

eMeter response to DECC Electricity Reform Consultation Document

Introduction

eMeter is a smart meter software company that provides a smart network application platform (SNAP) to integrate smart meters and smart grid communications networks and devices with utility IT systems. Being vendor-neutral toward all meter, hardware, and legacy utility software systems (e.g. CIS and Billing), eMeter has a unique, unbiased and global perspective on smart meter IT issues. In addition, eMeter's principals have participated in the definition and development of the smart grid for nearly three decades, including leading advanced metering working groups in regulatory proceedings, participating in a wide variety of industry standards groups, founding the Demand Response and Smart Grid Coalition (DRSG), managing consumer- oriented Smart Grid pilots (e.g. PowerCentsDC and the Ontario Smart Price Pilot) that have been recognized for demonstrating best practices, and testifying before the U.S. Congress and various U.S. state legislatures on these issues.

eMeter has also been active in Europe, founding the Brussels-based Smart Energy Demand Coalition (SEDC), participating in EU and ERGEG activities and consultations, and having been an active participant in Ofgem's previous and current smart metering consultations. The SEDC currently has 31 members, including major utilities, technology companies, and several NGOs. Finally, eMeter's software is in use in large-scale Smart Grid projects around the world, including several in Europe.

The Consultation

The Consultation seeks to develop evidence that supports reforming the electricity market.

The reform that DECC proposes aims to cope with the challenges that the electricity market faces such as:

- Expected doubling in demand by 2050 in response to the use of electricity for heating and transport
- Replacement of the ageing generation capacity
- Decarbonisation of the power sector (up to zero carbon by 2030 as it has been proposed by the Committee of Climate Change)

eMeter welcomes DECC's initiative and mostly the fact that the reform focuses not only on gas generation to cope with the challenges of decarbonisation of the future generation mix, but also it looks at allowing equal access to the market by:

1. other low-carbon technologies such as renewables, nuclear and fossil fuel plants equipped with CCS
2. technologies to reduce or manage electricity demand such as efficiency measures and increasing demand side response to match peak wind and solar generation with customer demand

Being a leader provider of smart grid technology and a pioneer in raising awareness of Smart Grid benefits, eMeter's comments on DECC electricity market reform consultation focus on smart meters' and the smart grid's scope within the Electricity Reform. Our comments also highlight the importance of demand response as a way of decarbonising the electricity sector and improving the efficiency of power consumption.

A) eMeter comments on Smart Meters and Smart Grid

1. About how to deliver Information to consumers.

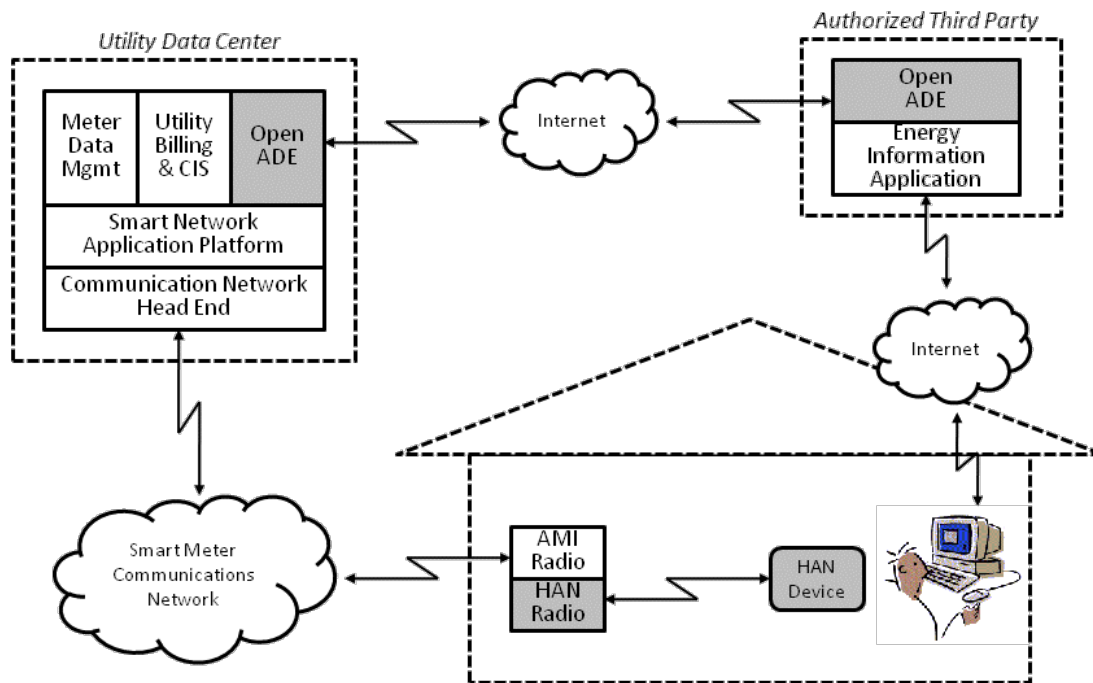
Both smart meters and smart grid will bring the opportunity to provide the consumer with detailed and valuable information on their consumption.

To engage consumers quickly with the benefits of smart meters, suppliers will need to have their IT and communication systems ready when smart meters are installed. Consumers should start enjoying the benefits coming from the installation of the meters no later than a few days after the implementation takes place. Also, eMeter recommends not only that an IHD should be available – as an option to consumers – but also that consumers have next-day web access so they see their consumption. In addition, consumers should be able to see their consumption together with the price and even the CO2 footprint that their consumption produces. Regarding the IHD, our view is that a mandatory IHD would soon be short in capabilities as the market delivers new and better solutions. For example, there are already, web portal and smart phone applications that allow consumers to be more active in their planning of energy consumption, such as setting alarms for certain previously established consumption thresholds and budget targets.

In sum, UK consumers should see immediate benefits as soon as their smart meters are installed: detailed information about their energy use with their monthly bill,

next-day online access to their energy information, and the option of real-time data through a Home Area Network interface.

OpenADE and HAN Interfaces



2. About minimum functionality requirements of the meters

Aiming to enable demand side response programs, regulation on smart meter functional specifications should focus not only remote reading, memory, switching, prepayment diagnosis, and interoperability, but also measurement of interval data and inclusion of an interface to home- and premise-area networks (ZigBee is emerging as the de facto standard in the U.S.).

Half-hourly interval data enables time of use tariffs, as well as other dynamic pricing options, such as peak time rebates and peak day pricing.

3. About the benefits of Smart Grid

eMeter's response to Ofgem's Prospectus pointed out the following smart meter benefits, and recommended that the UK smart meter system should be designed and built to achieve these goals:

- Increased utility operating efficiency through automation of manual functions (remote reading, sending a text message to notify about power failure signals, etc.)
- Greater energy efficiency through consumer information feedback.
- Peak reduction through dynamic pricing and automated control.
- Better renewable integration through sensing and automated control.
- Support for electric vehicles through dynamic pricing (off-peak discounts) and automated sensing and control.
- Greater support for intermittent renewable power resources.

For reference, one of our European customers identified additional benefits, which have improved its operations while reducing operating costs:

1. Automatic collection and compilation of Outage Statistics
2. Identification of power outage (before the customer) / Proactive fault tracing
3. Identification of remaining outage in the low voltage grid
4. Indicators for analyze the disturbance in the high voltage grid
5. Automatic analyze of load and voltage regarding disturbance sources.
6. More automatized power quality measurements
7. Spontaneous meter readings for Customer Service Center
8. Ordered meter readings
9. Automatic tariff change
10. Customer complains
11. Alarm when zero (earth) fault occurs
12. Load analysis
13. Network dimensioning using precise peak load meter values
14. Load-categorization of customer
15. Locate thefts of electricity, energy
16. Network loss analysis.
17. Internal analysis of reactive demand
18. Process improvement – unified handling of meter readings

In the UK, suppliers are responsible for the roll out of smart meters, and some benefits of the smart metering system will be lost on the side of the Distributors Network Operators (DNOS). Demand side programs could enhance the balancing of the network, but to do so, there should be a link between the distributors and their customers' base.

B) eMeter comments on Demand Side

eMeter founded the Smart Energy Demand Coalition SEDC in November 2010. With the purpose of promoting the active participation by the demand side in European electricity markets – ensuring consumer benefits, increasing security of supply and reducing carbon emissions.

SEDC aims to call attention to regulators and define policy goals that should be considered when designing a smart grid system where demand response programs will contribute to:

- Cut peak demand
- Shift usage to off-peak hours
- Reduce total energy consumption
- Actively manage electric vehicle charging
- Actively manage energy usage to respond to solar, wind, and other renewable resources.
- Purchase more efficient appliances and equipment, based on a better understanding of how each device uses energy.

SEDC considers that the following policy goals should be considered for a successful implementation on demand side programs:

1. Treat the demand side with the same priority as renewable resources
2. That demand side resources be allowed to participate alongside supply in local or regional wholesale markets via exchanges
3. That utilities be encouraged and supported by regulators in offering demand side programs
4. Use demand side resources as a reliability tool to support operations and renewables
5. That policymakers adopt peak load reduction targets
6. Local or regional wholesale market structures – capacity markets – and incentives should be created or modified to allow participation by the demand side
7. Provide consumers with choices
8. Adopt reasonable EU-wide consumer data security and privacy standards for demand side programs
9. Provide reliable, responsive, cost-effective, two-way communications and measurement at the customer site that enables demand side programs
10. Ensure that smart meter investments offer standards-based support for demand side programs
11. Technology must not be a barrier to changing from one retailer to another

eMeter agrees with the description in DECC's Electricity Market Reform Consultation that notes some barriers to the full implementation of demand side response.

However, eMeter believes that smart meters, smart grid and a competitive market will contribute to overcome those barriers, such as half hourly metering for the application and the application of time of use tariffs. Schemes that take advantage of half- hourly prices in the UK wholesale electricity market will support electric vehicles, and they would allow consumers to save money by using high availability low cost wind power during off peak hours

The Reform Consultation also acknowledges that access to markets is limited, as a minimum of 25MW is required for trading. This barrier could be overcome with aggregation, by the utilities or third parties, of automated demand side response from several consumers.

eMeter is pleased to have the opportunity to comment on DECC Electricity Market Reform Consultation.