	<p>ERGEG recognises that the Member States should be the ones that decide on any initial focus in the CBA.</p>
	<p>One respondent was of the opinion that several of the benefits listed by ERGEG would only materialize if legislation and/or market rules were appropriately amended.</p>	Agree	<p>ERGEG recognises that it can naturally be so that (some) recommendations are not possible to achieve without new legislation. However, legislation and regulatory changes are questions for each Member State and NRA to decide on, depending on the existing situation.</p>
	<p>One respondent was of the opinion that the focus of the CBA should be on the benefits related to consumer energy efficiency.</p>	Disagree	<p>ERGEG recognises the importance of consumer energy efficiency. However, since the value chain should be broad many stakeholders will be involved, and their benefits (and costs) also need to be reflected upon.</p>

Rec. No.	Respondents' views	ERGEG's position	Explanation
	<p>One respondent says that smart metering would benefit grid operators in several ways. Benefits included improved network operations, balance settlements, and investment and maintenance planning. Six stakeholders presented views on additional benefits for suppliers, such as reduced debt build up, improved load profiles and better forecasting.</p>	Agree	This will be reflected in the final GGP.
	<p>One respondent wanted to include in the CBA costs that would arise from doing nothing.</p>	Agree	"Business as usual" is mentioned in the introduction to the CBA recommendation.
	<p>One respondent says that reduced debt build up should be included in the benefits for both customers and suppliers.</p>	Agree	This is already reflected in the CBA recommendation: "Having bills which reflect real consumption, customers would no longer face imposed under/over payments which might require settling (and possibly unplanned for expenses) at a later date." And for suppliers: "Improved load profiling and forecasting"
	<p>One respondent wanted to ensure that grid operators are compensated if their outcome in the CBA was negative.</p>	Disagree	ERGEG recognises that a negative outcome of the CBA might depend on the chosen time period for recovery of costs. ERGEG will not give any advice on this.
15	<p>Three respondents supported the recommendation and pointed out that smart metering must be rolled out to all customers if some of the envisaged benefits are to become a reality.</p>	Noted	
	<p>Three respondents agreed to this recommendation provided that the overall outcome of the CBA was positive.</p>	Agree	Already mentioned in the recommendation.

Rec. No.	Respondents' views	ERGEG's position	Explanation
	<p>One respondent pointed out that during a multi-year roll-out, only those customers that had received a meter would benefit, while those that had not received a meter yet, would not.</p>	Noted	
	<p>One respondent feels that a cost efficient roll-out might be contradictory to rec, 15: All customers should benefit from smart metering.</p>	Noted	
	<p>Eight respondents were less optimistic and expressed the opinion that it was more or less impossible for all customers to benefit equally from smart metering, even after the roll-out had been completed. The view among these respondents was that smart metering was more appropriate for heavy customers than for light customers.</p> <p>These respondents say that light customers, the majority, should be offered a smart metering solution appropriate for their situation.</p> <p>One respondent seemed to be of the opinion that "appropriate" here means no smart meters at all. Other respondents advocated a very basic smart metering solution for most household customers, and that customers that wanted more capable smart metering solutions should seek those out in the open market.</p>	Noted	<p>ERGEG recognises that there will naturally be a difference between customers since their interest in being active on the market will differ. It is of the utmost importance, however, that as many as possible through smart metering is given a chance to become aware and active in the electricity market.</p> <p>ERGEG recognises that it is important to provide customers with offers that reflect actual consumption patterns, and naturally individually customised. These offers can be enabled through the smart metering system.</p>

Rec. No.	Respondents' views	ERGEG's position	Explanation
	One respondent expressed an opinion that the current absolute wording of the recommendation clashes with current legislation in some countries.	Noted	ERGEG recognises that national legislation as of today may not always be in line with the proposed recommendations in this report. However, these recommendations are aimed at future use of intelligent metering systems, which sometimes will require changes in national legislation.
16	Five respondents supported this recommendation and pointed out that incomplete roll-outs are bound to be much more expensive than comprehensive roll-outs. Two other respondents also support it if the outcome of the CBA is that a full roll-out is the preferred solution.	Noted	
	Two respondents pointed out that the actor responsible for the roll-out should be allowed to exclude certain customers where costs far outweigh benefits.	Disagree	ERGEG recognises that it should be a customer choice to decide which service is suitable, based on the smart metering system. Therefore, there should be no discrimination when rolling out.
	One respondent reiterated the point that in a multi-year roll-out customers that are given meters towards the end of the roll-out are in effect discriminated against, at least during the actual roll-out.	Agree	Already reflected in the draft recommendation, (last sentence).
	One respondent agreed that no customer should be discriminated against. No customer should have to bear any of the costs associated with smart metering.	Agree and Noted	ERGEG recognises that the Member States will conduct their CBAs in different ways according to their market designs respectively. Hence, splitting of costs will also differ.

Rec. No.	Respondents' views	ERGEG's position	Explanation
	<p>One respondent advocated a roll-out based on perceived benefit. This respondent wants to roll-out meters first to customers that stand to gain most from having a smart meter. They singled out prepayment customers, the elderly, and customers with special needs as customers that should be given smart meters early in a roll-out.</p>	Disagree	<p>ERGEG recognises that no discrimination should be made. We only accept geographical differences because of timing in different regions.</p>
	<p>One respondent advocated that vulnerable customers should be given smart meters last since they are the customers who will find it hardest to adapt to a world with dynamic prices.</p>	Disagree	<p>ERGEG recognises that no discrimination should be made. We only accept geographical differences because of timing in different regions.</p>
	<p>Two respondents repeated their opinion from recommendation 15 that only some customers will benefit from high end smart meters. These respondents advocated that basic smart meters are rolled out initially. Later, those customers that really want more capable smart meters could upgrade their metering equipment.</p>	Disagree	<p>ERGEG recognises that it should be a customer choice to decide which service is suitable, based on the smart metering system. Therefore, there should be no discrimination when rolling out.</p>
	<p>One respondent finds the current absolute phrasing of the recommendation clashes with national legislation in some Member States.</p>	Noted	<p>ERGEG recognises that national legislation as of today may not always be in line with the proposed recommendations in this report. However, these recommendations are aimed at future use of intelligent metering systems, which sometimes will require changes in national legislation.</p>

Rec. No.	Respondents' views	ERGEG's position	Explanation
17	<p>One respondent asked that frequency of meter reading information collected should not exceed what is required for billing, without the express consent of the customer.</p> <p>One respondent expressed concern over cost and also pointed out that gas consumption volumes can only be used for informational purposes, as it is the kWh heating value that is used for billing.</p> <p>One other respondent advocated separation of meter collection for billing purposes and information purposes.</p>	NA	The recommendation is focused on information, not billing.
	<p>One respondent wanted customers to get consumption information for free, and in the media of their choice. This respondent stressed the importance of hard copy reports for the benefit of customers without access to digital media.</p> <p>One respondent pointed out the importance of free information. This respondent advocated monthly information via the invoice, as well as information at arbitrary points in time via digital media - all for free. Two respondents expressed concerns about costs and wanted energy companies to have the freedom to select the most cost-efficient delivery mechanism.</p>	Partly agree	ERGEG agrees that information on consumption on a monthly basis should be free of charge. ERGEG does not state through which channels this should be conveyed.
	<p>One respondent pointed out that this recommendation must not lead to that customers that today pay a fixed amount every month with yearly settlement are forced into a scheme where their monthly payments vary.</p>	NA	The recommendation is focused on information, not billing.

Rec. No.	Respondents' views	ERGEG's position	Explanation
	<p>One respondent agreed with the recommendation but said that remote meter reading is not a requirement for this service.</p>	Noted	<p>In ERGEG's opinion, to be able to manage efficiently the numbers of meter readings, remote meter reading is a key capability.</p>
	<p>One respondent advocated the use of fixed periods for the consumption reports, and expressed opposition to the idea that the reports must be delivered regularly every month.</p> <p>For informational purposes, one respondent advocates the use of fixed time periods, but opposes mandatory monthly reports. They suggest that customers should be able to select monthly, quarterly, or annual reports.</p> <p>Two respondents also pointed out that customers would only need detailed information about consumption of gas during winter when gas usage is high.</p> <p>One other respondent does not recommend setting up a specific time frame (being a day, a week or a month). Instead customers should be capable to request 'on demand' their actual consumption at any time disregarding any billing frequency (i.e.: monthly).</p>	Disagree	<p>In ERGEG's opinion, once a month is a minimum.</p> <p>"On demand" data is covered in the recommendation on Offers reflecting actual consumption patterns.</p>
	<p>One respondent pointed out that customers would find it more difficult to control consumption of gas compared to control of consumption of electricity.</p>	Noted	
	<p>One respondent advocates lower ambitions when it comes to gas, since several smart metering solutions for gas are considerably more expensive than the corresponding solutions for electricity.</p>	Disagree	<p>ERGEG recognises that advocating a low ambition as a starting point is not preferable. The CBA is the tool for showing what is most cost-effective.</p>

Rec. No.	Respondents' views	ERGEG's position	Explanation
	<p>One respondent points out the differences between electricity and gas. This respondent also advocates a separation of collection of metering data for billing purposes and informational purposes.</p>	<p>Agree and Noted</p>	<p>The recommendation is focused on information, not billing.</p>
	<p>One respondent agreed with the recommendation but stressed that they did not want to be forced to provide consumption information via an in-home unit, as this would drive up costs significantly.</p>	<p>Agree</p>	<p>ERGEG does not state through which channels this should be conveyed.</p>
	<p>Four respondents agree to monthly consumption reports expressed in volume (m3). They are opposed to providing information expressed in kWh, as this would be considerably more expensive.</p>	<p>Noted</p>	<p>The recommendation does not mention kWh.</p>
	<p>One respondent asked for clarification on which actor should be obliged to provide the metering infrastructure, and how costs and benefits should be shared between these actors and other actors.</p>	<p>Noted</p>	<p>At this point, ERGEG does not address who should be responsible for providing the infrastructure and how costs and benefits should be shared.</p>
	<p>Two respondents express concerns over costs. They are not certain that a majority of gas customers would be interested in high frequency consumption reports, and they are concerned about the high volumes of meter readings and meter reading transmissions that would be required to provide detailed consumption reports.</p>	<p>Noted</p>	<p>In ERGEG's opinion, once a month is a minimum for reporting. Further parameters are best investigated through a CBA.</p>
<p>18</p>	<p>One respondent wanted to generalize this recommendation to apply to any situation where there is a contractual change. This would include supplier switching and moving, but also changes such as tariff changes.</p>	<p>Agree</p>	<p>The recommendation will be changed to reflect also contractual changes.</p>

Rec. No.	Respondents' views	ERGEG's position	Explanation
	One respondent wants customers to have access to detailed current and historical consumption data in a form that allows customers to compare offerings from different suppliers.	Noted	The form of the current and historical data will not be addressed in the recommendations. ERGEG also notes that there are already in many countries price comparison websites available.
	One respondent does not agree that offering accurate metering data should be a service that customer chooses or not. Indeed when switching or moving, the metering data should be accurate and the accuracy should not be optional and above all be free.	Agree	
	One respondent asked for clarification on which actor should be obliged to provide the metering infrastructure, and how costs and benefits should be shared between these actors and other actors.	Noted	At this point, ERGEG does not address who should be responsible for providing the infrastructure and how costs and benefits should be shared.
	One respondent proposed that meter data management be given to one central actor that would then be obliged to provide the relevant market actors with the data they need.	Noted	At this point, ERGEG does not give any recommendation concerning one central actor for data.
	Three respondents pointed out that the recommendation may clash with national legislation.	Noted	ERGEG recognises that national legislation as of today may not always be in line with the proposed recommendations in this report. However, these recommendations are aimed at future use of intelligent metering systems, which sometimes will require changes in national legislation.
	Two respondents proposed leaving this service to the market.	Noted	At this point, ERGEG does not address who should be responsible for providing the data.

Rec. No.	Respondents' views	ERGEG's position	Explanation
	Two respondents expressed concerns over data protection and customer privacy.	Noted	This is addressed in the recommendation on Customer control of metering data.
	One respondent says that daily meter readings are sufficient for this recommendation. One respondent says that interval metering is not appropriate for small and residential gas customers.	Agree	<p>ERGEG agrees that daily meter readings are sufficient. This will be reflected in the final GGP.</p> <p>ERGEG recognises that interval metering could be applied only to some classes of users, while ToU registers could be applied to smaller customers. When interval metering is applied it should be customised according to the relevant time period used in the market</p>
19	<p>Eight respondents pointed out that many customers prefer a payment scheme where they pay a fixed amount every month and where differences between the actual consumption and the consumption paid for is reconciled once per year. They also pointed out that this was even more important for gas than for electricity as gas consumption varies greatly over the year.</p> <p>Seven respondents want utilities to have the freedom to use estimated values in situations where real meter values are lost due to temporary technical problems.</p>	<p>Agree</p> <p>Noted</p>	<p>ERGEG agrees. This will be reflected in the final GGP.</p>

Rec. No.	Respondents' views	ERGEG's position	Explanation
	<p>One respondent pointed out that in some countries gas quality, which is an important factor when determining price, can only be established after some delay and that it might therefore be difficult to send out bills as often as once a month.</p>	NA	The recommendation is not about billing frequency.
	<p>One respondent pointed out that in the Netherlands, customers (may?) have the right to demand that remote meter reading is not performed for their meter. In such cases, bills must be based on estimated meter values.</p>	Noted	
20	<p>Four respondents point out that gas is often used in circumstances where it is difficult for customers to modify their consumption patterns without suffering unacceptable degradation in comfort – demand for gas is this much more inflexible than demand for electricity and it makes less sense to apply dynamic prices to gas than for electricity. Some of these respondents also point out that since gas can be stored, the need to control demand is also less than for electricity.</p>	Noted	
	<p>Two respondents point out that current legislation in Germany does not allow gas bills to be based on time intervals shorter than one month. They call for EU-wide harmonization of in this area.</p>	Noted	<p>ERGEG recognises that national legislation as of today may not always be in line with the proposed recommendations in this report. However, these recommendations are aimed at future use of intelligent metering systems, which sometimes will require changes in national legislation.</p>

Rec. No.	Respondents' views	ERGEG's position	Explanation
	One respondent is of the opinion that customers must be able to manually read meters in order to get all data that is used for billing purposes.	Noted	ERGEG recognises that it is important for the customer to have access to metering data. However, ERGEG does not say that it has to be performed directly on the meter.
	Two respondents expressed concerns over data protection and customer privacy.	Agree	See recommendation on Customer control of metering data.
	One respondent says that regulators should not mandate dynamic pricing – it is best left to customers and suppliers to come to agreement in the open market.	Agree	ERGEG notes that the draft recommendation states that “suppliers should be able to make offers ...” ERGEG does not say in detail how this should be done, but feels the possibility of offering dynamic pricing is important to reach consumption awareness and a possibility to perform demand response.
	One respondent pointed out that load profiles of residential customers must be adjusted if smart meters are rolled out on a large scale.	Noted	
21	Five respondents stressed the importance of free access to consumption data.	Noted	ERGEG's opinion is that once a month the customer should be able to receive information on cost and consumption free of charge.
	Seven respondents were concerned about costs and were in general not willing to provide detailed consumption information for free. Most agreed to providing minimal information for free but wanted to charge customers for additional information.	Noted	ERGEG's opinion is that once a month the customer should be able to receive information on cost and consumption free of charge.

Rec. No.	Respondents' views	ERGEG's position	Explanation
	<p>Five respondents wanted the freedom to select the most cost-efficient delivery mechanism, and again wanted to be able to charge customers for more expensive delivery mechanisms.</p> <p>One respondent suggested that minimal information about daily consumption is provided via a secured web site. Two respondents preferred delivery via in-house display, whereas two other respondents pointed out the delivery via meter displays is not possible in many apartment buildings where meters are usually located in locked rooms to which residents do not have access.</p>	Noted	ERGEG does not state through which channels this should be conveyed.
	Two respondents wanted national regulators to define the rules governing free information access.	Noted	At this point, ERGEG does not address this issue.
	<p>Five respondents pointed out that there is a difference between raw consumption data expressed in volume and processed consumption data expressed in kWh or financial terms. They also pointed out that raw consumption volumes are often meaningless to customers due to the difficulty in translating from these values to financial terms, and that it is expensive for utilities to collect and process meter readings in order to provide customers with consumption data expressed in financial terms. They were therefore unwilling to provide processed consumption information to customers free of charge, and wanted to make sure that customers were aware of the differences between raw consumption volumes and billable consumption data.</p> <p>One respondent was of the opinion that raw unprocessed information is of little value to customers, and that information should always be expressed in financial terms.</p>	Partly agree	<p>ERGEG's opinion is that once a month the customer should be able to receive information on cost and consumption free of charge.</p> <p>The party selling the gas has a responsibility to inform the customer in a way that he/she understands the differences between raw consumption volumes and billable consumption data.</p>

Rec. No.	Respondents' views	ERGEG's position	Explanation
	<p>Two respondents opposed the idea of giving reports to customers on demand, as they fear that this would be very expensive, especially if paper reports have to be printed and sent. Therefore, they prefer reports included in bills, or consumption information disseminated electronically.</p>	Noted	<p>ERGEG does not state through which channels this should be conveyed.</p>
22	<p>Two respondents point out that, given the uses of gas, it is difficult for customers to react to price signals by reducing consumption without suffering an unacceptable reduction in comfort.</p> <p>Four respondents point out that a gas meter can only operate in an "open" or "closed" position and that the only way to reduce capacity is by completely closing the meter after a defined consumption. They also point out that there are problems related to battery life of the meter and the motors for steering the valves that control the flow of gas.</p> <p>Three respondents point out that there are safety issues involved when gas is turned on and off.</p> <p>Two respondents express the opinion that this recommendation might make sense for industrial customers but would like to make it an optional recommendation for smaller commercial and residential customers.</p>	Agree	<p>ERGEG agrees and will delete this recommendation in the final GGP.</p>
23	<p>Fourteen respondents point out that it could be dangerous to remotely switch gas supply. They advocate a procedure where the meter operator remotely enables gas supply, and where it is the customer who locally flips the switch to turn on the flow of gas.</p> <p>Two respondents point out that remote control of the flow of gas</p>	Noted and Agree	<p>ERGEG will modify this recommendation in the final GGP to clarify the differences between activation and de-activation.</p>

Rec. No.	Respondents' views	ERGEG's position	Explanation
	<p>may be illegal in some Member States.</p> <p>One respondent mentions remote disconnect of gas as a service that might be of interest to gas suppliers when dealing with non-paying customers. In situations where grid operators supply the infrastructure for this service, one respondent wants grid operators to be able to charge suppliers for this service. One respondent mentions the same scenario but mentions that French grid operators prefer not to turn off gas to non-paying customers in this way.</p> <p>Seven respondents say that the infrastructure required to support this service is too expensive for the large majority of gas customers and would like to make this an optional recommendation.</p>		
24	<p>Two respondents want to make this recommendation mandatory rather than optional.</p> <p>One respondent pointed out that detecting abnormally high consumption is more important for gas than it is for electricity due to security concerns.</p>	Noted	This will be reflected in the final GGP.
	<p>Three respondents felt that the best way to provide customers with this information was via an in-house display.</p>	Noted	ERGEG does not state through which channels this should be conveyed.
	<p>Three respondents were of the opinion that it would be difficult to design the algorithms to detect true consumption level anomalies.</p>	Noted	

Rec. No.	Respondents' views	ERGEG's position	Explanation
	Five respondents were of the opinion that it would be very costly to implement this recommendation, that there were other cheaper means to achieve reach the same result, and that the recommendation should therefore remain optional.	Disagree	ERGEG believes that this recommendation is important.
	One respondent doubts that customers will be able to do anything useful with a high consumption alarm.	Noted	
25	Three respondents are concerned that this recommendation would lead to increased complexity and higher costs and therefore prefer keeping the recommendation optional or dropping it altogether and leave the issue to market forces.	Disagree	ERGEG recognises that this service is of high importance. There should be an open interface/gateway making it possible for service providers to develop services to interested customers.
	If the recommendation becomes a reality, and if grid operators are tasked with providing the service, two respondents ask regulators to take make sure that grid operators are compensated for these extra costs.	Noted	At this point, ERGEG does not address who should be responsible for the task, and will not give any recommendation on cost recovery. This is a question for the CBA.
	One respondent points out that this service will probably only be of interest to higher income households that can afford smart home devices.	Noted	
	Two respondents point out that many gas meters are located outside homes and that this can add to the complexity in implementing this recommendation.	Noted	

Rec. No.	Respondents' views	ERGEG's position	Explanation
	<p>Eight respondents discuss various technical options and issues related to the connection between the gas meter and the smart home network. The general consensus seems to be that the output of the gas meter should be connected to the communications module of the electricity meter and that this module is connected to the smart home gateway.</p>	Noted	
	<p>Five respondents express concerns over the interfaces between these components. The pulse output of a residential gas meter is already harmonized in Europe and the most recent residential meters are sometimes provided with a pulse output, but a lot of the meters on the market would have to be changed. Furthermore, the output connector of the meter is not yet harmonized. In order to obtain interoperability, this connector will have to be harmonized.</p>	Noted	
26	<p>One respondent wants special attention to be paid to costs and benefits for customers. One respondent wants special attention to poor and vulnerable customers.</p>	Noted	<p>ERGEG recognises that an extensive value chain is important, therefore several perspectives have to be taken into account, not the least the customers.</p>
	<p>One respondent is of the opinion that actors from the energy industry are the main beneficiaries of smart metering and should therefore bear the bulk of the costs.</p>	Noted	<p>ERGEG does not say who should bear the main cost burden. This will be a result of the CBA, which will differ from Member State to Member State.</p>

Rec. No.	Respondents' views	ERGEG's position	Explanation
	One respondent suggested that a CBA is repeated several times during a large-scale roll-out as experiences gained during the roll-out can be used to refine the CBA.	Noted	ERGEG recognises that this choice is to be done by the Member State.
	One respondent wanted to include the welfare of employees working in the sector in the CBA.	Noted	ERGEG recognises that this choice is to be done by the Member State.
	Seven respondents pointed out that recommendation 26 listed a set of potential benefits but had nothing to say about costs, and called for the addition of costs to the recommendation. Two respondents pointed out that operational costs, in addition to initial investment costs, must be included in the CBA.	Noted	ERGEG recognises that the costs are highly depending on what level of service each Member State chooses for the smart metering system. ERGEG therefore leaves this out from the recommendation, but a clarification on this will be reflected in the final GGP.
	Two respondents stressed that extensive roll-outs and roll-outs that tried to capture synergies between smart metering for gas and smart metering for were to be preferred. However, one respondent said that due to the properties of gas and the way gas is actually used, the benefits for gas were somewhat less than those for electricity.	Agree and Noted	

Rec. No.	Respondents' views	ERGEG's position	Explanation
	<p>Four respondents pointed out that costs and benefits would affect different actors at different times during a roll-out and called for rules where actors that become obliged to implement the programme are given the right to raise revenues from other actors that would otherwise see no direct costs while reaping the benefits. This view was especially prevalent among respondents that assumed that grid operators would become obliged to invest in smart metering technology. Three respondents called on regulators to adapt the rules that govern how grid operators raise revenues so that grid operators will be able to recover the costs incurred for the smart meter roll-out that would benefit other actors in the value chain, should the CBA be negative for the DSO.</p>	Noted	<p>ERGEG recognises that market design differ between the Member State. Therefore, ERGEG will not give any recommendation on the suggested examples.</p>
	<p>One respondent expressed opposition to the idea that smart meters should be rolled out even if a CBA would show that a roll-out was not profitable. These respondents wanted a roll-out to take place only for those customers for which a roll-out was profitable. These respondents also wanted to focus on a roll-out with a minimum functionality suitable for the vast majority of customers, and let the markets take care of the needs of customers that require functionality beyond the bare minimum.</p>	Agree	<p>ERGEG notes that the recommendation already states "if assessed positively ...".</p>
	<p>One respondent called for the enduring design to be available from day one of the roll-out, in order to avoid stranded investments.</p>	Noted	<p>ERGEG recognises that the Member State should be the ones that decide on any initial focus in the CBA. However, ERGEG finds interoperability and standards are of absolute values when implementing smart meters.</p>

Rec. No.	Respondents' views	ERGEG's position	Explanation
	<p>One respondent was of the opinion that several of the benefits listed by ERGEG would only materialize if legislation was appropriately amended and called for such regulatory changes.</p>	Noted	<p>ERGEG recognises that national legislation as of today may not always be in line with the proposed recommendations in this report. However, these recommendations are aimed at future use of intelligent metering systems, which sometimes will require changes in national legislation. ERGEG recognises that national legislation as of today may not always be in line with the proposed recommendations in this report. However, these recommendations are aimed at future use of intelligent metering systems, which sometimes will require changes in national legislation.</p>
	<p>One respondent said that the only benefits that were worth paying attention to were those related to consumer energy efficiency.</p>	Disagree	<p>ERGEG recognises the importance of consumer energy efficiency. However, since the value chain should be broad many stakeholders will be involved, and their benefits (and costs) also need to be reflected upon.</p>
27	<p>Three respondents supported the recommendation and pointed out that smart metering must be rolled out to all customers if some of the envisaged benefits are to become a reality.</p>	Disagree	<p>All customers should be able to obtain a smart meter if the CBA is assessed positively.</p>
	<p>Three respondents agreed to this recommendation provided that the overall outcome of the CBA was positive.</p>	Agree	<p>Already mentioned in the recommendation.</p>

Rec. No.	Respondents' views	ERGEG's position	Explanation
	One respondent wanted to ensure that grid operators are compensated if their outcome in the CBA was negative.	Noted	ERGEG recognises that a negative outcome of the CBA might depend on the chosen time period for recovery of costs. ERGEG will not give any advice on this.
	One respondent pointed out that during a multi-year roll-out, only those customers that had received a meter would benefit, while those that had not received a meter yet, would not.	Noted	
	Eight respondents were less optimistic and expressed the opinion that it was more or less impossible for all customers to benefit equally from smart metering, even after the roll-out had been completed. The view among these respondents was that smart metering was more appropriate for heavy customers than for light customers.	Noted	ERGEG recognises that there will naturally be a difference between customers since their interest in being active on the market will differ. It is of the utmost importance, however, that as many as possible (through smart metering) are given a chance to become aware and active in the electricity market.
	Eight respondents felt that light customers, the majority, should be offered a smart metering solution appropriate for their situation – either no smart metering solution at all or a very basic smart metering solution. Customers that want more capable smart metering solutions should seek those out in the open market.	Disagree	ERGEG recognises that it is important to provide customers with offers that reflect actual consumption patterns, and naturally individually customised. These offerings can be enabled through the smart metering system.

Rec. No.	Respondents' views	ERGEG's position	Explanation
	<p>One respondent expressed an opinion that the current absolute wording of the recommendation clashes with current legislation in some countries.</p>	Noted	<p>ERGEG recognises that national legislation as of today may not always be in line with the proposed recommendations in this report. However, these recommendations are aimed at future use of intelligent metering systems, which sometimes will require changes in national legislation.</p>
28	<p>Three respondents pointed out that incomplete roll-outs are bound to be much more expensive than comprehensive roll-outs. Respondents also support it if the outcome of the CBA is that a full roll-out is the preferred solution.</p>	Agree	
	<p>Three respondents pointed out that the actor responsible for the roll-out should be allowed to exclude certain customers where costs far outweigh benefits.</p>	Disagree	<p>ERGEG recognises that it should be a customer choice to decide which service is suitable, based on the smart metering system. Therefore, there should be no discrimination when rolling out.</p>
	<p>One respondent pointed out that in a multi-year roll-out customers that are given meters towards the end of the roll-out are in effect discriminated against, at least during the actual roll-out.</p>	Agree	<p>Already reflected in the draft recommendation (last sentence).</p>
	<p>One respondent agreed that no customer should be discriminated against, and also expressed the opinion that no customer should have to bear any of the costs associated with smart metering.</p>	Agree and Noted	<p>ERGEG recognises that the Member State will conduct their CBAs in different ways according to their market designs respectively. Hence, splitting of costs will also differ.</p>

Rec. No.	Respondents' views	ERGEG's position	Explanation
	<p>One respondent advocated a roll-out based on perceived benefit. This respondent wants to roll-out meters first to customers that stand to gain most from having a smart meter. This respondent singled out prepayment customers, the elderly, and customers with special needs as customers that should be given smart meters early in a roll-out. One respondent holds the opposite view and advocated the vulnerable customers should be given smart meters last since they are the customers who will find it hardest to adapt to a world with dynamic prices.</p>	Disagree	<p>ERGEG believes that no discrimination should be made. ERGEG only accepts geographical differences because of timing in different regions.</p>
	<p>Two respondents repeated their opinion from recommendation 27 that only some customers will benefit from high end smart meters. These respondents advocated that basic smart meters are rolled out initially. Later, those customers that really want more capable smart meters could upgrade their metering equipment. One of the respondents also repeated its opinion that the current absolute phrasing of the recommendation clashes with national legislation in some Member States.</p>	Disagree and Noted	<p>ERGEG recognises that national legislation as of today may not always be in line with the proposed recommendations in this report. However, these recommendations are aimed at future use of intelligent metering systems, which sometimes will require changes in national legislation. ERGEG recognises that it should be a customer choice to decide which service is suitable, based on the smart metering system. Therefore, there should be no discrimination when rolling out.</p>

Rec. No.	Respondents' views	ERGEG's position	Explanation
29	<p>Seven respondents disagreed with the statement that other parties had to ask customers for the right to access their consumption data. These respondents wanted grid operators and suppliers to have automatic access to all data that allow them to optimize the running of the various parts of the energy system that they are responsible for. Most of these respondents were of the opinion that grid operators and suppliers should have unconditional access to the data they need provided that they respect the rights of consumers.</p> <p>One respondent mentioned contracts between customers and grid operators, and between customers and suppliers, as suitable vehicles for defining the rules. Two respondents called for national legislation, while two other respondents called for EU-wide rules. One respondent suggested that grid operators and suppliers should have automatic access to some data unless customers explicitly stripped them of this access</p>	Noted	<p>ERGEG wishes to clarify that the metering data required to fulfil regulated duties are always available to the relevant parties. The principle should be that other parties requesting information shall state what information is needed, with what frequency and will then obtain customer's approval for this.</p>
	<p>One respondent notes that Chapter 8 mentions the DSO's right to have access to "some information" without specifying the boundary between data where the customer's privacy is of overwhelming importance, and data that is required for a more efficient network management. This difference might need to be specified in later versions of the document.</p>	Noted	<p>ERGEG will not specify the data at this point, but the final recommendation will reflect the need for "full transparency on existing customer data".</p>

Rec. No.	Respondents' views	ERGEG's position	Explanation
	One respondent asked for clarifications on who should bear the costs associated with the management of access right to the data.	Noted	At this point, ERGEG will not address who should bear the costs. This is preferably a question for the CBA.

Consultation Question D: Electricity - When interval metering is applied, which interval should be used for customers?

Respondents' views	ERGEG's position	Explanation
<p>Eight respondents preferred different periods for different purposes and different periods for different classes of users. Three of these respondents also foresaw how the interval would change over time as shorter time intervals were applied to more and more users. Five respondents wanted to link the time interval to the corresponding time intervals used in the national energy markets and balancing clearing mechanisms. They prefer not to standardize this at a European level. On the other hand, one respondent wants to standardize the time interval at a European level.</p>	Noted	<p>ERGEG recognises that interval metering could be applied only to some classes of users, while ToU registers could be applied to smaller customers. When interval metering is applied, it should be customised according to the relevant time period used in the market.</p>
<p>One respondent points out that a metering infrastructure that measures and registers load and work in small intervals might be in conflict with the MID, with respect to household customers.</p>	Noted	
<p>One respondent does not want the recommendation to state what they believe are technical implementation details. The respondent would like the recommendation to contain the following wording: "The meter should enable commercial offerings from suppliers which reflect actual patterns of both consumption and production".</p>	Noted	<p>Even though ERGEG recognises that the relevant time period in the market is now defined nationally, interval metering, when applied, should allow measurement of electricity consumption in different periods in order to allow commercial offerings from the supplier to reflect different cost and value of electricity.</p>
<p>Two respondents have concerns about data protection and customer privacy. When intervals of less than 30 minutes are used, one respondent points out that data protection and customer privacy concerns must be addressed first.</p>	Noted	<p>ERGEG believes that in any case data protection related to customer privacy is of the utmost importance and that national regulation should prevent the</p>

Respondents' views	EREG's position	Explanation
		abuse of data by the party involved, no matters which interval is suggested or used.
<p>Two respondents say that intervals shorter than 30 minutes are required. The interval metering for consumption/injection should be at the lowest granularity that responds to the needs of all involved parties. One other respondent wants to see near real-time feedback reading intervals substantially below half an hour.</p> <p>Seven respondents preferred 15 minutes, since this matches the time interval used in several markets, for standard to use control, in the frame of one-hour-accounting-intervals and intra-day deviation clearing, and 24 hours - for standard accounting, validation and consumptions estimation, and also to enable business models in the area of smart grids</p> <p>One respondent is open to using longer time intervals for certain customer classes.</p> <p>Three respondents preferred an interval of 30 minutes since most high consumption peaks are concentrated on very short time intervals. One of these respondents did not want to have shorter intervals due to privacy concerns.</p> <p>Two respondents preferred 30 minutes for most customers and a shorter interval (10 minutes) for other purposes, like customers that use load curtailment and demand management services.</p> <p>One respondent would like to see an interval of 12 hours whereas one other respondent is worried that fine-grained dynamic prices can be misused by utilities to design complex tariffs that will lead to higher bills for customers.</p>	Noted	<p>EREG recognises that there is a need for determining a frequency on interval metering at a European level.</p> <p>EREG believes that smart meters should be capable of recording consumption/ injection on a parametrisable time basis and that it should be set at a minimum at hourly. Smart meters shall enable meter values to be stored in a buffer with a capacity in line with the meter reading frequency.</p>

Respondents' views	ERGEG's position	Explanation
<p>Seven respondents say that hourly measurements are adequate for all customers, considering daily transfers from meters to data centres for billing purposes. For other services, such as demand side management and visualization of energy consumption, the respondents feel that shorter time intervals are needed.</p> <p>One respondent recommends an interval of one hour or less, in the future as low as 15 minutes.</p> <p>One respondent recommends that the metering interval be one hour as this avoids problems related to data protection, customer privacy, and very large amounts of meter data that must be managed.</p> <p>One respondent initially wants to see hourly metering for electricity customers above 55 kW and longer intervals for customers below 55 kW, with an opportunity for smaller customers to be measured hourly if they are willing to pay for this. In the long run, all electricity customers could be hourly measured provided a detailed CBA is performed first.</p> <p>Three respondents do not want to provide such services as standard, free services, and also want a detailed CBA to be performed before introducing shorter time intervals.</p>		
<p>One respondent also wants to see gross local generation and gross consumption of small scale prosumers measured separately because the load profile of a typical small prosumer will probably remain statistically predictable while the generation profile will depend on external factors such as the availability of sun, wind or water. The sum of both (= net exchange of the grid) is therefore not statistically determinable and could lead to massive imbalances and hence risk for grid instability which should be avoided by all means.</p>	Noted	

Consultation Question E: Gas - When interval metering is applied, which interval should be used for customers?

Respondents' views	ERGEG's position	Explanation
One respondent did not have anything to say about the actual metering interval, but did recommend data transfer from meters to central systems for residential and commercial customers and higher transfer frequencies for larger customers.	Noted	ERGEG finds it reasonable that transfer frequencies should be defined according to each national market model.
<p>Two respondents pointed out that intervals should be adapted to the needs of all involved actors and to the time frames used in the wholesale markets. One respondent expressed the opinion that the precision needed in the gas market was lower than that needed for electricity.</p> <p>One respondent pointed out that the higher the measurement frequency, the higher the costs. Four respondents agreed and pointed out the battery life of the gas meter as the biggest obstacle to high frequency metering for gas.</p>	Noted	<p>ERGEG recognises that interval metering could be applied only to some classes of users, while ToU registers could be applied to smaller customers. When interval metering is applied, it should be customised according to the relevant time period used in the market.</p> <p>ERGEG is aware that for gas, the smart meter battery life is an important issue to be taken into account.</p>
Nine respondents opted for interval metering of one hour. Two respondents only want to use this time interval for one hour to begin with customers with large off-takes. An extension of a one hour time interval to all gas customers should not be done until a thorough CBA has been performed.	Noted	ERGEG believes that smart meters should be capable of recording consumption on a parametrisable time basis. Considering that gas demand flexibility this time basis should be set at a minimum at daily.
Two respondents suggested an interval of one day.		
One respondent suggested an interval of one week.		

Respondents' views	ERGEG's position	Explanation
Two respondents point out that meter values with intervals shorter than one month cannot be used for billing for legal reasons. If higher frequency values are used for information purposes data protection and customer privacy issues must be considered.		Smart meters shall enable meter values to be stored in a buffer with a capacity in line with the meter reading frequency.
One respondent is concerned that dynamic prices based on fine-grained time intervals can lead to higher costs for customers and would like to see price models that do not raise overall costs.	Noted	

Consultation Question F: Electricity - When Time of Use registers are applied for customers and those that both generate and consume electricity, what would be an appropriate number of registers?

Respondents' views	ERGEG's position	Explanation
One respondent calls for a register count that matches the number of time bands in commonly occurring ToU tariffs.	Noted	
Six respondents call for highly configurable smart metering systems where the number of registers can be easily changed.	Noted	
<p>Four respondents do not want physical registers in meters and instead advocate interval metering and implementation of ToU tariffs using software running against measurement databases.</p> <p>One respondent does not want the recommendation to state what they believe are technical implementation details. The respondent would like the recommendation to contain the following wording: "The meter should enable commercial offerings from suppliers which reflect actual patterns of both consumption and production".</p>	Noted	ERGEG believes on the importance of offers reflecting actual consumption. This could be achieved either through interval metering or ToU.
<p>Four respondents say that the recommendation should not stipulate how many registers meters should have - this should be left to Member States or market actors. However, for regulated environments, two of them recommend a minimum of two registers.</p> <p>Three respondents say that at least two registers are needed. They also say that different conditions on different markets call for different registers.</p> <p>Two respondents call for at most three registers: high demand, low demand and peak demand. Eventually a fourth index could be added for weekends and holidays.</p> <p>Three respondents call for at most four registers: off peak, base, high peak, and extra high peak.</p> <p>One respondent points out that not only the number of price levels, but also the number of transitions per day between price levels is important for the understanding</p>	Noted	When ToU registers are applied, ERGEG believes in the use of three registers at least, corresponding to time bands such as peak, middle level and off-peak. The number of transitions per day between different registers should be defined by each NRA with the purpose of balancing cost reflectivity and possible complexity of contracts for the customer and those that both generate and consume electricity.

Respondents' views	EREG's position	Explanation
<p>of tariffs.</p> <p>Two respondents recommend a maximum of six registers to handle peak, normal, and off-peak during the day and also a division between weekdays and weekends. They are worried about tariffs with more price levels than six since more complex tariffs are hard for customers to understand. For more complicated tariffs the use of interval metering should be recommended rather than increasing the number of ToU registers.</p> <p>One respondent is of the opinion that the appropriate number of registers depends on the frequency of the meter reading used for billing. If the meter reading is made quarterly or more frequently, then the seasonality of the consumption will be captured through this meter reading, and the number of registers can be around 15, including both network operators and supplier needs (enough to capture weekly and daily components of the consumption pattern). If the meter reading frequency is lower, then more registers are needed to capture the seasonality of the consumption patterns. Another respondent is of the same opinion.</p> <p>One respondent is of the opinion that 10 registers would enable market operators to better capture consumption patterns and, therefore, to make customized commercial offers. One respondent says that the register count must reflect the requirements of energy retailers, distributors, agents and operators. At present, this leads to a need for 80 to 100 registers.</p> <p>One respondent points out that increased use of distributed generation will change the way that prices fluctuate and therefore the way that ToU tariffs are constructed.</p>		

Consultation Question G: Gas - When Time of Use registers are applied for gas customers, what would be an appropriate number of registers?

Respondents' views	ERGEG's position	Explanation
<p>One respondent is of the opinion that fewer registers are needed for gas than for electricity. Another respondent claims that ToU registers are not even relevant for gas.</p> <p>One other respondent sees no need for several registers if interval metering of one hour is in place.</p>	Noted	<p>ERGEG believes on the importance of offers reflecting actual consumption. This could be achieved either through interval metering or ToU.</p>
<p>Two respondents express concerns over costs. Again, the effects of the lifetime of the battery in connection with frequent meter readings and data transfers are brought up. They also point to expenses connected to the conversion of raw consumption values into financial terms.</p>	Noted	<p>ERGEG is aware that for gas smart meter battery life is an important issue to be taken into account.</p>
<p>One respondent recommends one register.</p> <p>One respondent suggests at least two registers, one for peak and one for off-peak. Two other respondents suggest two registers for meters in regulated environments. For meters in non-regulated environments, they want to leave the number of registers to the market.</p> <p>One respondent prefers six ToU registers, which is the same as for electricity. It also acknowledges that there are significant differences between the wholesale markets for electricity and gas, but still prefers the same set of rules for gas and electricity in order to foster synergies and energy efficiency.</p> <p>Four respondents point out that the number of registers in the meter depends on the tariff sold to the customer, the need of actors such as suppliers and grid operators, and the structure of wholesale markets. They therefore prefer configurable meters where the number of registers can be easily changed.</p>	Noted	<p>When ToU registers are applied, ERGEG believes in the use of three registers at least, corresponding to time bands such as peak, middle level, and off-peak. The frequency of transitions in a certain period between different registers should be defined by each NRA with the purpose of balancing cost reflectivity and possible complexity of contracts for the customer.</p>

Consultation Question H: Electricity - What further services should be envisaged in order to allow consumers and those that both generate and consume electricity to be aware and active actors in smart grids?

Respondents' views	ERGEG's position	Explanation
One respondent suggest informing the customer when is the best moment to inject or consume energy.	Noted	ERGEG agrees that there might be advantages for the producer but this would require a very sophisticated communication system. ERGEG does not believe that this level of service is necessary or feasible at this point.
One respondent felt that "Time of Use Prices" is a privileged way to make the "prosumers" active players of the market. Two respondents suggest offering ToU pricing for prosumers.	Agree	ERGEG agrees. This will be reflected in the final GGP.
Four respondents give more general comments referring to enabling a smart grid. Some relevant data are listed: <ul style="list-style-type: none"> • forward load diagram • forward load diagram analysis • simulations with local productions • forward local productions results + need of cleaning solar cells • individual RUE (Rational Use of Energy) measures 	Noted	ERGEG agrees that these are indeed relevant services for some producers. ERGEG does not, however, intend to recommend such detailed services in the final GGP. The development of such services should be left to the service providers and customers/producers to choose.
One respondent prefers a simple and inexpensive mechanism to register duration of interruptions and the number of such interruptions.	Agree	ERGEG agrees that such a service should be made possible in the most efficient way possible.
One respondent has the opinion that smart metering is the essential first step towards a smart grid.		
Three respondents feel the clarification of the open and currently insufficiently	Agree	

Respondents' views	ERGEG's position	Explanation
developed legal and regulatory framework would generate further programmes and service options based on smart metering in the free market. Further stipulations in the context of this consultation would therefore not be advisable. The respondents argue that developing services around smart metering should be left to competitive forces.		
One respondent would like to see energy consumption expressed in financial terms.	Agree	ERGEG's opinion is that once a month the customer should be able to receive information on cost and consumption free of charge.
One respondent advocates visualisation of consumption data at the customer site.	Partly agree	ERGEG agrees that the consumption data needs to be communicated to the customer in a clear and accurate way. ERGEG does not intend to suggest through which means of communication this should be done.
One respondent proposes an alarm that informs customers of problems in the transmission grid.	Noted	ERGEG does not, at this point, see this as a feasible minimum service.
Three respondents propose additional services such as forward load diagrams, forward load diagram analysis, simulations with local production, and forward local productions results + need of cleaning solar cells.	Noted	ERGEG will not, at this point, make recommendations in this detail.
Five respondents propose individualised energy efficiency services.	Noted	ERGEG will not, at this point, make recommendations in this detail.
Three respondents point to the possibility of aggregating many small customers into larger clusters that can then be used in wholesale and balancing markets.	Agree	ERGEG agrees that there are many benefits for other service providers with the services proposed in the GGP.

Respondents' views	ERGEG's position	Explanation
Two respondents suggest offering ToU pricing for prosumers.	Noted	ERGEG will not, at this point, make recommendations in this detail.
One respondent presents a general recommendation to add intelligence to the last mile between the substation and the customer premises. According to the respondent this is currently the part of the grid with the least amount of intelligence, and also the part where intelligence is most sorely needed.	Noted	
Three respondents do not want this consultation to add any new services to the list of recommended services.	Noted	

Annex 1 – CEER and ERGEG

The Council of European Energy Regulators (CEER) is a not-for-profit association in which Europe's independent national regulators of electricity and gas voluntarily cooperate to protect customers' interests and to facilitate the creation of a single, competitive, efficient and sustainable internal market for gas and electricity in Europe. CEER acts as a preparatory body for the European Regulators' Group for Electricity and Gas (ERGEG).

ERGEG is the European Commission's formal advisory group of energy regulators. ERGEG was established by the European Commission, in November 2003, to assist the Commission in creating a single EU market for electricity and gas. ERGEG's members are the heads of the national energy regulatory authorities in the 27 EU Member States.

The work of CEER and ERGEG is structured according to a number of working groups, composed of staff members of the national energy regulatory authorities. These working groups deal with different topics, according to their members' fields of expertise.

This evaluation of responses was prepared by the Retail Market Functioning Task Force of the Customer Working Group.

Annex 2 – List of abbreviations

Term	Definition
CBA	Cost Benefit Analysis
CEER	Council of European Energy Regulators
DSO	Distribution System Operator
EN	European Norm
EREGG	European Regulators Group for Electricity and Gas
ESCO	Energy Service Company
GGP	Guidelines for Good Practice
HAN	Home Area Network
IEC	International Electrotechnical Committee
MID	Directive on Measuring Instruments
MS	Member state(s)
NRA	National Regulatory Authority
PQ	Power Quality
ROI	Return of Investment; ratio of money gained or lost on an investment relative to the amount of money invested
ToU	Time of use
TSO	Transmission System Operator

Table 3 – List of Abbreviations