

# *The power of technology and consumers*

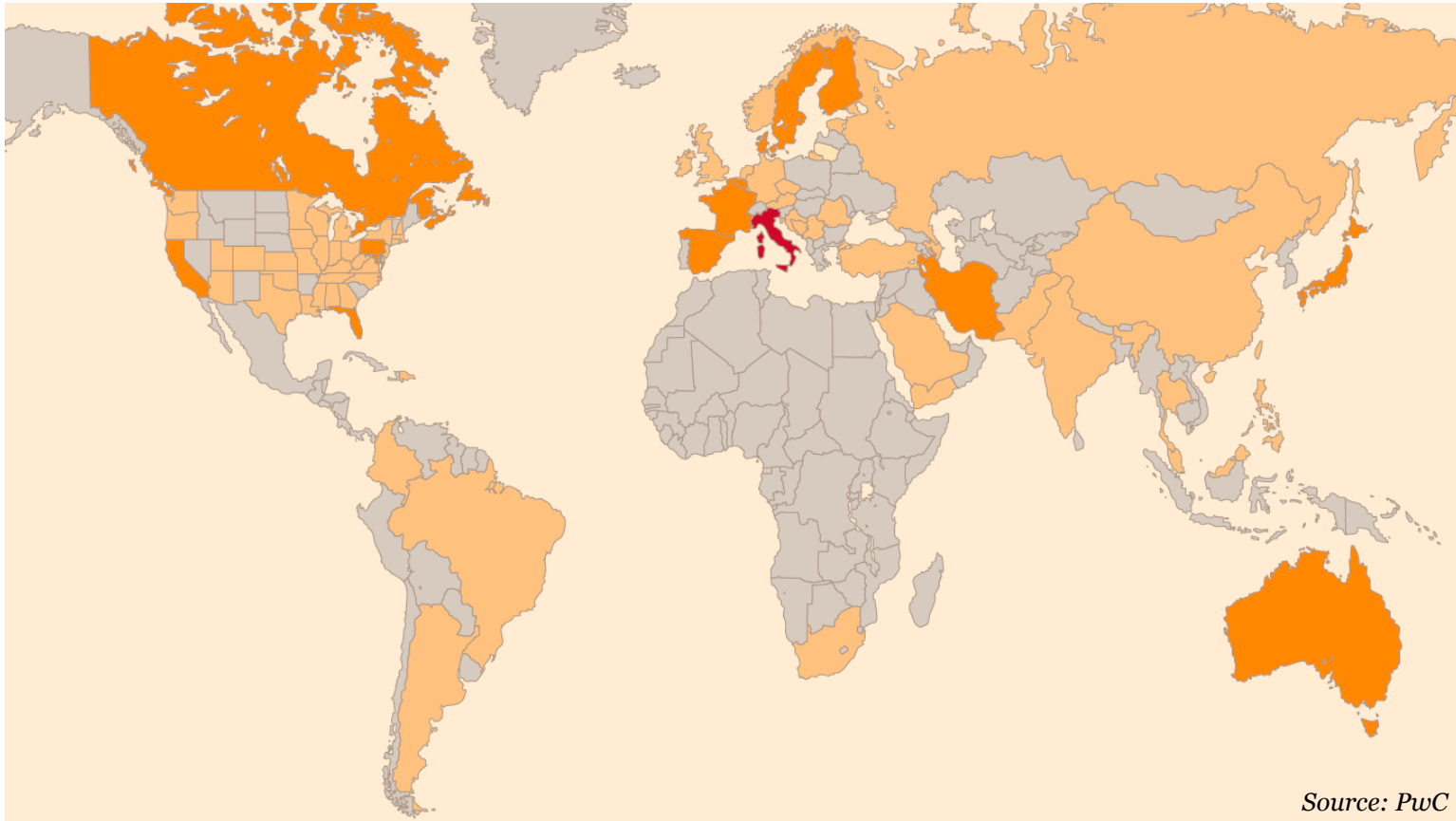
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Strategy & Regulation  
September 2013

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# *Overview*

1. The growing body of evidence
2. The role of customer engagement
3. An alternative view

# *There is growing body of evidence about the impact of smart metering*



**More than 100 pilots across the globe involving more than 450,000 customers**

- Zero penetration – no smart meter activity
- Low penetration – minimal smart meter trials and/or limited rollout
- Medium penetration – advanced trials and significant rollout
- High penetration – completed or near completion of smart meter rollout

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# ***Evidence suggests smart metering will reduce consumption***

DECC's latest impact assessment assumes the following annual reductions in demand:

- 2.8% for electricity
- 2% for gas credit
- 0.5% for gas pre-paid

*Source: DECC Smart meter impact assessment, 2012*

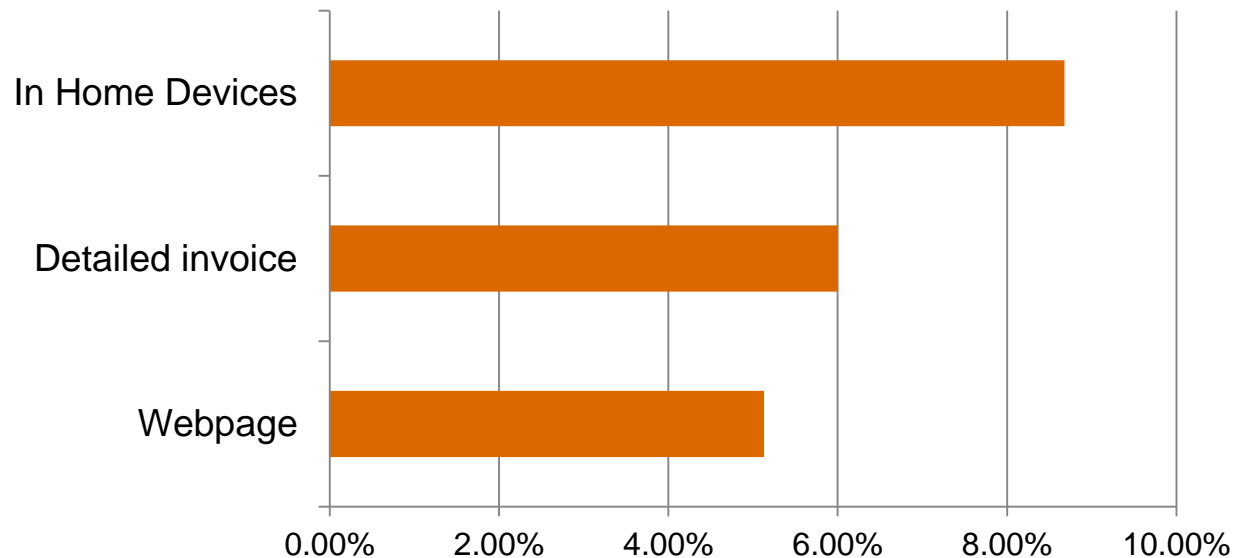
Government estimates look conservative in light of international experience:

- American Council for an Energy-Efficient Economy (ACEEE) – 4% to 12% (and up to 19.5% with real-time feedback)
- Energy Demand Research Project (EDRP):
  - Electricity: 2 to 4% for comparable trials
  - Gas: 3%

# ***Evidence suggests smart metering will reduce consumption***

Key findings from the recent VaasaETT study comparing 100 pilots across the world

## **Overall consumption reduction**



*Source: VaasaETT, Empower demand, 2011*

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## ***Many argue customer engagement is key to success ...***

*“roll-out of smart meters will bring significant benefits to consumers, but many of these benefits will only be fully achieved if consumers are effectively engaged”, DECC*

*“to fully realise the consumer benefits [of smart metering], consumers need to be engaged”, Energy UK Round Table Report, Feb 2013*

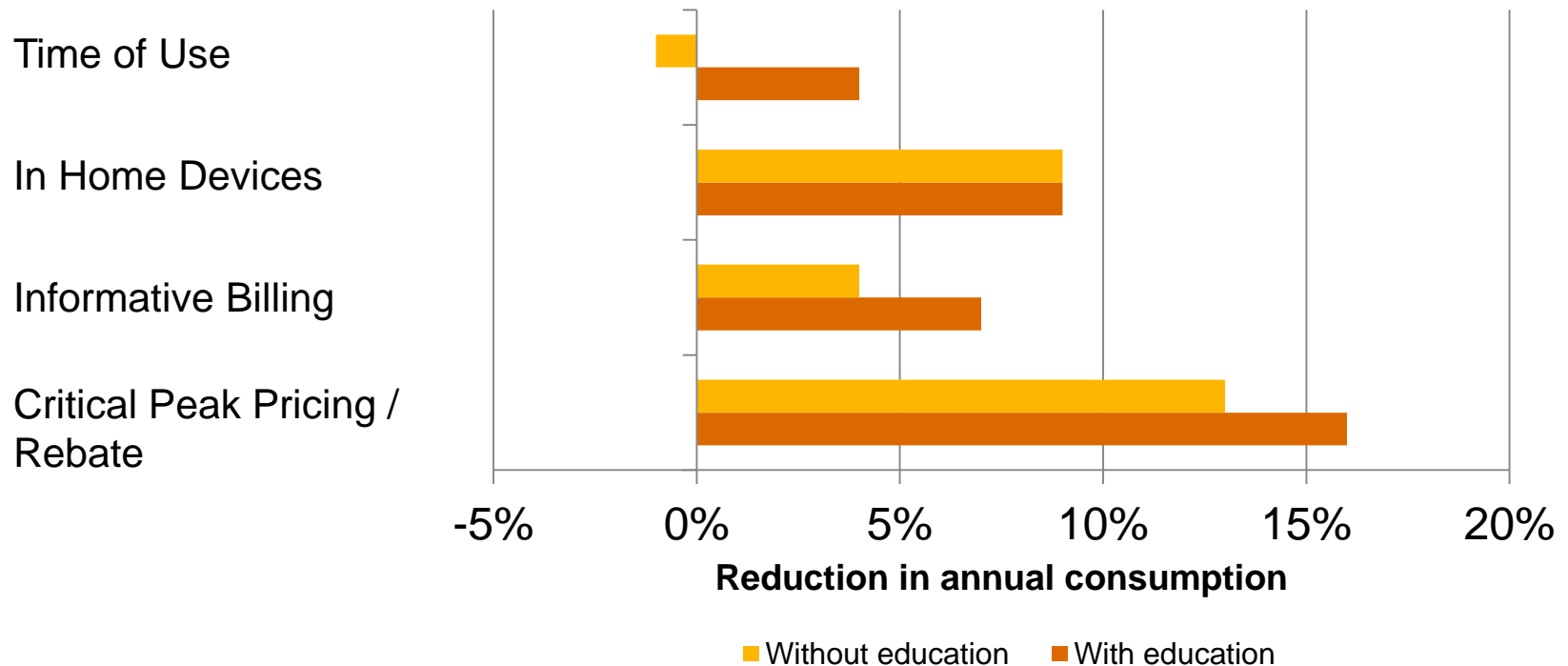
*“Program success is directly dependent on consumer involvement ... ‘more is more’ at every stage”, VaasaETT Empower Demand, 2011*

*“effective education and engagement approaches remain key challenges requiring a focus on consumers, creative thinking and targeted attention”, Smart Grid Australia*

*“We thought we were undertaking an infrastructure project, but it turned out to be a consumer project”, Chris Johns, President of PG&E*

# *Consumer engagement has been shown to have a positive impact ...*

## Influence of education on energy conservation



Source: VaasaETT, Empower demand, 2011

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## ***Engagement has an important role in addressing concerns***

Concerns expressed by those who do not want smart meters installed:

- Data privacy (59% of respondents) – although, more than a third of these were comforted by the proposed data privacy rules
- Inaccurate billing (32%)
- The disruption caused by the installation process (28%)
  - The number one concern for the younger generation (49%)
- Health and safety (16%)

*Source: Effectively engaging consumers to ensure smart meter success, O2, 2012*



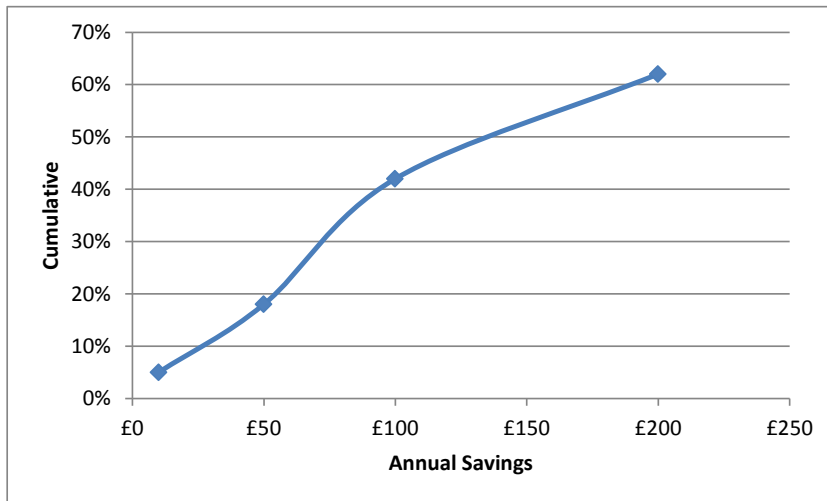
# Engagement has an important role in addressing concerns



# However, there is another point of view ...

Consumers have limited interest in changing their behaviour

**What level of savings would motivate you to adopt a smart meter?**



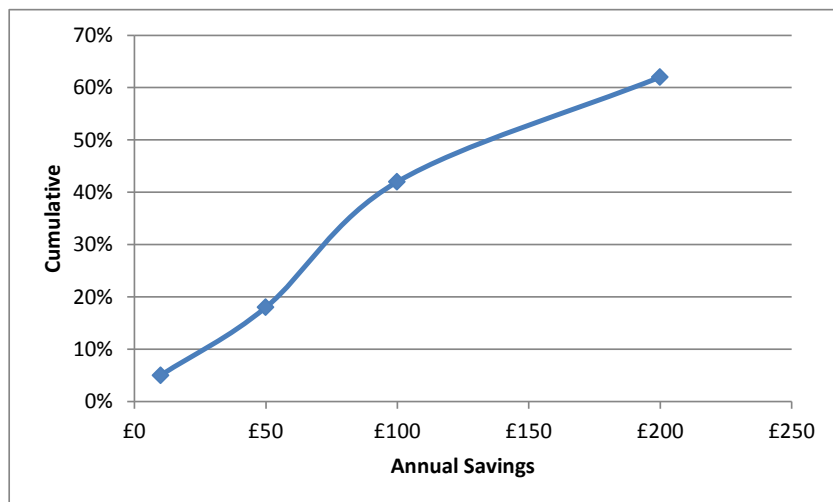
Source: *Effectively engaging consumers to ensure smart meter success*, O2, 2012

## *However, there is another point of view ...*

Consumers have limited interest in changing their behaviour

Limited scope for domestic consumers to reduce consumption

What level of savings would motivate you to adopt a smart meter?



Source: *Effectively engaging consumers to ensure smart meter success, O2, 2012*

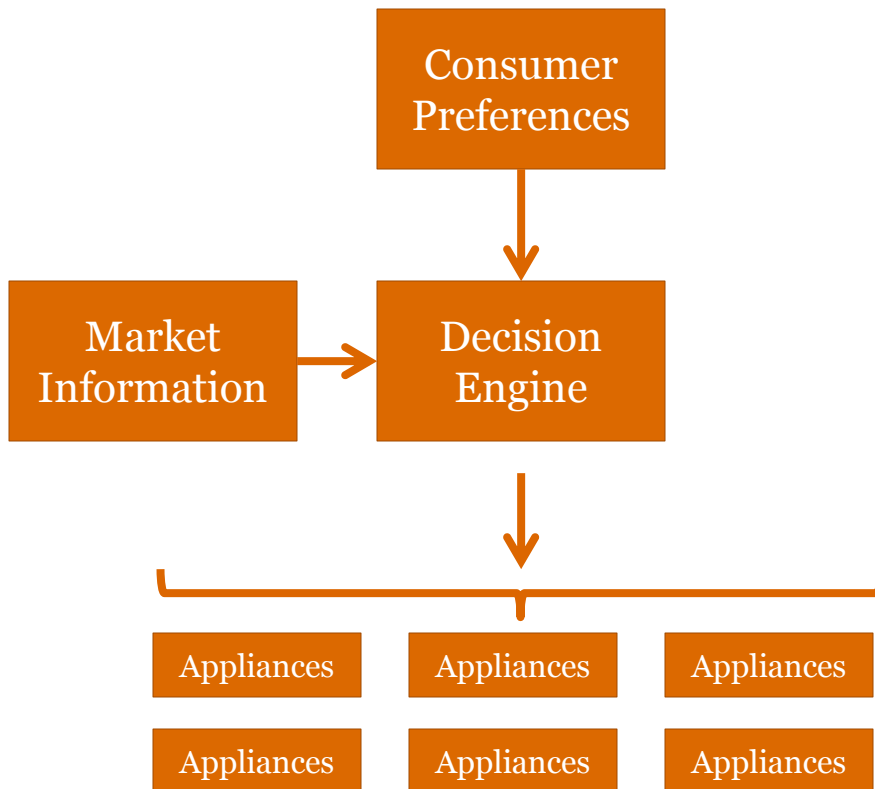
- Lower take-up of high load appliance – air conditioning and electric heating, spa and pool pumps
- Reliance on gas for heating where the scope for reduction is smaller

(But don't forget electric cars!)

**“A truly smart grid should require as little consumer participation as possible”, Michael Jung**

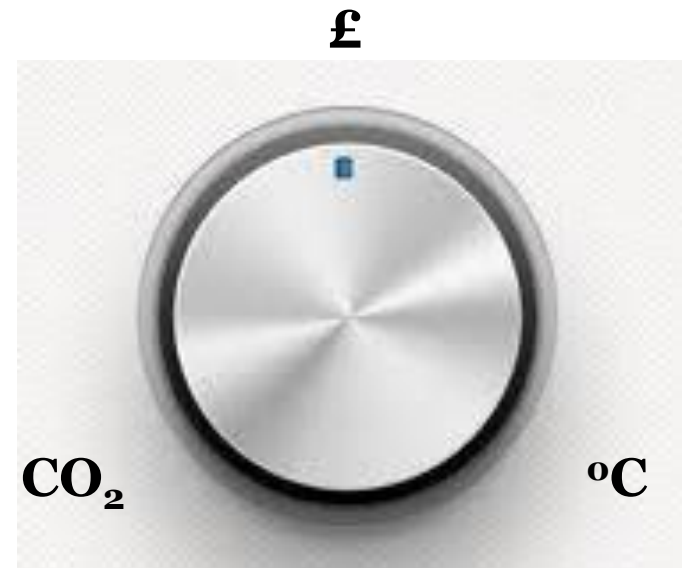
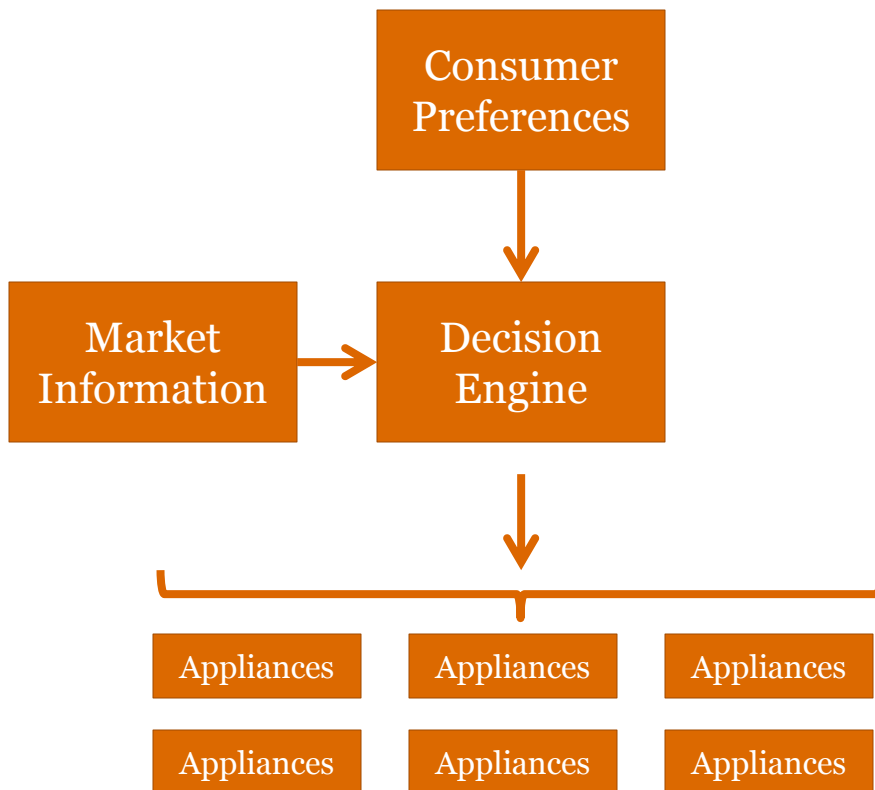
# *What is the alternative?*

Decentralised coordination, supported by technology



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Decentralised coordination, supported by technology



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## ***Why might this work?***

- We know that consumers take energy consumption into account at point of purchase
- The prospect of a smart home is highly appealing to customers. 60% of customers say smart home functionality will make smart meters more appealing. [Source: *“Effectively engaging consumers to ensure smart meter success”*, O2]
- Technological innovation:
  - The Nest “learning thermometer”
  - Econavi from Panasonic
  - Sony TVs.
- Tested through the GridWise Olympic Peninsula Demonstration Project (near Seattle) – “transactive technology”

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# *In conclusion*

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