

Smart & Advanced Metering

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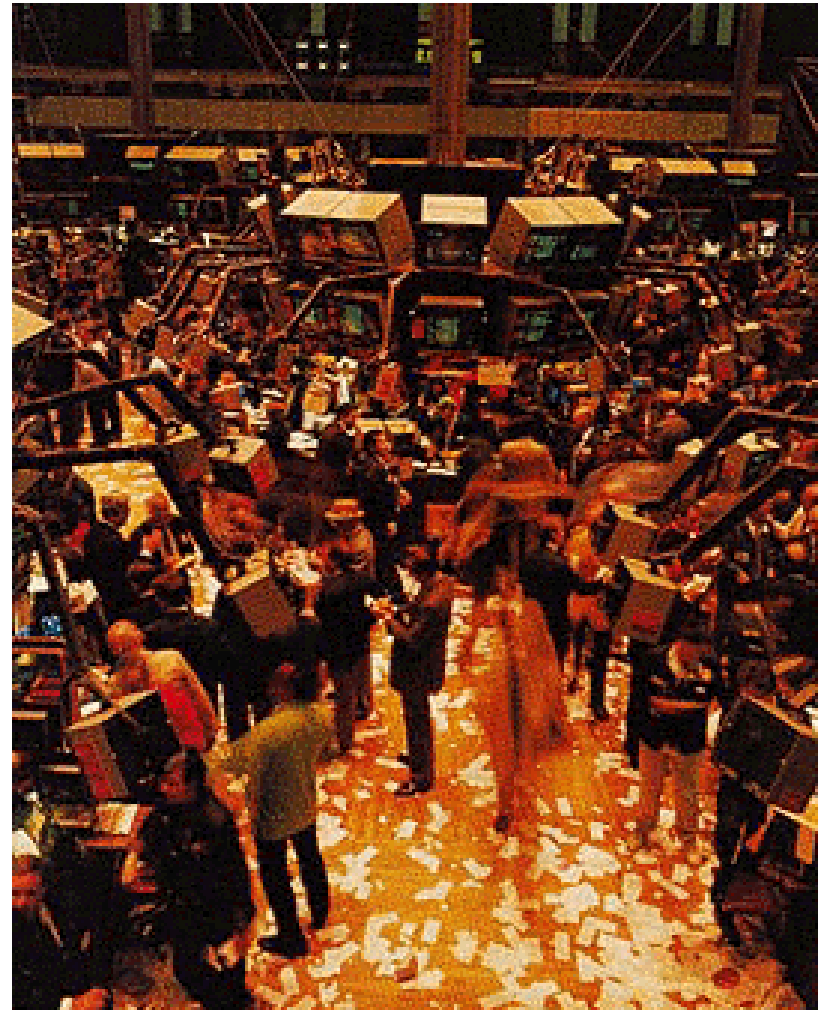


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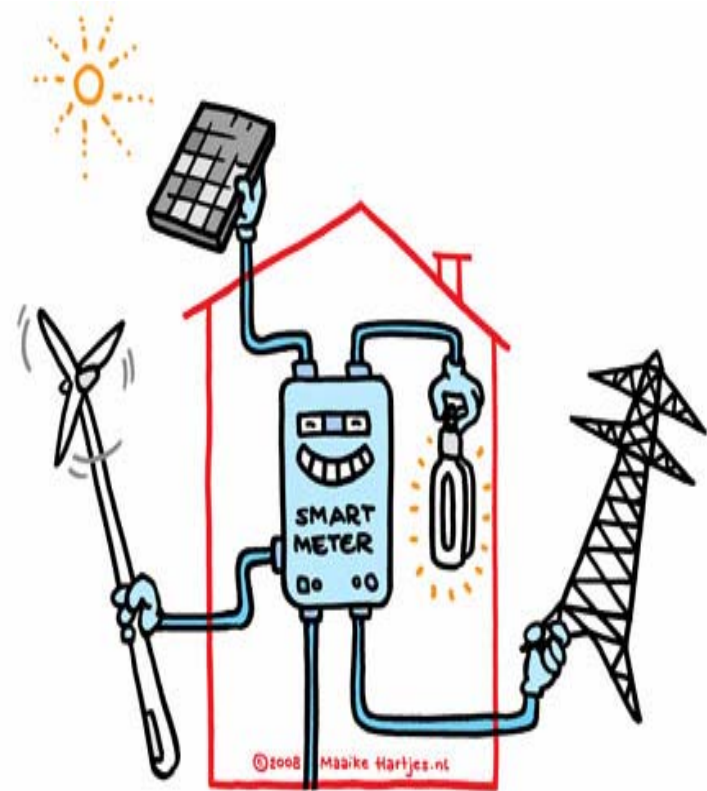
Why do we need Smart Meters?

- Energy cost & supply
- Regulated market
- Legislation
- Climate Change
- Dependency
- Smart Grid



What do they do?

- Security
- Accurate information
- Key parameters
- Credit & PAYG
- Dual fuel
- Single/3 phase metering
- Communication:
GSM/GPRS/DLC/Zigbee/Z-wave
- Intelligent
- Macro/Mirco Export to the grid?

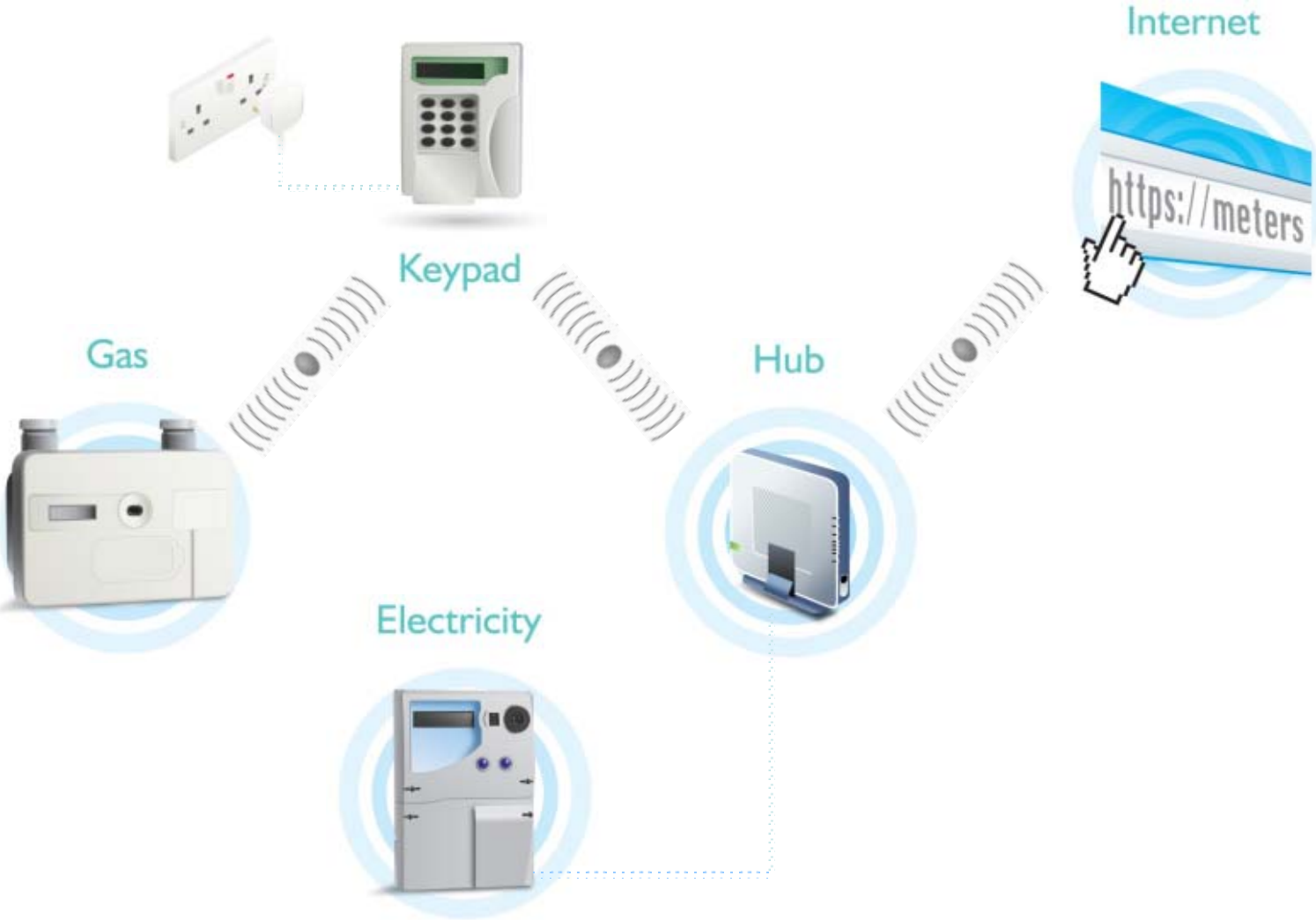


The Future!




- **BERR Business Plan 2008 - 2011**
- **‘World energy demand is strong and growing. By 2030 it is forecast to be 50 per cent higher than today and in the UK alone we will need 20-25GW of new electricity capacity by 2020, about a third more than current levels. At the same time, the UK is committed to reducing emissions of greenhouse gases. Our target is to reduce emissions by 60 per cent by 2050. This will mean both using energy more efficiently and producing more electricity from renewable sources.’**

“The battle for energy security is going to define the fight for Britain's future”

Dual Fuel Pre-payment & Credit Solutions



Gas Meter

- Domestic
- Communications
 - Zigbee wireless
 - Pulse output
 - Optical Port 1107
- Half Hourly data stored and transmitted daily to the Keypad via Zigbee
- Option with Valve for auto shut off
- Meter life 20 years
- Battery life >10years
 - Approved 
- Gas – Natural/LPG
- Support Vendor Codes
 - Cash Vend  
 - the following codes. - Unit cost change
 - Tariff change
 - Change meter parameters (Credit, Emergency Credit)
 - New Customer
 - Refund
- Tamper Protection
 - Magnetic Fraud detection
 - Tilt detection
 - Battery removal detection



Electric Meter

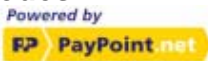

- Single phase/ 3 phase/ 3 element
- Half Hourly data stored and HH transmitted every 30

Approved 

- Display
 - Credit Remaining
 - Total kWh
 - Total Money Vended
 - Previous Day's, Week's, Month's costs
 - Number of days before disconnection
 - Current demand
 - Current demand cost
 - Cost per kWh rate
 - kWh consumption per rate

- Step tariffs
- Time Of Use tariff

- Support Vendor Codes

- Cash Vend  
- the following codes. - Unit cost change
- Change meter parameters (Max. Current or Credit, Load Limit, Emergency Credit)
- New Customer
- Refund
- Tamper protection

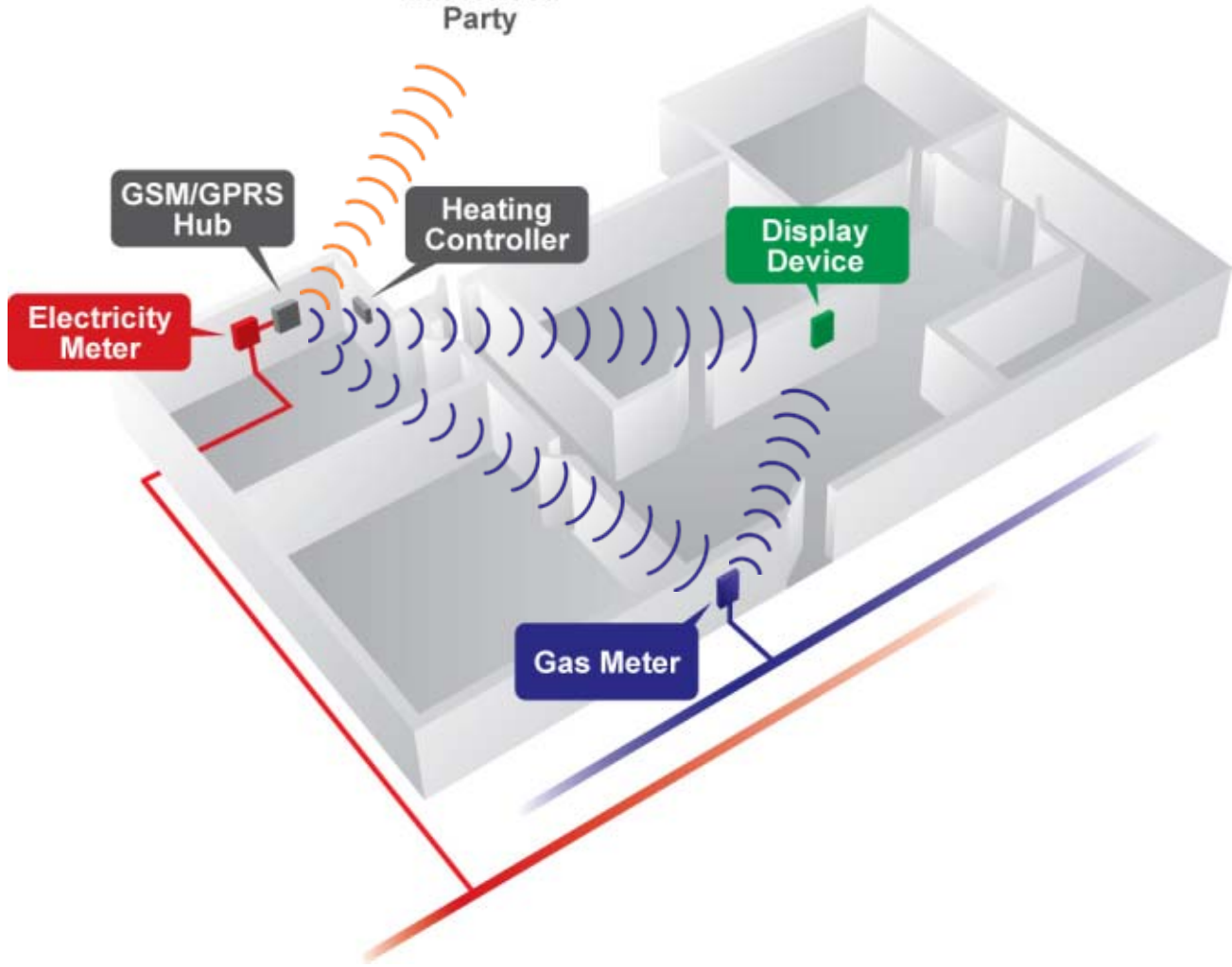
Electricity



Smart Metering WAN & HAN Scenario



Authorised
Party



Who's Driving Smart/Advanced Metering Roll Out?

- **SMOF (Smart metering Operational Framework)**
- **SRSM Project (Supplier Requirement for Smart Metering) joint project with BERR**
- **Smart Metering WAN Communications Requirements**

- **BERR working with the ERA on SRSM project**

BERR Energy Billing and Metering report July 2008. 'Changing Customer behaviour'

On provision for Advanced Metering for medium and large premises implementation 1st Jan 2009

- **DEFRA**

- **Climate Change Bill. Royal Assent expect Nov 2008**

- **Part L Conservation of Fuel and Power**

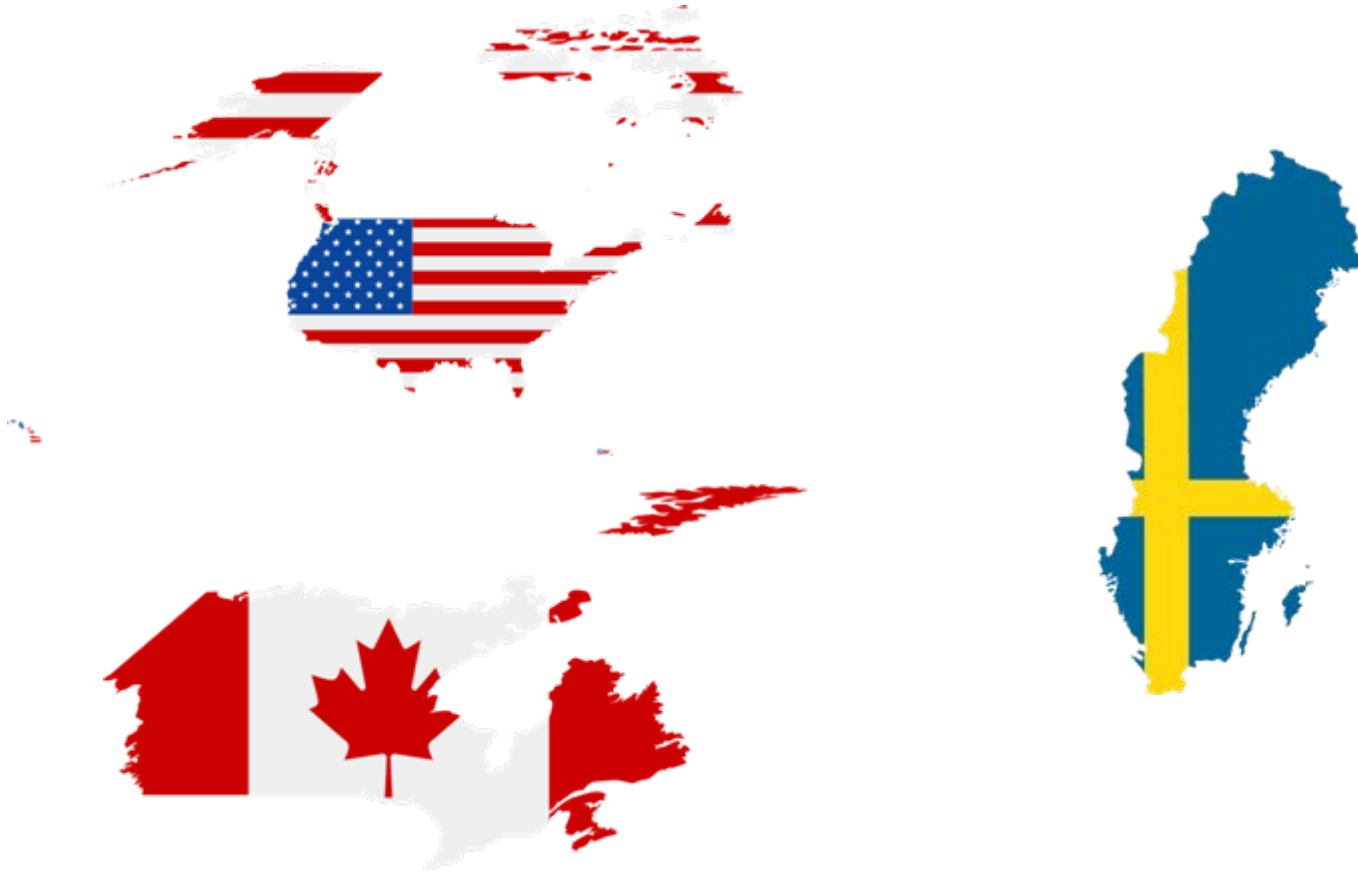
- **NCC reports funded by BERR**

- **NCC report July 2008 'the consumer implications of smart meters'**

- **NCC report July 2008 'towards sustainable energy tariffs'**

- **Market models for domestic under discussion with structure group**

What's Happening Globally?



What's Happening In Great Britain?



**2006 -2008 Trial. 1800 residential sites
combination of technologies dual fuel with IHD
GSM/GPRS**

**2007 - 2009 Trial. 2300 residential sites
Dual fuel DLC, GSM/GPRS**

**2005 – 2007 Trial. 73 Commercial sites
Electricity saving 0% to -25%**

**2008 – 2009 roll out 10,000 residential sites
Dual fuel. Pay as you go**

Thank you

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Information:

esta.org.uk

berr.gov.uk

energy-retail.org.uk

ncc.org.uk (consumerfocus.org.uk)

defra.gov.uk