Department of Energy & Climate Change

Electricity Demand Reduction

EMR Stakeholder Event

Rachel Crisp, Head of Demand Reduction and Retail Energy Markets

11 February 2013

Improving efficiency delivers significant benefits

Department of Energy & Climate Change

Security

Lower bills

Energy Efficiency

Growth & productivity

Lower emissions

Could reducing electricity demand be a cheaper way to decarbonise?

Department of Energy & Climate Change

Support/incentives to reduce electricity demand

Support/incentives to build supply

Analysis suggests there is significant potential …

Department of Energy & Climate Change

Note: Key assumptions for 2030: Discount rate: 3.5%, Electricity price: 12p/kWh, CO2 price: £74/tCO2e; estimated on 2030 'policy off' baseline

Technical potential for electricity demand reduction suggested to be:

-146 TWh per annum in 2030

-92 TWh per annum once existing policies are taken into account (26% of total demand)

Technical potential is spread between residential, commercial, industrial and public administration.

(Technological measures only, and excludes purely behavioural measures)

…and reducing electricity demand has significant benefits

Department of Energy & Climate Change

=

4.5 Megatonnes

£4bn

[In 2030]

But there are barriers that prevent people from taking action….

Department of Energy & Climate Change

Split Incentives

Individuals making up-front investment decisions e.g. landlord

Individuals using equipment e.g. tenant

Imperfect Information

Not front of mind

Access to finance

Risk/uncertainty

Hidden costs

A number of international examples of electricity demand reduction projects

Department of Energy & Climate Change

Prokilowatt

ISO New England Forward Capacity market

White certificate scheme

XTWh Target

Suppliers

Purchase certificates

Promote energy saving with customers

DEPARTMENT OF ENERGY & CLIMATE CHANGE

Electricity Demand Reduction:

Consultation on options to encourage permanent reductions in electricity use

Consultation closed 31 January 2013

Cm 8468

URN 12D/403 November 2012

The consultation set out a range of options

Department of Energy & Climate Change

Premium payment

Payment on a pence per kWh basis for the volume of electricity saved (main variants fixed payment and CfD)

Supplier Obligation

XTWh Target → Suppliers → Deliver proven savings / Procure proven savings – financial incentive to providers to reduce demand

Suppliers obliged to deliver a specified target of demand reduction (non-domestic sector)

Voluntary/informational

Better labelling

Information hub

Disaggregated metering

Other voluntary initiatives

Product standards

Capacity Market

Payment for demand reduction as an alternative to generation capacity

Targeted financial

Such as a scrapage or a voucher scheme

A key issue is monitoring and verifying any savings

Department of Energy & Climate Change

Monitoring and Verification

Have measures been installed and delivering?

Deemed savings: estimated on basis of known technology list

= **XKWh**

Ex-post or "monitoring": actual readings on measured sites

Before **After**

Hybrid : measured parameters fed into pre-agreed formula to calculate savings

Additionality

Would it have happened anyway?

Established list of defined technologies

- **----------**
- **----------**

Establish baseline and adjust for key parameters e.g. weather etc (major projects)

Next steps

Department of Energy & Climate Change

Feb - Analyze the consultation responses

March - Finalise policy position with Ministers and across Government

April/May – If required, legislation developed for introduction into Energy Bill subject to usual need for cross-Government clearance

Key issues

Department of Energy & Climate Change

1. How do you ensure demand reduction projects are brought forward and savings achieved without adding further short term cost to consumers?

2. How do you scale up electricity efficiency projects to compete with the size of new build power stations?

3. What monitoring and verification would give investors and government confidence that savings will be achieved?