

# Smart Metering in the Domestic Sector

## The Annual National Home Energy Conference 2008

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# What is the ERA?

- It is the only dedicated trade association for energy suppliers
- All the main energy suppliers operating in the domestic market in GB are members

The logo for npower, featuring the word "npower" in a lowercase, sans-serif font. The "n" is green, and "power" is red.The logo for Scottish and Southern Energy, featuring a stylized globe icon to the left of the text "Scottish and Southern Energy". "Scottish and Southern" is in blue, and "Energy" is in green.The logo for EDF ENERGY, featuring a large blue lowercase "e" above the text "EDF ENERGY" in blue.The logo for British Gas, featuring the text "British Gas" in blue next to a stylized flame icon.The logo for POWERGEN, featuring a stylized sun and a profile of a head above the text "POWERGEN". Below it, it says "A company of e-on" with "e-on" in red.The logo for ScottishPower, featuring the text "ScottishPower" in blue with a horizontal line underneath, and "gas and electricity" in green below it.The logo for the energy retail association, featuring a stylized oval icon above the text "energy retail association" in blue.

# Smart Meters in Great Britain

- UK Government has announced their expectation for smart meters to be in every GB home within ten years
- Supplier obligation post-2011 is to reduce carbon emissions, energy and encourage consumers to use less energy
- Energy Services Directive

HM Government



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# Energy Services Directive



*...based on actual energy consumption, and is presented in clear and understandable terms...to provide consumers with a comprehensive account of energy costs.*

*Comparisons of the final customer's...consumption with consumption for the same period in the previous year.*



According to Ofcom 61% of UK households have internet access and could receive their bills online.

# Opportunities for smart metering

- *Final customers ...are provided with competitively priced individual meters that accurately reflect the final customer's actual energy consumption and that provide information on actual time of use.*



ERA questions the appropriateness of mandating the provision of such information for all consumers in the domestic energy market.

There is currently no clear evidence to suggest that consumers will respond to the provision of historical data.

[Although the results of the demand research trials may provide an indication of the most successful formats and suppliers will wish to consider these results before making any decisions. ]

# Smart Metering is coming...

- Within the next ten years - smart meters in 25 million homes (subject to a mandate)
- 2-way communication systems will give real time information on energy use in the home.
- **...applies to gas and electricity**



**GAS**



**ELECTRICITY**

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The nature of the display will be a competitive market issue and will allow suppliers to continue to differentiate themselves in the market.

Smart meters will enable suppliers to introduce flexible tariffs that measure consumption over set time periods.

Automatic and actual meter reads will bring an end to estimated bills.

Smart meters will have the capability for import and export, which will facilitate microgeneration technology.

Suppliers will cater for both credit and debit customers for electricity (in other words a customer will be able to switch between credit and prepayment) and dependent upon the cost issues from manufacturers the same benefits could apply to gas customers.

For electricity customers suppliers will be able to remotely disconnect and reinstate supply, which will reduce the costs of debt recovery.

# Benefits of smart metering

- Accurate, understandable, up-to-date information
- An end to estimated bills
- Positive impact on fuel poverty and carbon emissions
- Credit and prepay option for all
- Removes the additional cost to service pre-payment meters
- Flexible tariffs
- Sell energy back to the supplier
- Facilitate microgeneration technology
- Better forecasting of energy demand



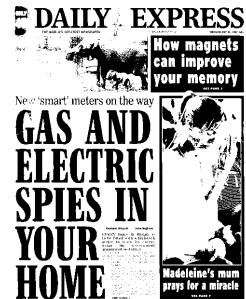
This is only the cost of purchasing the electricity smart meter asset

[there are a number of other costs that need to be considered in addition to the asset cost:]

[External communication device (the BEAMA defined meter has an interface, but no communications device)

# Challenges of British roll-out

- Market challenges
  - Fiercely competitive retail market
  - Active, de-regulated metering market
- Government challenges
  - Demands on industry to provide free Electricity Display Devices
- Customer challenges
  - Misunderstandings of potential for smart meters
  - Need for national communications campaign
- Industry challenges
  - Interoperability of devices
  - Stranded assets





# Issues to be resolved

Before the first smart meter can be fitted we have to resolve:

- Interoperability
- Communications methods – internal and external
- Options for roll-out
- Delivery Approach
- Market Regulation and Market Design



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Programme is about comms, infrastructure, data, systems.

Asset is the easy bit

# Microgeneration



Still presents challenges:

- Industry capacity: not yet confident that all measures would be available for take up.
- Consumer understanding: need to help consumers understand how microgen can improve their homes and household expenditure.
- Cost: the most cost-effective microgeneration technologies may be supported at the end of the CERT period in 2011.
- Smart metering supports microgeneration with import/export capability.
- Financial incentives: the Low Carbon Buildings Programme is not enough



Whilst we have supported the inclusion of microgeneration measures in offering greater flexibility to meet the CERT targets, without any 'spare' capacity in cavity wall and loft insulation, these measures no longer offer that flexibility but are instead an essential component.

We are not yet confident that a number of these measures would be available for take up at the levels suggested: the supply chain for some of these measures is not yet stabilised and the public understanding and demand for them is still growing. In particular, we are concerned about the fuel supply chain of wood chip (& pellet) boilers and whether they can work efficiently and reliably in domestic sized properties.

The aim of getting micro-CHP units in the market between 2008 and 2011 also seems highly ambitious, especially in light of the difficulties encountered by some microgeneration businesses. There is more work to be done to help consumers understand how microgeneration can improve their homes and household expenditure.

Mixed messages, for example, about the benefits of micro-wind products only add to the confusion for consumers. However, we shall be looking to build on the recent increased awareness of climate change and translate that into a demand level that allows economies of scale to bring prices within reach of more than just the most affluent consumers.

Analysis by the Micropower Council indicates that the most cost-effective microgeneration technologies may be supported under CERT, but that this would only occur towards the end of the CERT period in 2011, when lower cost energy efficiency measures have been realised.

We would like to think that there could be more help from Government beyond a limited fund from the Low Carbon Buildings Programme.

Ground source heat pump cost = Defra £8.4k, supplier £15k inc siteworks – this influences translation factor for 3 years of CERT.

# Now is the Golden Opportunity

- 'It's the right thing to do'
- It will revolutionise our sector
- Supply business and customer benefits
  - End of estimated bills
  - End of house-to-house meter readings
  - Facilitate hassle-free switching process
  - Increased tariff flexibility
- Need governance and ownership for delivery of smart metering roll-out



# But we are still waiting...



- Energy Reduction Trial initial results
- Further work on impact assessment
- ERA and ENA analytical work
- Assess environmental benefits to Consumers
- Explore small business case

# In conclusion

- Smart metering has the potential to revolutionise the relationship between suppliers and their customers
- Co-operation from all parties is vital for success
- Unique challenge of GB market, market, but real commitment from the Government is essential



**Thank you.**

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