The potential impact of smart meters on the retail market

EPRG Conference

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Let’s look at the potential impact from some different perspectives……

Impact on retail markets

- Technology
- Customers
- Governments / Regulators
- Suppliers
1. **Technology**: the ‘smart meter’ is really an evolving continuum of increasingly intelligent meters......

- Smart meters have been around for several decades
- Mainly for large Industrial & Commercial customers
- Basic design - one way communication - Automatic Meter Reading (AMR)

Now being deployed into households & businesses

- Intelligence has evolved – two way communication – Advanced Metering Infrastructure (AMI)
- Both gas and electricity
1. Technology: ....but it’s not about the meter, it’s about what they can enable.....

Enabler of the ‘smart grid’?

Enabler of the ‘smart home’?

.....or both?
1. **Technology:** ....but in the world of retail, we need to walk before we can run, as utopia is not here yet

- Accurate billing
- Consumption reduction
- Integrated home generation
- Time of use tariffs
- Automated home appliances
- Automatic customer switching

Getting these working at scale would be a good start
2. Governments / Regulators: different countries are rolling out smart meters for different reasons

<table>
<thead>
<tr>
<th>Country</th>
<th>Responsible</th>
<th>Scope</th>
<th>Rationale</th>
<th>Progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Italy</td>
<td>Distributor</td>
<td>Electricity (gas started)</td>
<td>Support debt management &amp; competition</td>
<td>31 million meters installed: 2001-11</td>
</tr>
<tr>
<td>Sweden</td>
<td>Distributor</td>
<td>Electricity</td>
<td>Reduce electricity consumption</td>
<td>5 million meters installed: 2006-9</td>
</tr>
<tr>
<td>Netherlands</td>
<td>Distributor</td>
<td>Electricity and gas</td>
<td>Address billing issues &amp; facilitate switching</td>
<td>Mass roll-out halted due to privacy concerns</td>
</tr>
<tr>
<td>UK</td>
<td>Supplier</td>
<td>Electricity and gas</td>
<td>Customer energy &amp; carbon savings</td>
<td>Mass roll-out: 2015-2020</td>
</tr>
<tr>
<td>Germany</td>
<td>Distributor</td>
<td>Electricity</td>
<td>Manage transition in electricity mix</td>
<td>Partial roll-out under consideration</td>
</tr>
</tbody>
</table>
2. Governments / Regulators: the UK programme is ambitious across a range of dimensions......

2015
DCC ‘go-live’ and start of mass roll-out

2020
Suppliers required by law to roll out smart meters and in-home displays (IHDs) to all residential & SME customers

53 million
Number of gas and electricity meters to be replaced by energy suppliers

30 million
Number of homes and small businesses affected by the smart meter programme

Required infrastructure

In-home installation

1. Gas smart meter
2. Electricity smart meter
3. Comms hub
4. In Home Display (IHD)

Data Communications Company

- Meter read
- Meter number information
- Credit meter ‘top-up’
- Data analytics
- Microgen information
- Electric vehicle management
- Tariffs
- Firmware
- Security updates
- Disconnect / reconnect
- Meter read request
- Customer messages

Suppliers & Others

- Network operators
- Suppliers & Others
- New entrants

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2. Governments / Regulators: and is predicated upon a positive national business case...

Net national benefit: £6.7 billion

**Costs**
- **Supplier costs**: meters, install & operation
- **DCC costs**: data & comms. capex / opex

**Benefits**
- **Generation benefits**
- **Network benefits**
- **UK wide benefits**
- **Consumer benefits**: energy saving
- **Supplier benefits**: meter reading, debt, avoided site visits, reduced customer queries

Source: DECC Impact Assessment for domestic customers, 2013
2. Governments / Regulators: although a net GB benefit does not translate to a net supplier benefit

Net national benefit: £6.7 billion

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Negative business case for suppliers
Implies need for tariff uplift
But offset by customer consumption reduction
Continued debate on costs and benefits
3. **Customers**: needs are changing rapidly and smart meters could help meet many of them....

![Diagram showing various customer needs and expectations](chart)

- **Interactions with each other and companies**
  - Connectivity
  - Use of data
  - Trust / influence

- **Individual needs and expectations**
  - Tailoring
  - ‘Prosumer’
  - Reassurance

- **Perception of value**
  - Convenience
  - Sustainability / Ethical behaviour
  - Price consciousness

*FTI·CL Energy*
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- ‘Prosumer’
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- Individual needs and expectations

- Perception of value

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4. Suppliers: UK suppliers take different views on the balance of opportunity and risk

Opportunities:

- Enhance the customer relationship and build trust
- Boost market share eg. through dual fuel ‘upsell’ and lower tariff uplift than competitors
- Springboard into energy services
- Exploring wider business value from data

Risks:

- Social licence to operate and trust may be further eroded through logistical and customer experience challenges
- Costs are higher than expected and benefits do not materialise, impacting industry as a whole
- The ‘PR battle’ is lost and customers refuse to participate
- New business models are created which disintermediate the traditional utilities: ‘3G risk’
Conclusions

Technology:
• It’s not really about the meter, but what it can do
• More advanced ‘smart’ technology is overplayed and challenges of delivering less advanced functionality at scale are underplayed

Governments / regulators:
• Smart meter roll-out rationale varies considerably by country
• UK national business case built upon keenly debated costs & benefits

Customers:
• Get the basics right first – don’t undermine trust further and limit tariff rises

Suppliers:
• Some UK suppliers perceive net risks, but know data could be a game changer