

**DRAFT**

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

EANDIS welcomes ERGEG initiative in drawing up its draft guidelines of good practice on Smart Metering.

In Europe National Regulators and DSOs are currently in the process of implementing the requirements set by the recently adopted 3<sup>rd</sup> Electricity Directive

Smart Metering is the technology that can substantially enable electricity customers to become active participants in the market, to promote energy efficiency and will enable to Smart Grids development for a more efficient distribution grid management integrating renewable energy sources.

EANDIS fully supports ERGEG view, already expressed in ERGEG Position Paper on Smart Grids, that even though smart metering enables some features of smart grids, the scope of smart grids is much larger than smart metering.

Regarding smart metering functionalities, EANDIS agrees with ERGEG Smart Grids Position Paper when assuming that some smart grids technologies are impossible to develop without smart meters (e.g. active participation of customers).

EANDIS strongly supports the approach chosen by ERGEG in clearly separating essential functionalities from optional functionalities and EANDIS fully agrees that setting the minimum requirements is a correct starting point for harmonisation of Smart Metering in the European market, since building too many functionalities into the meter may actually make it harder to upgrade services in the future.

Given the cost of a massive roll-out, the installed smart meters should be “future proof” with a hardware lifetime of at least 25 years .

Additional functionalities should be implemented by software upgrades.

These software upgrades should be a reliable, secure and stable process, demanding a state of the art technology in the Smart Meters system.

With reference to actual legislation on Smart metering the Directive on Measuring Instruments (MID) establishes the essential requirements and functionalities of measuring instruments.

These requirements have been further developed and integrated with new functionalities in Mandate M441 issued by European Commission.

EANDIS fully appreciates that ERGEG has been conducting an active watching brief on the draft smart meter functionalities developed under the Mandate 441 and envisages the European Commission to issue a new Directive On Measuring Instruments, that embodies also the M441 provisions.

According to EANDIS ERGEG paper is a further step to individuate the above requirements and contributes to the design of a smart metering framework.

## **General comments**

Before commenting in more detail the draft guidelines drawn up by ERGEG, EANDIS would like to take the opportunity of this consultation to emphasize some key elements which we feel should be considered during the smart metering roll-out phase.

Investments and the need for standardisation are critically interlinked

The roll-out of Smart Meters in the European Union will imply large investments.

EANDIS thinks it would be useful to look at countries where Smart metering roll-out phase is completed (Italy, Sweden), where National Energy Regulators played an important role in ensuring a fair balance between minimum requirements and the need to minimise costs.

Still with a view to avoid sunk costs in the future, EANDIS encourages ERGEG to immediately implement standards for all new meter installations within the European Union.

Also the production of “standardized” Smart Meters should make the implementation of 80% in 2020 possible.

Eandis recommends that ERGEG should make this installation of 80% in 2020 possible by:

- Mandatory installation in order to achieve a 100% accessibility of the meter installation.
- Enforcing obligations for sufficient place for the meter installation.

Eandis recommends to ERGEG to find solutions for:

- The privacy issues
- The different tariff rates

EANDIS recommends that ERGEG strongly supports the development of standards for smart metering that will be crucial to increase cost-efficiency and improve competitiveness in the market.

Cost efficiency may not restrict desired smart grid functionality. Therefore, the installation of smart meters must be able to support future proof solutions, this to guarantee in the future the effectivity of investments made today. The development of standards should also support this future proof functionality.

## Comments to ERGEG Recommendations on minimum customers services - electricity

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

EANDIS agrees that the customer should be frequently informed of his/her actual energy consumption. The smart meter should provide customers this information at least monthly. EANDIS thinks that informing the customer about his/her energy consumption will be crucial to incentivising the customers to actively participate in the market and be more energy efficient

The information should be delivered in a cost- effective and standardised way, for example by using a web portal, not necessarily through the use of an in-house display. Customers should be able to choose the feedback device they prefer. and this information should be provided free of charge.

EANDIS believes it very difficult to provide the customer with accurate monthly cost information, due to technical barriers. When the DSO gives the consumption information to customers (e.g. online), he is unable to give the energy cost information as the DSO does not manage this data. Similarly: if a supplier is obliged to give monthly cost information to customers, in many countries they can only give the information related to energy cost not network service costs

EANDIS believes that optimising the use of electricity and increasing customers' participation in the market requires metering in shorter intervals. Hourly meter reading for customers and 15 minutes meter reading for system reasons should be reached in the long run when implemented in a cost effective way.

Meter readings with a shorter frequency (15 min) will undoubtedly be expensive. Financing rules for 15 min meter readings should hence be defined in the medium term by all stakeholders involved in the demand-side-management process..

Eandis agrees that 15-minute meter readings are necessary for supporting future processes:

- Forecasting
- Demand side management
- GRID management
- Future Bidding processes
- Plug-in (hybrid) Electric Vehicle

If 80% of the E-Meters have to be installed before 2020 with a life span of 15 years, the technology, necessary for 15-minutes meter readings, must **already be available** on the market. Most of the concepts and technologies are not yet stable and solid enough.

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

EANDIS supports this functionality and feels that remote reading should definitely be a minimum requirement for the new meters to be installed; it is cost efficient, accurate and environmentally friendly.

EANDIS strongly recommends that there should be only one entity responsible of the reading and of access to metering data.

Reading and saving 15-minutes meter readings implies that not the meter but the database should be interrogated for information, assuming that a meter reading every 15 minutes is sufficient.

### **Recommendation 3. Bills based on actual consumption**

EANDIS strongly envisages that customers should receive accurate bills based on their actual consumption.

Defective meters and fall-out of the data communication connections can be the cause of data loss and subsequently of (small indeed) estimations.

These incidents should be kept minimal by:

- Solid meters with a small fall-out (<1%) which keep minimally 1 month consumptions in memory.
- Fail save data communication system.

### **Recommendation 4. Offers reflecting actual consumption patters**

In the first phase we see that hourly metering values and settlements could be offered as an optional chargeable service to the customers. In the long run, hourly measurement for all customers will be beneficial for the understanding, transparency and functioning of the market with increasing access to real time information.

Time of Use (ToU) registers needs to be defined. At present times, in the countries where it is in force, ToU interval metering is not very narrow, since Time of Use tariff is mainly based on time (night/day, winter/summer season etc..)

In the future ToU should be based on actual demand/supply (short term price signals) rather than time.

- a) Eandis prefers a 15-minutes meter readingl. A lot of (market) processes are relied to this 15-minute value, such as Forecasting, Settlement, Peak consumption,...
- b) The increasing number of local productions will change drastically the consumption pattern . This means that the price levels and also the periods of high and low consumption will change. Flexibility in the register choice and consequently flexibility of the Smart Meters should keep all possibilities open. Anyhow an adjustment of the M.I.D. is necessary.

### **Recommendation 5. Power capacity reduction/increase**

EANDIS thinks that in the future, demand-side management mechanisms will be essential to enhance Europe's energy efficiency. Incentivising the energy use in given or shifting the energy use to off-peak times will hence play a key role here and Smart meters should be able to perform these services. Reductions of capacity and recuction of consumption should be enabled by the Smart Meter connected in the Smart Home Network.

EANDIS foresees that the distinction between load management for end-user energy efficiency purposes and load management for an enhanced operation of the grid is made.

1. In order to deliver this service the following conditions have to be fulfilled:
  - a) **Real time communication** in order to be able to execute the commands
  - b) **E-meters:** switching system with life span of 15 years (maximum switching numbers)
  - c) In accordance with national legislation of public service obligation
2. Only possible for Electricity

### **Recommendation 6. Activation and de-activation of supply**

EANDIS agrees on the remote activation and de-activation of supply. This should be part of the minimum requirements of the smart meters as it strongly supports operational efficiency.

EANDIS envisages specifically in the activation, that the system sends a signal that enables the customer to activate through his/her act expressing his/her will, avoiding “automatic” activation.

The following conditions should be fulfilled:

#### **E-meter:**

1. Real time communication for executing the command
2. Switching system with lifetime of 15 years (maximum numbers of switchings)
3. Compliant with safety legislation
4. Compliant with legislation of public service obligation

#### **G-meter:**

1. Real time communication for executing the command
2. Switching system with lifetime of 15 years (maximum numbers of switchings)
3. Lifetime of the battery of 15 years for both communication and switching device.
4. Compliant with security legislation
5. Compliant with public service obligation

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

EANDIS agrees that one bi directional meter is sufficient also for those customers who produce electricity as the modern meters can register both injected and consumed energy. Since the meter should be part of the DSO network, specifications on the functionalities of the meter should always be approved by the DSO. Standardisation of meters and metering could solve this issue from both DSO and customer perspective.

- Usually 4Q-meter is described including reactive, capacitive or inductive energy. Are these measurements necessary for LV-customers?
- This doubles the number of registers of the Smart Meters.
- There is also the possibility to measure and communicate the gross production of the local productions through the Smart Meter network.

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

EANDIS considers that one should distinguish between the direct access to **basic data** – extracted from the meter, that should be provided free of charge - and access to **advanced data checked and elaborated** by DSOs that can be provided through a fee.

The DSO should be responsible for supplying the customer consumption data to the customer via a standard interface, e.g. web portal.

Feedback of consumption data can be given through different canals:

- Letter, email or bill
- WEB-portal: very appropriate for the youth
- Digital TV set: very suitable to reach the total population (= existing display unit)
- PC: 50% of the customers
- Display unit

## **Comments to suggested optional customer services**

### **Recommendation 9. Alert in case of non-notified interruption**

EANDIS supports this recommendation, but it must be considered that the information could not reach 100% of the customers, due to technical reasons.

An “immediate” receipt of information about grid errors ask for real time communication, which is not yet ready.

Errors on the distribution grid can be passed on through the Smart Meters communication platform to the Outage Management System (OMS).

### **Recommendation 10. Alert in case of high energy consumption**

EANDIS does not fully agree on this recommendation regarding high increase in consumption, since it could cause privacy problems. EANDIS does not agree on the possibility for the customer to receive information on costs (see comments on Recommendation 1).

There is already a limitation because of the capacity limit (recommendation 5).

An alert could be developed when there is a sudden increase of the consumption duration (in hours).

### **Recommendation 11. Interface with the home**

EANDIS does not fully agree on this recommendation regarding high increase in consumption, since it could cause privacy problems. EANDIS does not agree on the possibility for the customer to receive information on costs (see comments on Recommendation 1).

A standardization in this area is absolutely necessary. The Smart Meter cannot support all interfaces. There is only one gate, and therefore one interface. M441 should give a definite answer. Working with price signals has to be standardized.

### **Recommendation 12. Information on Voltage Quality**

EANDIS does not fully support this optional recommendation, since the Smart Meter cannot be considered an instrument fully compliant to IEC 61000-4-30.

The Smart meter can detect Voltage quality characteristics such as Voltage interruption or voltage variation, according to EN50160 but cannot be considered a tool to measure the compliance to IEC 61000-4-30.

In case of good real time communication a wave form of current or voltage can be forwarded for analysis.

### **Recommendation 13. Information on Continuity of Supply**

EANDIS supports this optional recommendation.

Other services for alerting or for becoming active actors in Smart Grid:

- Forward load diagram
- Forward load diagram analysis
- Simulations with local productions
- Forward local productions results + need of cleaning solar cells
- Individual RUE (Rational Use of Energy) measures



## Comments to other recommendations

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

EANDIS supports this recommendation. Cost-Benefits Analyses which would only focus on the benefits of Smart meters for DSOs, ignoring benefits for suppliers, customers and society as a whole should not be conducted.

Eandis proposes to add to the list:

Suppliers:

- Better forecasting
- More services – preservation of customers

### **Recommendation 15. All customers should benefit from smart metering**

EANDIS supports this recommendation.

### **Recommendation 16. No discrimination when rolling out smart meters**

EANDIS supports this recommendation

## **GAS**

### **Recommendation 17. Information on actual consumption, on a monthly basis**

Eandis

In the case of gas it should be clearly stipulated which consumption unit is taken into consideration:

- In m<sup>3</sup>.
- In kilowatt-hour. Then the calorific value should be known. Sending these data to the meter charges the system.

### **Recommendation 18. Accurate metering data to relevant market actors when switching supplier or moving**

Eandis

Also here the use of a database with a quarter- of hour-value is sufficient to put the correct data at disposal.

### **Recommendation 19. Bills based on actual consumption**

Eandis

Defective meters and fall out of the data communication connections can be the cause of data loss and subsequently of (small indeed) estimations.

These incidents should be kept minimal by:

- Solid meters with a small fall-out (<1%) which keep minimally 1 month consumptions in memory.
- Fail save data communication system.

#### **Recommendation 20. Offers reflecting actual consumption patterns**

Eandis

- a) For gas hour-values are sufficient
- b) Keeping the hour-values allows flexibility in the use of “time of use” (T.O.U.)

#### **Recommendation 21 Access on customer demand to information on consumption data**

Eandis

Feedback of consumption data can be given through different canals:

- Letter, email or bill
- WEB-portal: very appropriate for the youth
- Digital TV set: very suitable to reach the total population (= existing display unit)
- PC: 50% of the customers
- Display unit

#### **Recommendation 22. Hourly flow capacity reduction/increase**

Eandis

A gas meter can only operate in an “open” or “closed” position. Otherwise the gas pressure cannot be kept stable. The capacity can only be reduced by closing the meter after a defined consumption. The problem of the life span of the gas meter’s battery for the power supply of electronic data communication mechanism and for the power supply of the motors for steering the valves is not yet resolved. Also the safety procedure when “opening” should be defined.

#### **Recommendation 23. Activation and de-activation of supply**

Eandis

See 22.

#### **Recommendation 24. Alert in case of high energy consumption**

Eandis

The right algorithm has still to be specified.

**Recommendation 25. Interface with the home**

Eandis

Given the fact that the information of the gas meters is sent to the communication module of the E-meter, the gate way can also be connected to the E-meter.

**Recommendation 26. When making a cost benefit analysis, an extensive value chain should be used**

Eandis

See 14.

**Recommendation 27. All customers should benefit from smart metering & 28. No discrimination when rolling out smart meters**

Eandis

See 15 & 16.

## **Draft recommendation on data security and integrity – electricity and gas**

### **Recommendation 29. Customer control of metering data**

#### Eandis

Eandis agrees that it is the customer who chooses how the measuring data will be used and through which party in case of commercial purposes.

However as network operator it is always necessary to have control of sufficient measuring data **without the agreement** of the customer. The legislation for protecting the private life should be respected.