



Fostering energy markets, empowering **consumers**.

**CEER Draft Advice on Data
Management for Better Retail Market
Functioning**

Electricity and Gas

A CEER Public Consultation Paper

**Ref: C13-RMF-57-04
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INFORMATION PAGE

Abstract

CEER believes that efficient and safe data exchange between stakeholders is vital for retail market functioning and customer protection.

This CEER public consultation document (C13-RMF-57-04) sets out draft advice on how customer meter data management should be developed at present as well as in the future, with and without smart metering and smart grids.

CEER suggests that one way of setting requirements for data management is to determine a set of guiding principles which would be applicable regardless of the specific form of the data management model. For these guiding principles, we present a total 14 draft recommendations.

This draft advice has been developed with a strong focus on the customer perspective reflecting CEER's 2020 Vision for Europe's energy customers and taking into consideration relevant previous work done by CEER in this area.

CEER invites all interested stakeholders to respond to this public consultation. The deadline for responses is **23 May 2014**. CEER welcomes responses identifying any issues considered relevant. In particular, stakeholders are invited to reply to and provide comments on the list of questions set out in Chapters 8 and 10 of this paper.

Target Audience

European Commission, customers, prosumers, suppliers, distribution system operators, energy service companies, network owners, meter operators, Member States, academics and other interested parties.

Keywords

Data management; 2020 Vision, smart meters; smart grids, energy consumers

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CEER and ERGEG documents

- [CEER Status Review of Regulatory Aspects of Smart Metering](#) – Ref. C13-RMF-54-05, 12 September 2013
- [Contributing to a 2020 Vision for Europe's energy customers: CEER 3-year rolling action plan](#) – Ref. C12-SC-09-07, 7 November 2012
- [CEER Benchmarking Report on Meter Data Management Case Studies](#) – Ref. C12-RMF-46-05, November 2012
- [CEER Guidelines of Good Practice on Electricity and Gas Retail Market Design, with a Focus on Switching and Billing](#) – Ref. C11-RMF-39-03, January 2012
- [Final Guidelines of Good Practice on Regulatory Aspects of Smart Metering for Electricity and Gas, ERGEG](#) – Ref. E10-RMF-29-05, February 2011
- [ERGEG position paper on Smart Grids](#) – Ref. E10-EQS-38-05, June 2010

Other relevant documents

- The Florence School of Regulations THINK project: [Shift, Not Drift: Towards Active Demand Response and Beyond](#) – June 2013
- European Commission – SMART GRID TASK FORCE – [Options on handling Smart Grids Data](#) – January 2013
- [Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC](#)
- European Commission – [European Task Force for the Implementation of Smart Grids into the European Internal Market. Mission and Workprogramme 2012](#)
- [2012/148/EU: Commission Recommendation of 9 March 2012 on preparations for the roll-out of smart metering systems](#)
- [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](#)
- [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 and repealing Directive 2003/55/EC](#)



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Data Management for Better Retail Market Functioning

- 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](#)
- European Commission – [Digital Agenda for Europe](#) (DAE)



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1 Executive Summary

CEER believes that efficient, safe and secure data exchange between stakeholders is vital for retail market functioning and customer protection. For customers, a key consideration is which parties have access to their data and for what purpose. The availability of data is also crucial to the operation of effective competition. In the gas and electricity retail markets in Europe, there are currently limitations on the types of data available and on which parties have access to this data. Consequently, data management can be regarded as a potential barrier to competition.

The energy markets operating in the CEER member countries have been developed over many decades from different starting points and in order to meet different objectives. While there are commonalities between them, there are also material differences. This also applies to the arrangements for data management. Smart metering will result in a step change in the amount of data available. However, the speed of roll-out of smart meters is different in each country and also within each state in relation to electricity and gas. Consequently, in looking at data management and providing advice on the development of arrangements, it is necessary to look at the current position as well as the future with and without smart metering and smart grids.

This draft advice for public consultation has been developed with a strong focus on the customer perspective reflecting CEER's 2020 Vision for Europe's energy customers. Consumers and, by extension, prosumers are therefore a key stakeholder group. Furthermore, there are a wide range of stakeholders with an interest in data management including suppliers, distribution system operators, energy service companies, network owners, meter operators and national regulatory authorities. These stakeholders are the primary audience for this paper.

The present consultation begins by identifying three types of data which are directly relevant to retail market functioning: (1) point of delivery identification data; (2) user and contract data; and (3) consumption data. Collectively, we refer to these categories in this document as "customer meter data". We also look at the approach to setting data formats and systems for exchanging data and conclude that there are significant benefits to be gained from standardising these. However, we recognise that there are different levels of standardisation and ways it can be implemented and consult on potential options. In this document we seek views on our proposal that the three areas of data highlighted above should be the minimum starting point for standardisation and that there may be stages towards increased standardisation.

There is no sole data model that is appropriate for future customer meter data management. Different models may be appropriate in different countries reflecting the different characteristics of those states, including market design specificities and the different stages of roll-out. The focus should be on ensuring proper functioning, maximising the opportunities and minimising the threats of the models.

The management of customer meter data both now and in the future presents both opportunities and risks. A number of these issues exist whether or not one uses smart meters, e.g. protection of vulnerable customers. Other issues arise or become more significant with the roll-out of smart meters, such as innovation, role of third parties and the cost of customer meter data (i.e. affordability). Also, a number of the issues are more



important for different stakeholder groups, e.g. network management for network owners, the timing of sharing data for energy service companies and data privacy for customers.

The identification of the issues highlights what the guiding principles should be for data management, from the customer point of view. These principles related closely to CEER's 2020 Vision for Europe's energy customers and its RASP principles: reliability, affordability, simplicity, protection and empowerment. In this document, we propose and seek views on 14 draft recommendations across five guiding principles: Privacy & Security, Transparency, Accuracy, Accessibility and Non-discrimination:

- I. Privacy and Security:
 - Ensure appropriate security to prevent unauthorised access to customer meter data but allow third party access
 - Define measures for authorisation to access customer meter data
- II. Transparency:
 - Ensure customer knowledge of general information on meter data management
 - Ensure transparency of customer meter data to customers
 - Ensure transparency of customer meter data to third parties
 - Build customer confidence in sharing customer meter data to achieve energy efficiency benefits and other potential benefits
 - Use common standards for data content, data format and data exchange
 - Use common standards validity in regard to geographical areas
 - Apply minimum standard level of customer meter data and NRA involvement
 - Apply a minimum requirement on where to find customer-friendly information on meter data management
- III. Accuracy:
 - Make available to customers standardised measures to address inaccuracy concerning data management
- IV. Accessibility:
 - Develop common standards for meter data information to customers
 - Apply proportionate third party access to customer meter data
- V. Non-discrimination:
 - Ensure non-discriminatory access to information if and where smart meters are installed



2 Background

At the 2012 Citizens' Energy Forum, CEER and BEUC, the European Consumers Organisation, launched the 2020 Vision for Europe's energy customers¹. It set out a vision of an energy sector that puts smaller customers first.

The vision can be characterised by four principles governing the relationship between the energy sector and its variety of customers (RASP principles): reliability, affordability, simplicity, protection and empowerment. CEER sees focusing on a Vision as a valuable means of giving great priority to customer issues, based on more effective engagement with customer bodies. One of the work packages it identified to promote the 2020 Customer Vision was advice on data management for better retail market functioning. This public consultation represents the first stage in providing that advice.

On 25 October 2012, the EU adopted the Directive 2012/27/EU on energy efficiency.² This Directive established a common framework of measures for the promotion of energy efficiency within the European Union in order to ensure the achievement of the Union's 2020 20% headline target on energy efficiency and to pave the way for further energy efficiency improvements beyond that date. It laid down rules designed to remove barriers in the energy market and overcome market failures that impede efficiency in the supply and use of energy, and provided for the establishment of indicative national energy efficiency targets for 2020. Article 9 of this Directive sets out the rules in relation to metering. In particular, the Directive establishes the importance of customers, or third parties acting on behalf of customers, being provided with good quality data. It also reinforces the importance of ensuring the security of data provision and protecting the privacy of customers.

¹ [Contributing to a 2020 Vision for Europe's energy customers. CEER 3-year rolling action plan](#) – Ref. C12-SC-09-07, 7 November 2012

² [Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC](#)



3 Objectives and Contents of the Document

3.1 Objectives

The main objective of this paper is to develop advice on how data management in the retail market should be developed:

- in relation to “customer meter data”;
- in relation to both the electricity and gas markets; and
- in the current time period as well as in the future, with and without smart metering and smart grids.

These are discussed below.

3.1.1 Advice relating to electricity and gas

There are specific technical differences between the gas and electricity markets which have implications for the types of data that can be collected. For example, in the electricity sector smart meters facilitate remote power capacity reduction/increase, which can be part of a demand response strategy. However, there can be no equivalent in gas on the grounds that reducing gas pressure would have significant safety implications.

However, for the most part the issues around data management are exactly the same in both gas and electricity. In this paper, unless otherwise stated, all sections have been drafted to cover both gas and electricity.

3.1.2 With and without smart meters

A significant issue for data management in the energy sector is the roll-out of smart meters and the opportunities that this presents as well as the risks which will need to be managed. However, there are two reasons why it is important that this paper consider not only a future based on smart meters but also the current situation. These are:

- (1) Data management is already a key issue. The availability of good quality data is a key facilitator of competition and, in the absence of appropriate arrangements for data management, could be regarded as a potential barrier to competition.
- (2) Smart meters will not be rolled-out in the same timescale in all countries. The Electricity Directive 2009/72/EC and the Gas Directive 2009/73/EC set up the framework for the roll-out of smart meters. The Directives state that EU Member States should ensure the implementation of smart metering systems to facilitate the active participation of customers in the electricity and gas supply market. For electricity meters, a deadline of 2020 and 80% of customers has been set.



However, the Directives also noted that the roll-out in each Member State may be subject to an economic assessment of the long-term costs and benefits. Some countries have already undertaken a cost-benefit analysis and, on that basis, determined that it is not appropriate to roll-out smart meters in the electricity and/or gas markets at this time. This means that, for those countries, it is important to continue to consider data management in an environment without smart meters.

This paper recognises the existing differences between the data management arrangements in each country. Consequently, the purpose of the consultation is not to seek to align the different data management arrangements, but rather to identify a common set of guiding principles for the management of retail market data. Each guiding principle is accompanied by draft recommendations, 14 in all.

As this draft advice has been developed with a strong focus on the customer perspective, it is underscored by the principles of the 2020 Vision for Europe's energy customers. Furthermore, given the work carried out in this area both by CEER/ERGEG and by a range of other parties, this paper seeks to build on such work and to bring this together to form the basis for advice on the way forward in relation to data management.

3.2 Structure of the document

There are several stages to identifying which advice is needed on data management. These stages provide the structure for the remainder of the document:

- Chapter 4 – scopes the issue, in particular determining which data is within the scope of the draft advice set out by this paper and also what we mean by “data management”
- Chapter 5 – identifies the relevant stakeholders and their interests in data management
- Chapter 6 – outlines different models of data management
- Chapter 7– identifies the issues for data management both now and in the future and the opportunities and risks they present
- Chapter 8 – sets out guiding principles with draft recommendations for data management, accompanied by questions for public consultation
- Chapter 9 – provides a summary of the draft advice
- Chapter 10 – presents further questions for public consultation, in addition to those in Chapter 8



4 Scoping the issue: what is data management?

4.1 What are the different components of data management in the retail market?

Data management comprises the processes by which data is sourced, validated, stored, protected and processed and the basis on which it can be accessed. There are a number of facets to data management. These are discussed below.

4.1.1 Data governance

Data governance is concerned with the processes by which data is handled overall. There are broadly two approaches to this: (1) centralised; or (2) decentralised. In a centralised approach, a single party would be responsible for managing data which may involve collecting, storing, processing and provide access to that data. In a decentralised approach, a number of different parties may be involved in these processes. A decentralised approach is often referred to as a 'point-to-point' approach.

CEER's benchmarking report on meter data management³ highlighted that Member States use a variety of different ways to handle meter data management.

The most common approach, which is either currently applied or due to be applied, combines centralised access with decentralised storage. This model applies in Austria, Belgium, the Netherlands, Spain (for gas) and the United Kingdom.

However, the report highlighted that a range of other governance models are possible. Denmark (for electricity) and Norway have centralised approaches for access and storage and Italy is moving in the same direction.

On the other hand, Germany has a decentralised approach in relation to access and storage, also called "business as usual".

Data governance lies at the heart of data management arrangements. Most of the other components of data management stem from it. Models of data management are briefly described in Chapter 6 of this paper.

4.1.2 Data quality/integrity

A key issue for data management is the quality of the data. There are a number of quality components including data accuracy, how easily it can be understood and the timeliness of the provision of that information. The better the data quality the more confidence customers can have in that data.

The responsibility for data quality will vary depending on the governance arrangements. In a centralised model, one party would be responsible for ensuring data quality whereas under a decentralised model that responsibility could lie with a number of parties.

³ [CEER Benchmarking Report on Meter Data Management Case Studies](#) – Ref. C12-RMF-46-05, November 2012



However, even in a decentralised model, one party may provide quality assurance services to improve the process of data management. This is the approach that is applied in Norway, for example.

4.1.3 Data processing

Data processing concerns how the data is converted into a form that can be used. This means the conversion of raw data into other formats which may be of use to different parties. As is the case for data quality, the responsibility for data processing will vary depending on whether there is a centralised or decentralised model of data management.

Data processing is important in terms of the robustness of the process and the data it provides. There are two factors which are particularly important: the format in which data is provided to parties and the systems used for data exchange. There are potential benefits to be gained when these arrangements are standardised. This issue is discussed in further detail in Section 4.3.

4.1.4 Data access

Data access refers to which parties can receive data and also their ability to use that data. There are a number of stakeholders who may require access to data including the customers themselves, national regulatory authorities (NRAs) and system operators.

With the development of smart meters, another category of stakeholder who is likely to have more prominence will be third party intermediaries (TPIs). TPIs are parties which offer customers alternative routes to engage with energy markets and include e.g. switching websites, energy brokers and energy efficiency advice providers. In order to offer such services, TPIs need to have access to relevant data.

4.1.5 Data control

The issue of who owns the data is key to the consideration of the type of data management arrangements. Ownership implies control over data and over who can have access to that data.

4.1.6 Affordability

According to the Energy Efficiency Directive “*Member States shall ensure that final customers receive all their bills and billing information for energy consumption free of charge and that consumers also have access to their consumption data in an appropriate way and free of charge*”⁴. It is important to recognise that there will always be a cost associated with data management. One issue is ensuring the cost of those arrangements is affordable. The goal is to be able to provide customers with different choices at a minimum cost.

⁴ Art. 11, par 1



4.2 What data is within scope of this paper?

For the purposes of this paper, we have considered data necessary for the efficient functioning of the retail market. This is not limited to meter data but includes wider data relevant to the operation of the retail market. The different types of data which we consider relevant to this paper are at least as follows:

- **Point of delivery identification data** – This is data used to identify the meter itself and the point where the meter is installed. For example, in the UK this is referred to as the Meter Point Administration Number ('MPAN'); in Spain it is the Universal Point of Supply Code (CUPS).
- **User and contract data** – This is data on the user of the meter (name and address of the user) and the user's contract data (supplier identification data, first day of supply for each supplier serving that user/point of delivery).
- **Consumption data** – This is data on the usage associated with the meter. Among the forms of data collected would be real-time energy usage, current and historic consumption and energy efficiency information. Smart meters would allow a more granular breakdown on consumption data including consumption by individual appliances in the home.

We refer to these categories of data in this draft advice collectively as “**customer meter data**”. Where we address only one of the three sub-categories of data identified above or indeed to a separate category of data, we indicate it separately.

We note that smart meters will be able to store a wider range of data, for example, operational data such as data on voltage quality. However, the draft advice set out in this document focuses directly on data relevant to retail market functioning. While one could argue that the increased use of renewable and distributed generation is increasing supply quality issues, we retain the view that such information is at best peripheral to the efficient functioning of the retail market. Therefore, we have not considered such data in developing our draft advice.

4.3 Data content, data format and systems for exchanging data

There are three factors which have a significant impact on the arrangements for data management. These are: (1) the content of the data; (2) the format in which this content/data is provided to parties (e.g. the point of delivery identification data and the way in which consumption data is presented); and (3) the systems used for the exchange of this data (e.g. use of centralised systems, databases and delivery points to customers). CEER considers that the adoption of standardised arrangements may have significant benefits for customers. These benefits are reflected in:

- **Greater certainty** – Customers would be more likely to understand the data they receive and how to access that information as it would be the same regardless of their supplier. This makes the arrangements more transparent, reduces the scope for confusion and increases the potential opportunities for the use of that data.



- **Efficiency** – As customers are more likely to understand their data, they are more likely to use it to make efficient decisions about their consumption; this has wider impacts on the efficiency of the system as a whole.
- **Enhanced competition** – A standardised approach to the provision of data also creates a level playing field among industry parties, it means that customers are better positioned to make decisions about changing tariffs or switching suppliers.

There are potentially significant customer benefits from increased standardisation and well-functioning data exchange systems. The availability of better customer information, as a result of increased standardisation behind the customer's curtain, enables better decision making on customers' consumption patterns and use of home products. A potential example of how that information could be useful to customers is the Green Button initiative in the US which went live in 2012. Under these arrangements, the companies provide a website from which the customers can click on the 'Green Button' and download up to 13 months of their detailed electricity usage data broken down by either 15-minute or hourly interval data. The associated opportunities include seeing a breakdown of their energy usage by appliance, getting an immediate comparison of how optional time-of-use rate plans would affect their bills and calculating their potential savings and payback for installing insulation. Developing a Green Button system could be an interesting next step approach.

Recognising the importance of this issue and the potential benefits to customers, we circulated an internal questionnaire to all CEER members seeking information on the extent to which existing data formats and arrangements for data exchange were standardised in their countries. We also sought views on the extent to which any issues arise as a result of standardisation and on the merits of further standardisation. We received 17 responses.

Our key findings were as follows:

- (1) A majority of regulators considered it would be beneficial to have standardised data contents, formats and systems for the exchange of data. Key reasons included: promoting competition in the retail market; the creation of economies of scale; the ability to offer universal solutions and services; it is in the broader interests of consumers as it is more transparent, reduces the scope for confusion and makes it possible for customers to maintain services when switching suppliers.
- (2) Of the regulators who did not consider it would be useful to have a standardised data format or data exchange systems the reasons given were:
 - concerns about the impact on efficiency of imposing a single standard
 - the scope for additional costs reflected in higher prices for final consumers
- (3) A majority of regulators noted that they already had standardised data formats or those arrangements were in development. Of those:
 - for the majority, the arrangements were set out in either law (legislation) or soft law (regulations or obligations);
 - for around a half of respondents, the NRA was the body responsible for developing and monitoring the arrangements, for the others the body responsible was either a network company or another third party; and
 - for the majority, the standardised arrangements applied to a range of types of data including point of delivery identification data, user and contract data and consumption data, but not necessarily aggregated data.



- (4) A majority of countries had not experienced any major problems with putting in place standardised data formats or data exchange systems. However, five regulators did identify problems that could occur including:
- where DSOs have different database structures resulting in problems for synchronization;
 - data formats having to be imposed to guarantee efficient information flows;
 - lack of standardised data formats for billing data creating a barrier for combined billing for non-integrated suppliers;
 - the challenge of using established “old fashioned” systems whilst paying attention to data security, data protection and economic feasibility;
 - delays in processing and activating switching requests;
 - the lack of a clear time stamp for switching resulting in double-billing; and
 - problems with finalising disconnection arrangements.

The answers provided by respondents to the questionnaire reinforce our views on the merits of the standardisation of both data formats and data exchange systems. To develop data formats one needs first to understand what content should be formatted. Furthermore, it is clear that the majority of respondents have either adopted standardised approaches or are continuing to develop standardised arrangements.

This is not to say that there are not challenges in standardising data content, formats and data exchange systems. The responses clearly highlighted that there are real challenges to be addressed. In particular, we recognise that there are potential cost and efficiency issues for putting standardised arrangements in place. However, we would expect these would be short-term issues and that ultimately the competition and efficiency benefits of standardisation would vastly outweigh any immediate issues.

There is a decision to be made about the areas of data that should be subject to standardisation. There are different levels of standardisation that can be achieved and different ways in which arrangements can be put in place. We consider that the starting point could be customer meter data which includes the three areas discussed in the previous section of this paper (i.e. point of delivery identification data, user and contract data and consumption data). Standardisation in these areas is core to realising the efficiency benefits associated with standardisation. However, we also consider that there could be various stages to standardisation. In this consultation, we are seeking respondents' views of both the areas of data that could be subject to standardisation now and on the scope for further standardisation in the future.

Standardised data exchange systems imply, at a minimum, the need to standardise interfaces and information exchange at DSO boundaries; i.e. both between DSO-supplier and between the DSO/supplier-end customers. This becomes increasingly important with the introduction of smart meters and would be critical to the introduction of an initiative such as the Green Button.

As noted earlier, in this paper we propose a set of guiding principles which would be applicable regardless of the specific form of the data management model. We do not consider that ‘standardisation’ is, in itself, a guiding principle. However, we do think it is a key element of ‘transparency’. We therefore set out our draft advice in relation to standardisation of data formats and data exchange systems in Chapter 8 under the guiding principle of transparency.



5 Identifying the relevant stakeholders and their interests in data management

5.1 Relevant stakeholder groups

5.1.1 Customers

For the purposes of this paper, we have used the same definition for customers as used for the 2020 Vision for Europe's Energy Customers. Customers are defined as the European retail customers of electricity, gas and district heating, as well as those that both generate and consume electricity (*prosumers*). Customers can be a household customer or a small enterprise (i.e. very small business which are in many ways similar to household customers in their engagement with energy markets). The definition of customers in the 2020 Vision also includes those served by district heating, however these customers are not relevant for the purposes of this paper.

Today, customers have virtually no control over the customer meter data generated by their use of energy. If the DSO/metering operator reported the data available to the customer through a model for data management with a customer interface to this data, there would be transparency on the data available.

Furthermore, a data management model could provide customers with an opportunity that does not exist today, to get a full review of existing contracts and contract terms and issued credentials. Today a relatively common problem is that customers experience a lack of transparency according to what a stakeholder can do on the customers' behalf. The powers of attorney are for example often generalised and rarely have an end date.

5.1.2 Suppliers

In most European countries, electricity and gas suppliers have to have a bilateral contact with the DSO/metering operator to obtain access to information on its customer meter data. A neutral point of contact⁵ (being independent of suppliers) from which the energy supplier can obtain the necessary information to conclude agreements, implement billing or offer tailored energy contracts, facilitates the ability of energy suppliers to offer attractive energy contracts to customers.

⁵ Not to be confused with the single point of contact, stated in the Third Package.



5.1.3 DSOs/metering operators

DSOs/metering operators have a variety of data regarding connection points in each grid area. DSOs/metering operators are forced to have bilateral contacts with the customer, suppliers and energy service companies. This has led to a comprehensive management including proxies that are time consuming for network owners and sometimes create conflicts between stakeholders. Given the increased amount of data values to be handled (hourly and even more frequently), and the increased number of stakeholders, it is reasonable to assume that a reduction in handling bilateral contacts will minimise the administrative and communicative burden significantly. Admittedly, DSOs/metering operators need to store some generated data for planning and management of networks. However, by removing the daily need to communicate these values to 'X' number of different stakeholders would mean that they can focus on their core business.

5.1.4 Energy service companies (ESCOs)

With the development of smart meters another category of stakeholder that is likely to have more prominence will be TPIs or energy service companies (ESCOs). ESCOs are parties which offer customers alternative routes to engage with energy markets and include e.g. switching websites, energy brokers, energy efficiency advice providers and aggregators. In order to offer such services, ESCOs need to have access to the necessary data.

In most CEER member countries, ESCOs, where they exist, must have a bilateral contact with the DSO/metering operator to get access to information on customer meter data. This applies to both the customer's existing energy service provider as well as to a new energy service provider who has contact with the customer. A neutral point at which the energy service company can obtain the necessary information to offer tailored energy services would greatly facilitate the ability to offer attractive energy services to the customer.

5.1.5 National Regulatory Authorities (NRAs)

Depending on the national data models, NRAs might be involved in data management. It might also be other bodies that operate and monitor the data management, such as TSOs.



5.2 Mapping stakeholders to data management

The aim of a data management model is efficient and secure communication. As this document does not propose one specific model, but describes what a model should achieve according to our guiding principles, it is important to establish the form of communication that is required.

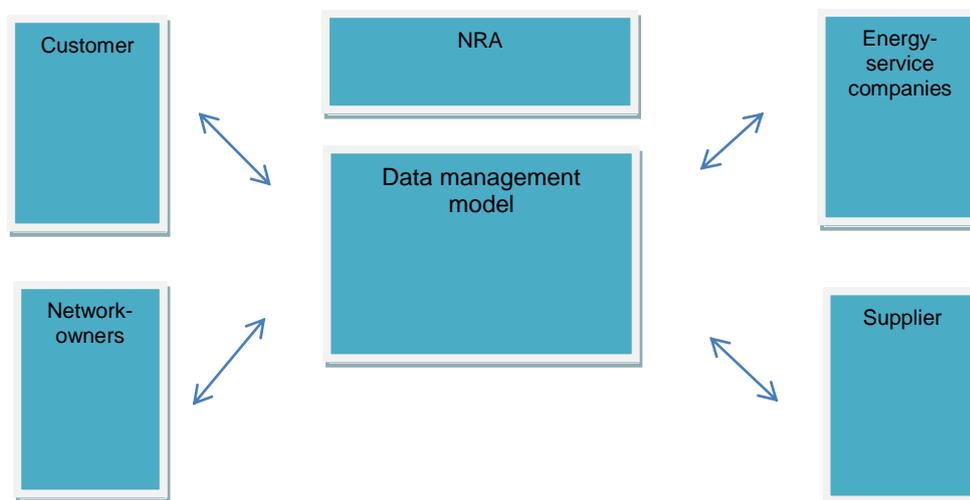


Figure 1: Stakeholders and their relation to data management. NRA is without arrows since its relation to data management differs between countries.

6 Models of data management

Different approaches to data management models are favoured in different countries. The focus of this document is, as much as possible, on functions. We describe desirable characteristics of the entity rather than suggesting which entity to choose. Our focus is therefore on the principles of what functionalities any chosen model should provide rather than on which model might be better than the other. Below follows a very brief description of three different models for data management. None of the models is given any priority; the descriptions provide a palette for understanding the context of a model for data management.

There are a range of possible models of data management. These were explored by the European Commission's Expert Group for Regulatory Recommendations for Smart Grids deployment (EG3) within the Smart Grids Task Force. In 2013, it published a report on options for handling Smart Grids Data⁶. As a starting point, the report highlighted a 'business as usual model' based on the applications of the core provisions of the Third Package. The report then recognised that data exchange between suppliers and DSOs/metering operators is evolving towards 'data hub' models, where data is sent to, received from and possibly stored in a central data hub, making it easier to verify data and exchange data.

⁶ European Commission - SMART GRID TASK FORCE - [Options on handling Smart Grids Data](#) – January 2013



The report identified three cases, individually or combined with elements from the others, as the most plausible future scenarios for data management. It is recognised that variants of these three cases are also possible and in fact can already be seen in specific countries. The three cases are consistent with provisions of the Third Package:

- DSO as market facilitator
- Third Party Market Facilitator/Independent Central Data Hub (CDH)
- Data Access-Point Manager (DAM).

7 Issues for data management today and tomorrow

7.1 Outline of the issues for data management

Recognising the existing differences in the data management models across Europe and the speed at which some countries will roll-out smart meters, it is important to consider data management in terms of the arrangements that exist today as well as in the future with and without smart metering and smart grids. This section briefly highlights the different functionalities of meters at present, with smart meters and with smart grids and the key implications that each functionality could give rise to for data management.

7.1.1 Traditional Meters

Traditional (not smart) electricity and gas meters have very limited functionalities, unless of course they are changed to smart meters, which is the case in some countries. Traditional meters are designed to measure the total amount of energy used by a customer. They are typically calibrated in billing units – kilowatt hours in the case of electricity meters and cubic meters/hundreds of cubic feet in the case of gas meters.

Periodic readings of meters are required to establish the billing cycles and energy used during a cycle. Given actual readings can only be taken manually for the traditional meters – directly at the meter – estimates are widely used for billing purposes with actual readings used to reconcile bills within a certain period. One specific type of meter is a prepayment meter. Prepayment meters function like a “pay as you go” mobile phone whereby you pay for your usage upfront and have to top-up with credit.

Given their limited functionality, the data management issues associated with traditional meters likewise are limited. Having said that, there are specific issues that are relevant to the data management for traditional meters that include:

- accuracy of available customer meter data;
- managing energy usage; and
- protection of vulnerable customers.



7.1.2 Smart Meters

There are a number of features that identify a smart meter. A joint contribution of DG ENER and DG INFSO (now DG CONNECT) towards the EU's Digital Agenda in October 2011⁷ outlined the key features of smart meters as:

- providing readings from the meter to the customer and to equipment that he may have installed;
- updating those readings frequently enough to allow the customer meter data to be used to achieve energy savings/cost savings;
- allowing remote reading of meter registers by the Meter Operator;
- providing two-way communication between the meter and external networks for maintenance and control of the meter;
- allowing readings to be taken frequently enough to allow the customer meter data to be used for network planning;
- supporting advanced tariff systems;
- allowing remote ON/OFF control of the supply and/or flow or power limitation;
- providing Secure Data Communications;
- fraud prevention and detection; and
- providing Import/Export & Reactive Metering.

The increased functionalities of smart meters greatly increase the types of data management issues, including the impact on privacy of greater accessibility of customer meter data (i.e. who owns or controls the data) and who has access to it; the cost of accessing customer meter data; the usability of available customer meter data (i.e. the level of complexity involved); and the ability of customers to engage with it. At the same time, the deployment of smart meters and, consequently, the increasing opportunity of meter readings should not lead to data overuse and undue costs. This assessment should take into account the purposes of data management (for example, data are used to save energy or for billing) and the feasibility of new approaches from a technical point of view.

7.1.3 Smart Grid

The concept of a smart grid is based on the implementation of more active transmission and distribution systems. In June 2010, ERGEG published a position paper on smart grids⁸. The paper set out the following 'user-centric' and 'output-focused' definition of a 'smart grid':

“Smart Grid is an electricity network that can cost efficiently integrate the behaviour and actions of all users connected to it – generators, consumers and those that do both – in order to ensure economically efficient, sustainable power system with low losses and high levels of quality and security of supply and safety.”

ERGEG further noted that a smart grid encompasses a very wide scope of technologies and solutions that are not restricted by or necessarily conditional on the introduction of smart metering:

⁷ European Commission – [Digital Agenda for Europe](#) (DAE) aims to reboot Europe's economy and help Europe's citizens and businesses to get the most out of digital technologies

⁸ [ERGEG position paper on Smart Grids](#) – Ref. E10-EQS-38-05, June 2010



“Even though smart metering enables some features and functionalities of smart grids, the scope of smart grids is much larger than smart metering... it is possible to have smarter distribution and transmission networks without smart metering”.⁹

The development of smart grids also presents issues for data management that include: issues associated with the wider availability and sharing of customer meter data; opportunities this data provides for innovation; and the potential impact of customer meter data on network management.

7.2 Aspects of the metering arrangements, and opportunities and risks

There are a range of aspects of the metering arrangements that are affected by data management. We have identified nine key areas, a number of which are interrelated. The opportunities and risks posed by data management include how those may change with the introduction of smart meters and/or smart grids. We consider these for each of the identified nine areas.

1. Customer experience

As noted above, customers are the key stakeholder in relation to data management. The way in which customer meter data is managed can have a significant impact on what customers consume and produce, what customers pay and the level of service they receive. More generally, it can also impact on their trust in the metering arrangements and their desire to have a smart meter.

Efficient provision of customer meter data provides scope for a fast, reliable and cost-effective supplier switching. If this process provides a positive customer experience, then more customers would engage in this process. This in turn would facilitate greater competition. At the same time, the greater availability of customer meter data can have a negative impact on customer experience if the arrangements become too complex and therefore difficult for the average customer to engage with. Ultimately, customers could make the wrong decisions, thereby undermining customer confidence.

Smart meters provide better customer data, more accurate and sophisticated, facilitating billing arrangements and supplier switching. However, for the same reason the risk of complexity is greater with smart meters.

Consumers' concerns over data privacy have increased with the arrival of smart meters. The relevant bodies need to put in place the appropriate measures to increase customer trust in the arrangements for data management so that customers freely consider the benefits associated with smart meters.

2. Vulnerable customers

⁹ [Final Guidelines of Good Practice on Regulatory Aspects of Smart Metering for Electricity and Gas, ERGEG – Ref. E10-RMF-29-05, February 2011](#)



Vulnerable customers are a specific subset of customers and may include those who are disabled or chronically sick, of pensionable age, with low incomes, or impacted by residing in rural areas. Most MSs have specific arrangements in place aimed at protecting the interests of vulnerable customers. Those measures are most often concerned with debt and disconnection. How customer meter data is managed is important for the identification and protection of vulnerable customers. For example, accuracy of customer meter data is important, particularly when attempting to contact a customer regarding a debt. The recent THINK report on active demand management recognised the importance of ensuring additional assistance for vulnerable customers in relation to data protection.

As discussed above, data may enable customers, and this includes vulnerable customers, to take actions to reduce their energy bills and generally to use energy more efficiently. However, vulnerable customers are less likely to engage with and/or less able to take advantage of the benefits arising from the available customer meter data.

The challenges for adequately and effectively engaging vulnerable customers exist with and without smart meters. However, the additional complexity and increased level of available customer meter data associated with smart meters may increase the risk of vulnerable customers not being in a position to benefit from smart meters. Further, smart meters create the potential for remote disconnections which is a new form of risk for vulnerable customers.

3. Customer empowerment

A key objective of the roll-out of smart meters is to empower customers. The Mission and Work Programme of the Smart Grids Task Force states that: *“Consumer empowerment includes capabilities of supplier’s customers to have sufficient and timely information on their actual energy consumption/production, to learn and act upon their energy savings potential through energy usage optimisation and more energy efficient technologies, to have access to competitive offers for energy services to develop energy efficient consumption practices and to allow them to become energy providers”*.

The form of data management is therefore central to customer empowerment. The greater the level of transparency of customer meter data, the more empowered customers will be to better manage their energy needs. This includes making a decision to adjust consumption or to switch supplier. It may also mean making a decision to share customer meter data with other third parties.

The introduction of smart meters will make more customer meter data available in a timely manner. This provides customers with better control over their energy consumption and the ability to adjust their behaviour to reduce their energy bills. Therefore, smart meters increase the potential opportunities for customer empowerment.

The main risk is that customers remain apathetic about the opportunities available to manage their consumption. They may be unwilling to take any additional actions, including an unwillingness to share their data with other parties, which would reduce any benefits from having customer meter data. It is recognised that it is the right of customers to determine how they use their customer meter data including who they share it with.



Customer apathy is a risk with or without smart meters. The key point is that the customer will miss out on the greater opportunities presented by smart meters. One factor that may help address this is the possibilities that smart meters enable for automation; i.e. some actions could be taken automatically to help manage energy and therefore to protect the interests of customers.

4. Cost of accessing/securing data

A key issue for data management is the accessibility of customer meter data, and a relevant issue for accessibility is the cost to secure that data. Cost is an issue for third parties who may be able to use customer meter data to generate benefits for customers. In this regard, the Energy Efficiency Directive (Article 11) states that “*Member States shall ensure that final customers receive all their bills and billing information for energy consumption free of charge and that final customers also have access to their consumption data in an appropriate way and free of charge*”.

However, in the case of multi-apartment and multi-purpose buildings with a central heating/cooling source or supplied from a district heating “*the distribution of costs of billing information for the individual consumption of heating and cooling in multi-apartment and multi-purpose buildings pursuant to Article 9(3) shall be carried out on a non-profit basis. Costs resulting from the assignment of this task to a third party, such as a service provider or the local energy supplier, covering the measuring, allocation and accounting for actual individual consumption in such buildings may be passed onto the final customers to the extent that such costs are reasonable.*”

Costs associated with accessing and securing customer meter data can act as a barrier to the sharing of that data. Costs to access customer meter data may also discourage parties, such as TPIs, who could use that data to provide additional services/benefits. On the other hand, putting a cost on customer meter data may partially alleviate some parties’ concerns around the privacy of their data – if they know that other parties have to pay if they wish to obtain it. However, in reality this would not provide much comfort as a charge would not, in itself, ensure the privacy of customer meter data.

With the introduction of smart metering, there will be more customer meter data available. With this there are greater potential opportunities to use that data in a way that generates greater value for customers and for other stakeholders. The imposition of a cost could limit the scope of such benefits. Therefore, the negative impact of imposing a cost on customer meter data is potentially greater in a sector with smart metering than it is in a sector without smart metering. However, privacy issues will also become more prevalent with the greater availability of customer meter data arising from smart metering.

5. Role for third parties (TPIs)

TPIs are a category of parties that can make use of customer meter data to offer a range of services. The way in which they do so and the value they can generate by doing so will be impacted by the way the data is managed. A TPI can be acting on behalf of the customer.

TPIs offer customers alternative routes to engage with energy markets and can empower customers to make better choices. This can result in customers saving money. The value TPIs can generate in the energy market depends on their ability to access customer meter data.



Some parties have concerns about sharing customer meter data with third parties. It is of highest importance to recognise that data sharing with TPIs can be done only after customer consent.¹⁰ Recent work undertaken by Ofgem in the United Kingdom highlighted that customers had concerns, either real or perceived, about the practices of TPIs,¹¹ specifically, that the practices of some third parties may not be fair or transparent. In its document, Ofgem recognised that these concerns could be detrimental to customers and could damage the reputation of all TPIs, and have the potential to hinder competitive activity in the energy market overall.

The importance of TPIs as an interface between customers and energy suppliers in retail energy markets is likely to grow with the introduction of smart meters and smart grids. This reflects the fact that the scope of the functions such parties could undertake will increase with the greater level of data being generated by smart meters. Equipped with more data, TPIs could provide additional value-added services such as analysis of energy usage – providing energy saving advice and providing services that monitor vulnerable customers' usage. TPIs could also become involved in providing demand response services and advising on time-of-use and dynamic prices.

In the United Kingdom, the Government has placed a strong emphasis on ensuring that third parties can access the smart metering data because it sees the significant benefit that can be generated from smart meters. However, the access to customer meter data will be subject to the customer's consent. This would be facilitated by third parties signing up to the Smart Energy Code and accessing half-hourly data via the central Data and Communications Company (DCC).

6. Timing of data sharing

Data has a time value. The more quickly parties receive data, the quicker they can respond. The timing in which parties receive customer meter data will depend on the processes in place to share that data. The process will in turn be impacted by the model of data management in place.

The potential cost savings and energy efficiency gains from being able to respond to customer meter data in a timely manner are significant. However, the value of sharing customer meter data quickly depends on the robustness of that data. If the data shared is of poor quality then the value that can be gained by providing it in a timely manner is lost and can even be detrimental, i.e. customers making the wrong decisions based on inaccurate customer meter data.

The introduction of smart metering will have a significant impact on how quickly parties can access customer meter data. Smart meters will provide data frequently enough enabling customers to make consumption choices. This could have significant potential cost benefits.

7. Network management

Network operators use customer meter data and in particular consumption data to help manage pressures on the network. The data networks receive can be used to address operational issues in the shorter-term as well as network planning and investment in the long-term.

¹⁰ See footnote 9

¹¹ Third Party Intermediaries: exploration of market issues and options – Consultation, Ofgem, 28 June 2013



The introduction of smart metering will mean that network operators have access to more detailed customer meter data in a timelier manner. This presents significant opportunities, a number of which were identified by ERGEG in their 'Final Guidelines of Good Practice (GGP) on Regulatory Aspects of Smart Metering for Electricity and Gas'.¹² These include:

- enhanced system security resulting from the scope for remote disconnection combined with an efficient communication system;
- an enhanced ability to detect and make detailed calculations of network losses and thus the subsequent ability to develop incentives to reduce losses;
- reduced need for balancing but allowing more accurate forecasts and synthetic load profiles;
- possibility to reduce load situations; and
- improved investment and maintenance planning.

8. Incentives on suppliers

CEER recommends that the general market model should be 'supplier-centric'¹³. In such a model, the supplier will be the main, but not only, contact for the customer. The data suppliers receive is important to them. Ultimately, the incentive on suppliers is to use customer meter data in a way that helps them both to retain existing customers by delivering a high-quality service and to attract new customers by making enticing product offers.

Data management models that provide suppliers with good information about customers' preferences allow the supplier the possibility to offer products and services that meet those preferences. At the same time, where customers are provided with good, up to date information about suppliers' offers, they are in a better position to take a view on the services that are right for them including the appropriate tariffs as well as other services that can be a part of the suppliers' offers. Customers can also take a view on which supplier is right for them and can consider the merits of switching supplier. It is this customer empowerment that strengthens the incentives on suppliers to continually improve the quality service and/or offer competitive tariffs.

If the data management arrangements result in poor (inaccurate, insufficient or out of date) customer meter data being available to suppliers and customers, it is difficult for suppliers to offer the right products and services and it is difficult for customers to appropriately assess their options.

The roll-out of smart meters presents significant opportunities to improve the incentives on suppliers and the interaction between suppliers, TPIs and customers. The availability of more granular customer meter data will enable service providers to offer products that are more suitable to their customers' consumption needs.

The greater frequency and quality of billing data should promote greater accuracy and reduce the scope for errors. This, in turn, should reduce the level of complaints from customers.

¹² See footnote 10.

¹³ [CEER Guidelines of Good Practice on Electricity and Gas Retail Market Design, with a Focus on Switching and Billing](#) – Ref. C11-RMF-39-03, January 2012



9. Innovation

Currently in European energy retail markets, there are opportunities for suppliers, network operators and third parties to innovate thereby improving service for customers and reducing the customers' costs. Innovation is likely to be incentivised where there is good quality customer meter data and market participants are able to see the opportunity to use that data to make money or to reduce costs.

The key risk is that the data that has the ability to drive innovation is not made available at the right times and to the necessary parties who could use it effectively. For example, suppliers would have less reason to invest in innovation if there was little competition for their market share.

The introduction of smart meters and the development of smart grids present a potential springboard to innovation. The greater functionality offered by smart meters expands the types of data that will be available and its potential uses. The key is that the right customer meter data gets to the right parties at the right times to enable them to maximise these benefits.



8 Guiding principles with draft recommendations and suggestions for public consultation

8.1 Application of guiding principles

Today's energy markets in Europe have been developed over many decades from different starting points and in order to meet different objectives. While there are commonalities between these markets, there are also material differences. This also applies to the arrangements for data management in these markets. Countries rolling out smart meters are doing that at different speeds and there are also differences in relation to electricity and gas. Furthermore, there may be differences in the functionalities offered by smart metering technologies; e.g. the decision on whether or not to have 'customer ports' which enable service devices to interface directly with the smart meter would have implications for the form of the data management systems and how these are accessed.

Given that different data management models may apply, it will be important to have some common minimum requirements that should govern those arrangements. CEER suggests that one way of setting these requirements is to determine a set of guiding principles which would be applicable regardless of the specific form of the data management model.

In considering the issues for data management, we identified a number of recurring principles that are important to maximising the opportunities that the availability of customer meter data presents whilst minimising the associated risks. These are: Privacy & Security; Transparency; Accuracy; Accessibility; and Non-Discrimination.

We discuss each of these guiding principles below. In doing so, it is recognised that some of the principles are not entirely consistent. For example, making customer meter data more accessible has implications for privacy. There are therefore natural trade-offs to be made between the principles. Each guiding principle is accompanied by draft recommendations, 14 in all. For each of these recommendations, we have provided a consultation question – which we invite interested parties to complete via CEER's [online consultation tool](#).

8.2 Guiding principle: Privacy and Security

8.2.1 Draft recommendations:

1. Customer meter data should be protected by the application of appropriate security measures that prevent unauthorised access but which allow access to parties authorised to receive it, such as DSOs/metering operators. This customer meter data protection should be ensured by (tick one box):

- Legislation/regulation
- Contract between customer and relevant parties
- Code of conduct
- Other (please specify in the comment box below)
- No opinion



Comment box (3500 characters maximum)

2. Customers retain the right to control the use of their customer meter data. Specific parties (e.g. DSOs/metering operators and suppliers) should be authorised to access that data. However, the authorisation to access that data and the terms on which that data can be used should be ensured by (tick one box):

- Legislation/regulation
- Contract between customer and relevant parties
- Other (please specify in the comment box below)
- No opinion

Comment box (3500 characters maximum)

General comments on the guiding principle: Privacy and Security (maximum 3500 characters)

8.2.2 Reasoning behind the privacy and security principle

At the outset, it is important to highlight that the issues of privacy and data protection are much wider than the focus of this document and that the energy regulators are not the data protection regulators. The requirements for data protection are set out in EU data protection and privacy legislation, and countries should work towards the harmonisation of privacy and security requirements across Europe.



We note the work undertaken by the Smart Grids Task Force and, in particular, the work of Expert Group 2 on regulatory recommendations for privacy, security and data protection. In addition, we note that in its Final GGP on Regulatory Aspects of Smart Metering for Electricity and Gas¹⁴, ERGEG recommended that the customer should control meter data. In other words, the customer should always have the ability to choose the way meter data is used and by whom and the working principle should be that the onus is on the party requesting the data to identify the need, provide justification and then obtain the customer's consent. The only data that is excluded from the above is data for the management of the public interest (i.e. data to fulfil regulated duties related to operation of the grids).

Customers' interests are also served by the appropriate sharing of customer meter data with parties that can use that information to offer customers improved service standards and lower costs. Some parties have previously drawn a distinction between 'private/personal' data and the data to which wider parties actually need access to obtain the full benefits of smart metering in the energy supply system.

Other parties have expressed stronger views in this area. In a recent position paper on data privacy,¹⁵ the Smart Energy Demand Coalition (SEDC) expressed their concern that the EU's proposed General Data Protection Regulation could eliminate a significant proportion of the potential energy savings and demand reductions from energy management programmes as a result of the application of restrictive data privacy rules.

Table 1 below, from CEER's Status Review of Regulation on Smart Metering¹⁶, sets out the customer position of each country with respect to data privacy and security.

In control & informed	In control & not informed	No control over data	No answer
12 AT, DK, FR, DE, GB, IE, IT, LU, NO, PL, NL, BE	1 FI	8 CY, CZ, EE, IS, RO, ES, SI, SE	2 LT, PT

Table 1: Customer position of each country with respect to data privacy and security

The table shows that, in just over half the countries, customers are informed and are given control over their data. However, there are a number of countries that do not currently give customers control over data.

¹⁴ See footnote 9

¹⁵ Energy usage data access: A policy that protects consumers while delivering maximum efficiency benefits. A Position Paper by the Smart Energy Demand Coalition, May 2013

¹⁶ [CEER Status Review of Regulatory Aspects of Smart Metering](#) – Ref. C13-RMF-54-05, 12 September 2013



We consider it important that the data management arrangements should serve to protect the privacy of personal data and that the customer should ultimately be able to determine how their data is used. However, we also consider it important that the relevant bodies support the development of data management arrangements that highlight the benefits of sharing customer meter data with third parties, thereby helping customers maximise the value from their data. This is even more important in the context of smart meters with a view to maximising the additional opportunities they provide.

8.3 Guiding principle: Transparency

8.3.1 Draft recommendations:

3. The relevant body (NRA/DSO/metering operator/TSO/other) shall ensure that, as a minimum, the customer has knowledge of general information on meter data management: (a) the customer's rights with regards to data management; (b) what type of customer meter data exists and what it is used for; (c) how customer meter data is stored and for how long; and (d) how both the customer and third parties get access to that data.

- Agree
- Disagree
- No opinion

4. The customer meter data which comes out of the data management processes should be transparent to the customer. Transparency should be ensured by the relevant body (NRA/DSO/metering operator/TSO/other) through (tick one or several boxes):

- Providing clarity on how information can be accessed
- Setting a maximum time period during which a customer has to wait to receive that information after having moved in to a new premises
- Other (please specify in the comment box below)
- No opinion

Comment box (3500 characters maximum)



5. The customer meter data should be transparent to a third party, to whom a customer has provided such consent. By third party we mean a party that needs customer consent to manage data, hence not a party already authorised by law and/or carrying out regulatory tasks for system operation. Transparency should be ensured by the relevant body (NRA/DSO/metering operator/TSO/other) through (tick one or several boxes):

- Providing the third party clarity on how information can be accessed
- Setting a maximum time period during which a third party has access to the information
- Other (please specify in the comment box below)
- No opinion

Comment box (3500 characters maximum)

6. The relevant bodies in each country should take active steps to build customer confidence in sharing customer meter data in order to achieve energy efficiency benefits and other potential benefits.

(a) That body or bodies should be (tick one or several boxes):

- NRA
- DSO/metering operator
- Other (please specify in the comment box below)
- No opinion

Comment box (3500 characters maximum)

(b) Active steps might include (tick one or several boxes):

- Information campaign
- Use of energy advisor
- Other (please specify in the comment box below)
- No opinion



Comment box (3500 characters maximum)

7. There should be a common standard for data content, data formats and data exchange in the retail market.

- Agree
- Disagree
- No opinion

8. The common standards for data content, data formats and data exchange in the retail market should be set on (tick one box):

- European level
- Regional level (across national borders)
- National level
- Sub-national level
- No opinion

9. The data that should be standardised should as a minimum/as a starting point be (tick one or several boxes):

(a)

- Point of delivery identification data
- User and contract data
- Consumption data
- Other (please specify in the comment box below)
- No opinion

Comment box (3500 characters maximum)

- (b) NRAs should ensure that appropriate arrangements are in place for the development of common standards for data content, data format and data exchange and monitoring of compliance.



- Agree
- Disagree
- No opinion

10. The general information on meter data management (as specified in draft recommendation 3) should as a minimum be published on the website of the relevant body (NRA/DSO/metering operator/TSO/other), and must be presented in a customer-friendly way.

- Agree
- Disagree
- No opinion

Comments on the guiding principle: Transparency (maximum 3500 characters):

8.3.2 Reasoning behind the Transparency principle

The Electricity Directive¹⁷ specifies that the policy framework for accessing energy usage data should provide customers with access to objective and ‘transparent’ consumption data. Further, in its GGP on Regulatory Aspects of Smart Metering, ERGEG argued that the general principle for customer meter data should be ‘full transparency.’ CEER continues to support this view.

Transparency is important for building customer trust. A customer is more likely to trust meter data and the processes for data management if they can understand how their customer meter data is generated, collected and subsequently used. Customers also need transparency as to who is using their customer meter data and for what purpose.

We note that in the THINK report Shift Not Drift on demand response¹⁸ it was proposed that customers should have easy access to disaggregated billing information when demand response is bundled with other service offers.

As stated in draft recommendation 3, CEER considers that transparency should extend beyond disaggregating billing information and that the wider data management arrangements should be transparent such that a customer knows: (1) their rights with regard to data management; (2) what data exists and what it is used for; (3) how to access that data; and (4) how third parties get access to that data.

¹⁷ [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](#)

¹⁸ The Florence School of Regulations THINK project: [Shift, Not Drift: Towards Active Demand Response and Beyond](#) – June 2013



It is not only important that the data management arrangements are transparent to customers. There are other stakeholders e.g. network owners, TPIs, etc. who may require access to customer meter data. To ensure the efficiency of the overall data management arrangements and ultimately to maximise the potential benefits to customers, it is equally important that the data management processes are transparent for those parties.

A core element of transparency is the format in which data is provided to parties and the systems used for the exchange of that data. As highlighted earlier in this paper, we consider that transparency is enhanced where there are both standardised data contents, formats and standardised systems for the exchange of data. This has benefits in terms of providing for greater certainty, improved efficiency and enhanced competition.

8.4 Guiding principle: Accuracy

8.4.1 Draft recommendation:

11. Relevant bodies (NRA/DSO/metering operator/TSO/other) should have in place standardised measures available to the customer to enable any remaining inaccuracy concerning data management to be addressed. Those measures should include a timetable set out in *(tick one box)*:

- Legislation/regulation
- Contract
- Code of conduct
- Other (please specify in the comment box below)
- No need for standardisation processes for remaining inaccuracy
- No opinion

Comment box (3500 characters maximum)

Comments on the guiding principle: Accuracy (3500 characters maximum):



8.4.2 Reasoning behind the Accuracy principle

Data accuracy is an important issue with or without smart meters. Accuracy is crucial for building customer trust as well as creating accurate energy bills related to usage. It is therefore crucial that customer meter data provided by meters, be these smart or traditional, is robust and furthermore that the processes that are subsequently used to convert that data for the purposes of billing should be equally robust. The data management processes should be robust. They should ensure that meter data is of high quality, that customers receive accurate and timely bills and as a consequence that customers have confidence in the quality of their bills.

Parties need to receive useful information in a timely manner. If useful information is not provided and it is not available in a timely manner then the usefulness of that information diminishes and so does the overall efficiency of the arrangements.

The additional functionality provided by smart meters, including remote reading and interval metering, should increase the quality of customer meter data and thus increase billing accuracy. As a result, customers are likely to engage more actively with their energy usage if they know exactly how much energy they are using.

There are a number of potential benefits associated with this including, but not limited to:

- scope for customers to save on energy bills;
- making supplier switching more efficient and easy;
- suppliers having better customer meter data to improve service to their customers;
- network operators being able to plan and develop their networks in a better informed manner; and
- wider societal benefits stemming from a reduction of greenhouse gas emissions and increases in energy efficiency.

Another key aspect of ensuring accuracy is the quality of industry processes. The better the processes put in place by industry to ensure accuracy, the better the quality of the information provided. This is relevant with or without smart meters.

No data management model will entirely remove the possibility of data inaccuracy due to technical or manual errors. Therefore, the relevant national body in each country should have arrangements in place to identify inaccuracies and address them as early as possible.



8.5 Guiding principle: Accessibility

8.5.1 Draft recommendations:

12. The customer (or party acting on behalf of the customer) should have easy access to his/her customer meter data. This information should be made available in a way that is standardised and through a channel of the customer's choosing (web, paper, etc.). The common standards for provision to customers of meter data information should be provided at a (tick one box):

- European level
- Regional level (across national borders)
- National level
- Sub-national level
- No need to standardise customer meter data
- No opinion

13. The arrangements for accessing customer meter data should be proportionate. Subject to customer choice, access should only be provided to a party where it requires that particular customer meter data (not just any data) and where they can use it to deliver wider benefits, including to customers.

- Agree
- Disagree
- No opinion

Comments on the guiding principle: Accessibility (3500 characters maximum):

8.5.2 Reasoning behind the Accessibility principle

Accessibility is a crucial area of consideration for the success of the data management arrangements. Particularly important is the interaction with the principle of privacy.

Two of the guidelines of ERGEG's GGP on Regulatory Aspects of Smart Metering are directly relevant to data accessibility. These are:



- Recommendation E/G 3 – Access to data on consumption and cost data on customer demand. Specifically it noted that, on demand, a customer as well as those that both generate and consume electricity should be able to access up to date consumption data and costs.
- Recommendation E/G 12 – Interface with the home. In line with the functionalities required under Mandate 441¹⁹, smart meters should be equipped with or connected to an open gateway. Service provider/s chosen by the customer should have access to this gateway and that the gateway should have a standardised interface which would enable energy management solutions, such as home automation and facilitate delivery of data directly.

There are a number of stakeholders who may have an interest in accessing customer meter data. Firstly and most crucially, customers (or a party operating on their behalf) need to be able to access their customer meter data to help them manage their energy use. For most customers, it is likely that a third party will have a role in making that data accessible. This could be provided through an in-home system or by means of data provided through a gateway. If this is the case, that third party must have easy access to the data. This directly benefits customers in terms of the ability to save money but also has wider potential system benefits in relation to security of supply and environmental benefits through the impact on carbon emissions.

In addition, the wider availability of customer meter data can enable the industry to operate more efficiently. At the same time, we recognise that customers may have concerns about how much data is retrieved (“Can someone see which film I am watching?”), which parties have access to their customer meter data and what they can do with it. As noted above in discussing privacy, we consider that customers own their customer meter data and therefore should retain the right to control the use of that data.

8.6 Guiding principle: Non-discrimination

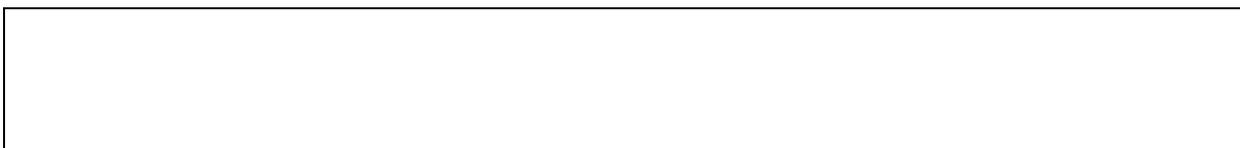
8.6.1 Draft recommendation:

14. To support an effective and competitive market, the data management model should not give undue preference to one stakeholder over another. Specifically in relation to smart meters, there should be non-discriminatory access to information if and where smart meters are installed.

- Agree
- Disagree
- No opinion

Comments on the guiding principle: Non-Discrimination (3500 characters maximum):

¹⁹ 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](#)



8.6.2 Reasoning behind the Non-discrimination principle

Article 8 paragraph 5 in the Energy Efficiency Directive states that “*access of market participants offering energy services shall be based on transparent and non-discriminatory criteria*”. The importance of non-discrimination was furthermore highlighted by the THINK report on demand response.²⁰ It recognised the importance of “*ensuring non-discriminatory access to all segments of electricity markets for all market players*” to ensure these markets are contestable and open to all new entrants and new services. The report further recognised the importance of national authorities monitoring the non-discriminatory access to data relevant for demand response to prevent the transfer of information from the regulated activities to the deregulated activities in integrated suppliers.

CEER agrees in the importance of non-discrimination in order for the data management arrangements to be effective and to enable effective competition. The arrangements should not discriminate between any stakeholder (i.e. where a certain category of stakeholder has access to data then that data is available on a non-discriminatory basis to similar stakeholders). Only by doing so will it be possible to create a level playing field between suppliers and other potential TPIs.

The issue of non-discrimination is wider than just data management in respect of customer meter data but extends to the market more broadly. Specifically, it is important that information is available on a non-discriminatory basis regarding where smart meters are installed and thus where the potential customers for these services are. It has been highlighted that in countries where the roll-out of smart meters is DSO-led then this may not currently be the case. There should be non-discriminatory access to this information to enable a level playing field between different parties in the market.

²⁰ See footnote 18



9 Summary of guiding principles and draft recommendations

The table below presents the 5 guiding principles and 14 draft recommendations outlined in this paper in relation to the functioning of data management arrangements. CEER invites stakeholder views on each of these recommendations, as well as on 4 horizontal questions (see 9.1 below):

Guiding Principle	Number	Draft recommendation
Privacy and Security	1	Customer meter data should be protected by the application of appropriate security measures to prevent unauthorised access but which allows access to parties authorised to receive it, such as DSOs/metering operators. This customer meter data protection should be ensured by <i>(boxes for level of decision making)</i>
	2	Customers retain the right to control the use of their customer meter data. Specific parties e.g. DSOs/metering operators and suppliers should be authorised to access that data. However, the authorisation to access that data and the terms on which that data can be used should be ensured by <i>(boxes for level of decision making)</i>
Transparency	3	The relevant body (NRA/DSO/metering operator/TSO/other) shall ensure that, as a minimum, the customer has knowledge of general information on meter data management: (a) the customer's rights with regard to data management; (b) what type of customer meter data exists and what it is used for; (c) how customer meter data is stored and for how long; and (d) how both the customer and third parties get access to that data. <i>(Boxes for Agree, Disagree)</i>
	4	The customer meter data which comes out of the data management processes should be transparent to the customer. Transparency should be ensured by the relevant body (NRA/DSO/metering operator/TSO/other) through <i>(boxes on accessibility and waiting period)</i>
	5	The customer meter data should be transparent to a third party, to whom a customer has provided such consent. By third party we mean a party that needs customer consent to manage data, hence not a party already authorised by law and/or carrying out regulatory tasks for system operation. Transparency should be ensured by the relevant body (NRA/DSO/metering operator/TSO/other) through <i>(boxes for TPI information access)</i>
	6	The relevant bodies in each country should take active steps to build customer confidence in sharing customer meter data in order to achieve energy efficiency benefits and other potential benefits. <i>(Boxes for bodies and steps.)</i>
	7	There should be a common standard for data content, data formats and data exchange in the retail market. <i>(Boxes for Agree, Disagree)</i>



	8	The common standards for data content, data formats and data exchange in the retail market should be set on <i>(boxes for geographical choices)</i>
	9.	a) The data that should be standardised should as a minimum/as a starting point be <i>(boxes for the different categories of customer meter data)</i> b) NRAs should ensure that appropriate arrangements are in place for the development of common standards for data content, data format and data exchange and monitoring of compliance. <i>(Boxes for Agree, Disagree)</i>
	10.	The general information on meter data management (as specified in draft recommendation 3) should as a minimum be published on the website of the relevant body (NRA/DSO/metering operator/TSO/other), and must be presented in a customer-friendly way. <i>(Boxes for Agree, Disagree)</i>
Accuracy	11.	Relevant bodies (NRA/DSO/metering operator/TSO/other) should have in place standardised measures available to the customer to enable any remaining inaccuracy concerning data management to be addressed. Those measures should include a timetable set out in <i>(boxes for level of decision making)</i>
Accessibility	12	The customer (or party acting on behalf of the customer) should have easy access to his/her customer meter data. This information should be made available in a way that is standardised and through a channel of the customer's choosing (web, paper, etc.). The common standards for meter data information to customers should be provided at <i>(Boxes for geographical choices)</i>
	13	The arrangements for accessing customer meter data should be proportionate. Subject to customer choice, access should only be provided to a party where it requires that particular customer meter data (not just any data) and where they can use it to deliver wider benefits, including to customers. <i>(Boxes for Agree, Disagree)</i>
Non-discrimination	14	To support an effective and competitive market, the data management model should not give undue preference to one stakeholder over another. Specifically in relation to smart meters, there should be non-discriminatory access to information if and where smart meters are installed. <i>(Boxes for Agree, Disagree)</i>

Table 2: Summary of guiding principles and draft recommendations



9.1 Further questions for public consultation

In addition to individual questions on the 14 draft recommendations, we also ask stakeholders to provide their opinion on the questions below:

1. Do you agree with the list of relevant stakeholders we have identified in **Section 5.1** of the paper? If not, which other stakeholders do you think should be included and why?
2. Do you agree that we have correctly identified the right categories of data – defined as ‘customer meter data’ – in **Section 4.2** of the paper, as being relevant to retail market functioning and thus within the scope of our draft advice?
3. In relation to the 5 proposed guiding principles:
 - a) Do you agree with the proposed guiding principles in **Chapter 8** of the paper? Should any be added or removed?
 - b) Do you see any conflicting principles, which can eventually create problems in the energy market?
4. Do you agree that standardisation of data content, data formats and data exchange, set out in **Section 4.3** of the paper, is important? We welcome any comments.

10 Next steps

CEER invites all interested stakeholders to respond to this public consultation via the dedicated online tool. The deadline for responses is **23 May 2014**.

Stakeholders are invited to reply and provide comments on all the questions presented on Chapters 8 and 9.

Following the 8-week public consultation period, CEER will prepare an evaluation of responses which will help us develop a final advice on data management for better retail market functioning. All stakeholders will be invited to a public hearing during Q3 2014 where we will present the results of the public consultation and receive further input. The final advice is expected to be ready by end 2014.



Annex 1 – CEER

The Council of European Energy Regulators (CEER) is the voice of Europe’s national regulators of electricity and gas at EU and international level. Through CEER, a not-for-profit association, the national regulators cooperate and exchange best practice within and beyond Europe’s borders. CEER includes national regulatory authorities from 33 European countries (the EU-28, Iceland, Norway, Switzerland, FYROM, Montenegro and growing).

One of CEER’s key objectives is to facilitate the creation of a single, competitive, efficient and sustainable EU internal energy market that works in the public interest. More specifically, CEER is committed to placing consumers at the core of EU energy policy. CEER believes that a competitive and secure EU single energy market is not a goal in itself, but should deliver benefits for energy consumers.

CEER works closely with (and supports) the Agency for the Cooperation of Energy Regulators (ACER). ACER, which has its seat in Ljubljana, is an EU Agency with its own staff and resources. CEER, based in Brussels, deals with many complementary (and not overlapping) issues to ACER’s work such as international issues, smart grids, sustainability and customer issues. European energy regulators are committed to a complementary approach to energy regulation in Europe, with the Agency primarily focusing on its statutory tasks related to EU cross-border market development and oversight, with CEER pursuing several broader issues, including international and customer policies.

The work of CEER is structured according to a number of working groups and task forces, composed of staff members of the national energy regulatory authorities, and supported by the CEER Secretariat.

This report was prepared by the Retail Market Functioning Task Force of CEER’s Customer and Retail Markets Working Group.

CEER wishes to thank in particular the following regulatory experts for their work in preparing this report: Katarina Abrahamsson, Gunilla Eng Abrandt, Grant McEachran.



Annex 2 – List of abbreviations

Term	Definition
CEER	Council of European Energy Regulators
CDH	Central Data Hub
CUPS	Universal Point of Supply Code (Spain)
DAM	Data Access-Point Manager
DCC	Data and Communications Company
DG ENER	The European Commission's Directorate-General for Energy
DG INFSO	Formerly: The European Commission's Directorate-General for Information Society & Media. Now: DG Connect, (Communication Networks, Content and Technology)
DSO	Distribution System Operator
ERGEG	European Regulators Group for Electricity and Gas
ESCO	Energy Service Company
GGP	Guidelines of Good Practice
M/441	Mandate M/441
MPAN	Meter Point Administration Number (UK)
NRA	National Regulatory Authority
SEDC	Smart Energy Demand Coalition
TPI	Third Party Intermediary (see also Annex 3)
TSO	Transmission System Operator



Annex 3 – Glossary of Terms

Term	Definition
Code of conduct	Means an agreement or set of rules not imposed by law, regulation or administrative provision of a Member State which defines the behaviour of traders who undertake to be bound by the code.
Customer meter data	The three types of data that are directly relevant to retail market functioning are: (1) point of delivery identification data; (2) user and contract data; and (3) consumption data.
Demand response	Changes in energy usage by end-use customers/micro generators from their current/normal consumption/injection patterns in response to changes in the price of energy over time, or to incentive payments designed to adjust energy usage at times of high wholesale market prices or when system reliability is jeopardised. This change in usage can impact the spot market prices directly as well as over time.
Demand response services	Demand response services can be based on final customers' responses to price signals or on building automation.
Mandate 441	Standardisation mandate to CEN, CENELEC and ETSI in the field of measuring instruments for the development of an open architecture for utility meters.
TPI	Third Party Intermediaries offer customers alternative routes to engage with energy markets and include e.g. switching websites, energy brokers and energy efficiency advice providers.



Annex 4 - Mapping the RASP principles

Reliability

Data management is relevant to providing for reliability in the context of the 2020 Vision through the systems and process that are put in place. In particular, it is reflected in our guiding principle of accuracy, as the data produced by the systems and processes should be of a robust quality and result in customers receiving accurate bills.

Affordability

We have reflected the importance of affordability as relevant to data management in the context of our guiding principle on accessibility. Customers own their data and should be in a position to benefit from access to that data. Equally, recognising the wider benefits of data sharing and subject to approval of the customer other parties should be able to access that data at either no cost or for a reasonable fee.

Simplicity

Again we have specifically recognised the importance of simplicity within our principle of accessibility. It is important that data is presented in a 'customer-friendly' way on the grounds that the ability for customers to understand their data is key to building confidence and generating active participation.

We have also identified transparency, which is also highlighted by the 2020 Vision as relevant in the context of simplicity, as a separate guiding principle for data management. CEER considers that the data management arrangements should be transparent such that a customer: (1) knows what data exists and what it is used for; (2) knows how to access that data; and (3) is able to access that data easily.

Protection and empowerment

Protection and empowerment are relevant to data management in the context of how data is made available, who it is made available to and how that data is used. These are reflected in the following three guiding principles for data management:

- Privacy and security – customers own their data and it should be protected from unauthorised access through appropriate security measures which guarantee the privacy of their data.
- Accessibility - At the same time access to better data for both the customers themselves and third parties (with the permission of customers) should empower customers to make the better use of their data to secure more positive outcomes.
- Non-discrimination - Competition is an important tool in protecting the interests of customers. There are significant opportunities for third parties to provide services to customers. In order for third parties to be effective in this role, data management models should not give undue preference to one stakeholder over another.

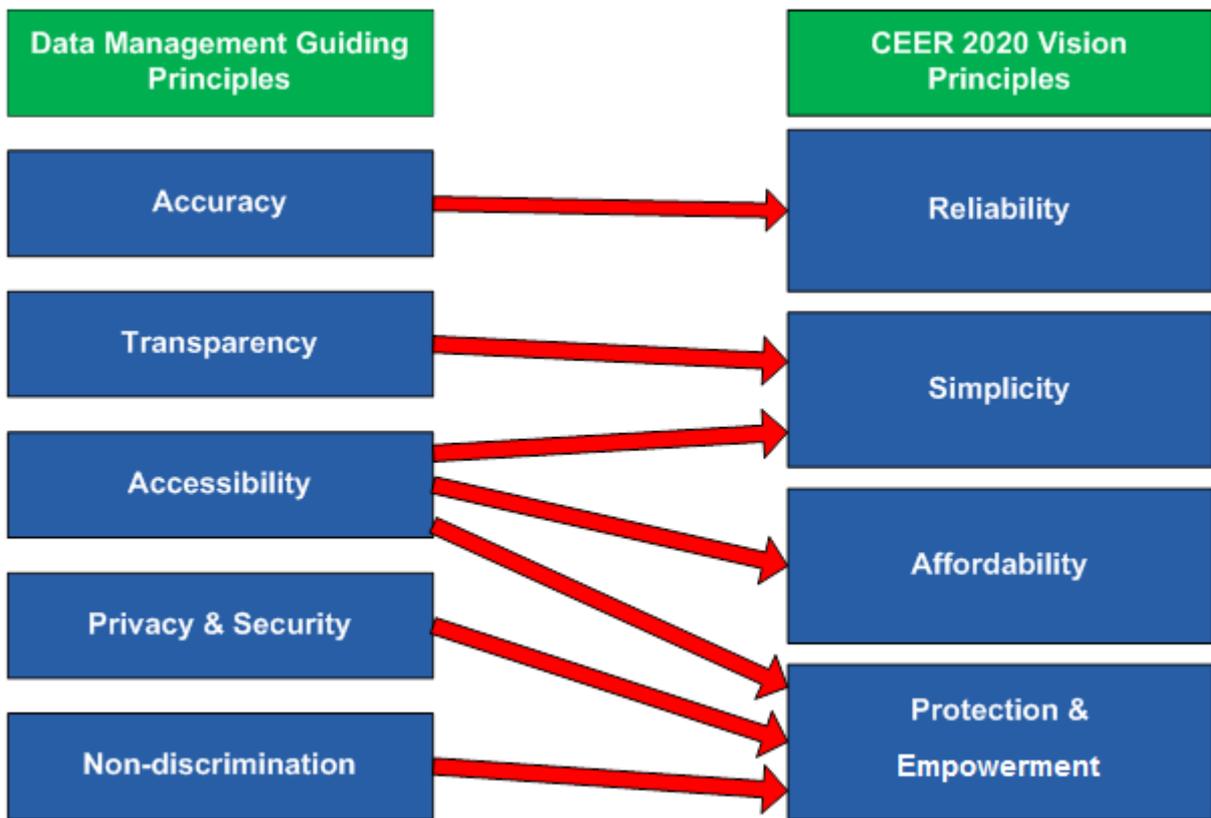


Figure 2: Mapping the guiding principles to CEER's 2020 Vision for Europe's energy customers