



## Bulletin

Water
→ Energy
Retailing
Transport
Financial services
Healthcare
Telecoms
Media
Post
Competition Policy
Policy analysis and design
→ Regulation
Strategy
Contract design and evaluation
Dispute support services
Market design and auctions

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## Less is more?

### HOW TO OPTIMISE A SMART METER ROLL-OUT

*A key part of the vision laid out in the UK Government's 2007 Energy White Paper was a 10-year roll-out of "smart meters" to all customers – a challenging programme, made more so by the current framework. This bulletin considers whether sacrificing competition in metering services would in practice increase in the benefits of the smart meter roll-out.<sup>1</sup>*

A traditional energy meter for a domestic customer does no more than record consumption. Even to generate a read, the consumption displayed on the meter must be manually recorded. Recent technological advances, however, have led to the development of various kinds of "smart meters" that enable remote meter-reading, the collection of data at frequent (e.g., half-hourly) intervals and display devices that provide information about the cost of consumption in real time.

Reductions in the cost of such smart meters have led a number of countries to mandate their installation for all customers. Examples include Italy, Sweden and Netherlands as well as a number of states and provinces in Australia, the United



States and Canada. All of these roll-outs have one thing in common: it is the network businesses that will undertake the work and retain ownership of the meters. But in Britain domestic metering services, which had been part of the network businesses, were opened up to competition in 2003 (for electricity) and 2004 (for gas). The supplier was put at the hub of the new competitive system, procuring metering services on behalf of its customers. Ownership of the meter, as well as provision of metering services, can therefore be subject to change when a customer changes supplier.

Ofgem's motive for the reform was a belief that it would "promote choice, innovation and new investment in the provision of metering and meter-reading services."<sup>2</sup> However, metering services were always seen as a borderline case for such unbundling: it was not clear that the benefits from introducing competition would exceed the costs of separation and duplication of processes. And the evidence to date does indeed seem to indicate that they do not, for two reasons.

- The complexity of the arrangements required to facilitate competition make them expensive to operate and detrimental to customer service. The multiple agents created to enable metering competition result in numerous data flows, agent interfaces and databases required to undertake functions such as meter exchanges, and a high level of failures in the processes.
- There has been little actual competition for metering services, mainly because most suppliers continue to contract with the incumbent providers.

These two factors raise concerns about the policy of metering competition, regardless of the issues that would arise from a mandated roll-out of smart meters. However, these too are significant. There are two key arguments for reform:

- the net cost of a co-ordinated roll-out could be significantly lower;
- a focus on competition in the retail market, rather than in the metering market, would provide greater long-term benefits to customers.

We discuss each of these points in turn.

### MAKE IT SIMPLE

Cost-benefit studies<sup>3</sup> have consistently indicated that while society would gain from any consequent reduction in energy consumption, there is currently no supplier business case for undertaking a universal roll-out. As part of our work for Centrica, we sought to develop a model that explores different roll-out options, in particular comparing a roll-out undertaken within the current industry structure with one that could be undertaken if a more co-ordinated approach was taken to the provision of metering services.

We identified three areas where significant cost savings might arise from undertaking the roll-out in a more co-ordinated way. They arose from undertaking it on a geographical basis; from undertaking it on a dual-fuel basis; and from the re-integration of metering services. There are three geography-related benefits from co-ordination.

### Less is more?

- There would be a saving in the costs of installing smart meters, since the ability to do this on a street-by-street basis would reduce travelling time.
- There would be a reduction in the cost of managing the “dumb” meter network during the roll-out period. (If the dumb meter stock were transferred to the smart meter provider, there might be further transitional savings.)
- A co-ordinated campaign of advertisement and education could be focused on areas in which the roll-out was occurring, reducing installation costs and encouraging the desired reduction in consumption.

The case for a dual-fuel roll-out is also strong, since being able to “piggy-back” the gas meter change on the electricity meter roll-out would result in lower one-off equipment costs, installation costs and on-going service costs. If the roll-out were the responsibility of individual suppliers, they would only be able to achieve the benefits associated with a dual-fuel roll-out where they supplied both fuels. However, 58% of customers with both gas and electricity take them from different suppliers. Even where suppliers provide both, it might not prove worth a competitive supplier’s while to retrain and reorganise its workforce for dual installation – or pay for the gas “piggy-back” equipment when it has no guarantee that the customer will not change supplier.

Finally, re-integration would increase the reduction in suppliers’ cost to serve that is expected to flow from the introduction of smart meters. Of course, the costs associated with restructuring the industry must be set against these savings. But even if the current industry framework were maintained, there would be costs involved in adapting it to work with smart meter data; and this is something that Ofgem has recently acknowledged.<sup>4</sup>

Using information provided by international experience, sector studies and Centrica, we estimate that costs would be almost £3bn lower if the roll-out was undertaken on a co-ordinated basis. While more work would clearly need to be done to verify some of the cost estimates, the margin of the difference provides a strong case for industry reform in the event of a mandated smart meter roll-out. Similar conclusions were also reached in Australia and Netherlands, two other countries that had previously sought to unbundle metering services.

### LOOKING AT THE BIGGER PICTURE

Metering services represent only about 2% of the energy bill of a domestic credit customer; so a key question is how the restructuring would affect the rest. There are three reasons to suppose that there would be benefits.

- A change of supplier will, at present, require a change in meter provider. This will usually increase the cost of supply because it involves either removal of a meter before the end of its expected life (about 15 years), or processes to enable a change in meter ownership, which are complex and failure-prone.

- By making supplier switching less failure-prone, and therefore easier, restructuring the market for meter services would increase competitive constraints in the energy supply market.
- Simplifying metering would reduce the barriers to entry for new suppliers.

Against this, Ofgem has argued<sup>5</sup> that it is necessary to retain the key principles underlying this market, specifically that:

- suppliers should make their own commercial decisions on metering;
- their interest in providing customers with services that they want should drive those decisions;
- customers should remain free to switch to suppliers who offer innovative metering, good service and competitive prices; and
- suppliers should bear the risk of poor decisions on metering technology.

One possible solution comes from the new metering technology itself. A distinction could be drawn between the “black box” data collection and communications device that could be standard for all customers, and the separate visual display units (VDUs) that will provide information on billing and additional services. The competition to which Ofgem refers is mainly centred on the VDUs and associated add-on services. The ownership of these could be retained by suppliers, whilst the standard “black box” meter could be invariant to change of supplier, along with the other connection assets.

## CONCLUSION

The case for unbundling metering services was always marginal. The case for restructuring merits investigation ahead of any smart meter roll-out. As well as facilitating a cost-effective roll-out, restructuring may well be demonstrated to enhance competition in retail energy supply – greatly outweighing, in consumer benefit, any loss of competition in metering services.

## SOURCES

1. *Frontier was engaged by Centrica to analyse the costs and benefits of proposals to introduce smart meters for domestic and business customers within Great Britain.*
2. *“Domestic Metering Innovation”, Ofgem (2006), p13.*
3. *For example, see “Smart Meters – Costs and Consumer Benefits, Report to energywatch by Eoin Lees Energy”, energywatch (July 2007) and “Domestic Metering Innovation”, Ofgem (February 2006).*
4. *“Ofgem response to BERR consultation on Energy Metering and Billing”, Ofgem (November 2007).*
5. *Ofgem (November 2007).*

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