

**DEPARTMENT FOR BUSINESS
ENTERPRISE & REGULATORY REFORM**

ENERGY BILLING AND METERING

Changing Customer Behaviour

GOVERNMENT RESPONSE TO A
CONSULTATION

JULY 2007

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Executive Summary

In the 2006 Energy Review Report, the Government made a number of proposals about billing and metering designed to give customers additional information to help them reduce their energy consumption. In November 2006, the Government issued a consultation which sought views about those proposals and how they might best be taken forward. It also discussed the implementation of the billing and metering aspects of the Energy End-Use Efficiency and Energy Services Directive (“Energy Services Directive”). The aim was to ensure that the views of stakeholders and all relevant issues were considered when developing policies on metering and billing for inclusion in the Energy White Paper, which was published in May 2007.

In particular, the consultation sought views on:

- providing information on domestic customers' energy bills about comparative historic energy use;
- providing further comparative benchmarking information in bills;
- giving similar information to business customers not currently covered by half-hourly electricity and daily read gas meters;
- cost-effectively improving the frequency with which customers receive accurate bills;
- rolling out real-time displays providing instant consumption and cost information about electricity use;
- addressing any barriers to smart metering in the business sector.

Responses to the consultation can be seen at www.dti.gov.uk/energy/review/implementation/billing-metering/cons-responses/page37482.html, but the key themes in the responses were as follows:

- There were many positive comments about the provision of historical consumption information, but with certain qualifications. In particular, suppliers hoped for flexibility in any requirements.
- Many suppliers felt that information on bills – both historical consumption data and energy efficiency advice - should be kept relatively simple.

- Views on improving the frequency with which customers are provided with accurate bills were mixed. Suppliers stressed the accuracy of existing bills, including estimated bills.
- Respondents were generally unenthusiastic about introducing comparative benchmarking for customers. The complexity of implementing this was discussed, and the value of doing so was queried.
- There was some support for more strategic, wide-ranging activities, on energy advice, including media campaigns.
- There were several references to the Energy Demand Research Project (two-year trials which will test consumers' responses to different interventions, including smart meters and real-time display units). It was noted that these trials would help provide evidence on the best way to provide historical consumption data, and the benefits – or otherwise – of rolling out real-time displays.
- Suppliers and some other respondents were against a roll-out of self-standing real-time displays, arguing that they were unproven as a technology and their benefits had not been demonstrated. They were also concerned about their being a diversion from introducing smart metering. Some respondents were in favour of a roll-out of real-time displays in the short run as a cost-effective means to save energy and carbon.
- A number of concerns were expressed about changing the thresholds for half-hourly and daily-read customers in the business sector. The cost of implementation was discussed.
- Views on introducing smart meters were generally positive. A number of benefits were discussed but there was little quantification of these.

In the light of the views received in response to the consultation, and taking account of the Energy Services Directive, the Government set out a range of measures in the Energy White Paper. Following this, a second consultation on billing and metering, published in August 2007 (available at <http://www.berr.gov.uk/consultations/page40850.html>) sets out the Government's policies in greater detail and asks how best to implement them.

The key proposals in the second consultation are that, from 2008, the Government will:

- require the provision of comparative historical consumption data on bills for all domestic gas and electricity customers;

- require electricity suppliers to provide a real-time display unit when an electricity meter is replaced or newly installed in domestic premises;
- require electricity suppliers to provide a real-time display to all electricity consumers who request one for a period of two years;
- require gas and electricity suppliers to install smart meters in those parts of the SME sector, above a certain energy usage threshold, where it has been shown to be cost-effective to do so and where such a meter is not already installed.

In addition, in the Energy White Paper, the Government set out its expectation that over the next ten years all gas and electricity customers will be given smart meters with separate visual displays which allow communication between the meter, the energy supplier and the customer. The consultation calls for evidence in this area.

Energy Billing and Metering: Changing Customer Behaviour - Government Response to Public Consultation

1. Introduction

In November 2006, the Government issued a written public consultation seeking views on proposals to use metering and billing to help reduce energy consumption.

The closing date for the consultation was 6 February 2007.

A list of those who responded publicly is at Annex A. Copies of responses are available at www.dti.gov.uk/energy/review/implementation/billing-metering/cons-responses/page37482.html

More than fifty responses were received. The majority were from those directly involved in the industry and the supply side. The respondents included:

- all of the six largest energy suppliers in the UK market;
- meter manufacturers and metering service providers;
- industry, trade and consumer bodies, such as Energywatch and Elexon;
- Public sector organisations.

The Government is grateful to respondents for their time and thought. The views expressed have been carefully analysed.

2. The Energy Services Directive

A key factor in developing and delivering the Government's metering and billing proposals is the need to implement, by May 2008, the requirements of Article 13 of the Energy End-Use Efficiency and Energy Services Directive. In taking final decisions on billing and metering, the Government will have in mind the need to comply with the requirements of the Directive.

The key requirements of the Directive concerning metering are that:

- in so far as is "technically possible, financially reasonable and proportionate in relation to the potential energy savings", final customers for electricity, natural gas, district heating/cooling and domestic hot water are provided with competitively priced, individual meters that accurately reflect the customer's actual energy consumption and provide information on actual time of use; and
- when an existing meter is replaced, such competitively priced individual meters should always be provided unless it is "technically impossible" to do so or it is "not cost-effective in relation to the estimated potential savings in the long-term". It also requires that, when a connection is made to a new building, or a building undergoes major renovations, such competitively priced individual meters should always be provided.

The key requirements of the Directive concerning billing are that:

- where appropriate, energy billing performed by energy distributors, distribution system operators and retail energy sales companies is based on actual consumption and is presented in clear and understandable terms. It also requires that information shall be provided with the bill to provide customers with a comprehensive account of current energy costs. It further states that billing on the basis of actual consumption shall be performed frequently enough to enable customers to regulate their own energy consumption; and.
- where appropriate, energy distributors, distribution system operators and retail energy sales companies make available on bills, contracts, transactions and/or receipts, in clear and understandable terms:
 - information about current actual energy prices and consumption;

- comparative information showing the customer's consumption for the same period in the previous year, preferably in graphical form;
- wherever possible and useful, comparative information for an average normalised or benchmarked user in the same category; and
- contact information for consumers' organisations etc, from which information may be obtained about energy efficiency improvement measures, comparative end-user profiles and/or objective technical specifications for energy using equipment.

3. Summary of Responses by Question

How can the Government's commitment to mandate the provision of historical consumption information in graphical form best be delivered?

The majority of respondents believed that provision of historical consumption data would help raise awareness of energy consumption. However, many respondents, particularly energy suppliers, said it would be preferable to await the results of the Energy Demand Research Project to enable assessment of possible benefits. Suppliers and the Energy Retail Association (ERA) were generally opposed to a mandated requirement that removed scope for supplier differentiation in this area, especially while the benefits are unproven.

Domestic Sector

Most respondents argued that, if this were to be a requirement, it should be managed in a non-prescriptive manner based on minimum requirements which could be included in supply licences, or built into industry codes of practice, perhaps augmented by Government guidelines. This would leave suppliers with flexibility to innovate and provide solutions to meet individual market segments. There was also a general acceptance of an annual requirement to provide data and that any such requirement should apply to all suppliers.

There were some concerns over the impact of estimated reads and their suitability. Suppliers and Ofgem indicated that estimates are generally of good quality and should be accepted in this process, whereas other organisations suggested that the use of estimates would be misleading and unlikely to alter consumer behaviour.

Suppliers felt it would be difficult and expensive to provide an annual consumption review to customers where there was a change of supplier or tenancy at the property. Elexon also highlighted concerns over the use of "deemed reads" (estimates of consumption agreed between suppliers upon change of supplier).

Some respondents indicated that more frequent meter reads would provide a much more effective way to present data to the customer, rather than an annual requirement. This would illustrate energy use over shorter periods.

A majority of respondents suggested that the use of weather data to correct annual consumption would be difficult to achieve, and not cost-effective, due to regional weather variations and the complexity of implementation.

Another widely held view was that all information provided to customers should be simple and easy to understand, and that more use of the internet to deploy this type of information to customers would be beneficial. It was argued that the inclusion of additional information was likely to make already-complex utility bills harder to understand.

Business Sector

The majority of respondents suggested that there were already commercial incentives in the business sector for customers to reduce consumption and mandating the provision of historic consumption data was unwarranted. It was suggested that Many of these customers already analyse consumption and large users may already employ computer or web-based energy analysis tools or dedicated energy management organisations. However, there was little input from business customers or their representatives.

The Government's response:

The Government understands the view that it would be preferable to wait for results from the Energy Demand Research Project, but, conversely, it wishes to ensure that information showing the customer's energy consumption for the current billing period compared to the same period in the previous year is provided on domestic customers' bills as soon as possible. In so far as this measure will yield energy reductions, it is desirable for those reductions to flow before the Pilot is concluded. The Government must also take into account the need to comply, by May 2008, with the provisions of the Energy Services Directive. Among other things the Directive requires that, where appropriate, comparisons of a customer's current energy consumption with consumption for the same period in the previous year should be provided by energy suppliers in or with bills, preferably in graphical form.

The Government agrees that, within a broad requirement, it should seek to ensure that gas and electricity suppliers have the flexibility to deliver this policy in the most appropriate manner. It therefore intends to allow as much flexibility to suppliers as possible in the provision of comparative information on bills, whilst ensuring that information is presented in a clear and useful way. It recognises that bills already contain a considerable amount of information and that each supplier will have a different format and design for its bills. It also wants to allow suppliers to provide innovative means of providing this information on the bill.

The Government agrees with respondents' views on weather-corrected data and will not require suppliers to present information on bills on this basis. Similarly, the Government agrees with respondents' views on providing comparative data where there has been a change of supply or occupancy in the past twelve months, and it will not require provision of such data in these circumstances.

What energy efficiency information would be most useful to (a) domestic and (b) business customers?

(a) Domestic Sector

A majority of respondents said that it was most effective to deliver energy efficiency advice alongside billing or historic consumption data. Energy suppliers, Ofgem, Energy Action Scotland and the Energy Savings Trust (EST) all indicated that suppliers were already required to provide advice on bills. This generally takes the form of signposting to specific advice sources. BEAMA suggested setting minimum requirements for the provision of this information.

There was a variety of views on the delivery of advice alongside bills. Some respondents (Energy Action Scotland & suppliers) argued that billing was already complex and that additional messages may be lost. Some suggested that the use of leaflets and large-scale media campaigns are more effective, while the Energy Saving Trust felt that paper-based messages are often discarded.

Several respondents suggested that advice should be targeted at priority areas where maximum savings could be achieved. This would result in a focus on heating and the wastage from inefficient appliances or appliances left on standby. The Energy Action Grants Agency (EAGA) suggested that Government itself should target messages at key audiences.

The majority of suppliers said they have no wish to provide additional information on their bills as they are already complex. They would prefer to continue to utilise the "signposting" approach. The EST and National Energy Action indicated that advice from trusted independent sources is important.

Many also felt that advice should outline clearly the benefits of taking action, such as reductions in carbon, in units of energy used, or in costs to the consumer.

Some suppliers suggested that delivery of effective energy efficiency advice that reduces consumption should be recognised through the Energy Efficiency Commitment.

(b) Business Sector

Some suppliers said a key need was to be highly-targeted and customer-specific, due to the range of different consumer circumstances.

Several organisations, including British Energy, SSE and Centrica, said there were commercial incentives to provide energy efficiency advice and therefore there was no need to mandate the provision of such information. Some respondents said that business customers were more likely to seek independent advice than approach their supplier.

The Government's Response:

The Government notes that suppliers already provide a significant amount of energy efficiency information to customers, and are already required to include contact details for Energywatch, the statutory gas and electricity consumer body, on bills. Energywatch's website signposts customers to other bodies providing energy efficiency advice. Energywatch's call centre can provide general advice on energy, sends domestic customers requiring more detailed advice to the Energy Saving Trust and sends business customers to the Carbon Trust by "hot" transfer. The Government expects similar arrangements to be maintained when Energywatch is replaced by a successor body during 2008 but will keep this under review.

Gas and electricity suppliers are not required to provide contact details for Energywatch on business customers' bills. However, the Government sees scope for growth in provision of energy efficiency services in the business sector and will seek views on the subject.

How can the Government cost effectively improve the frequency with which customers are provided with accurate bills?

Domestic Sector

Ofgem, energy suppliers and Elexon all noted that at least one actual read is obtained every year for the majority of GB customers. Ofgem commented that, across the six main suppliers, on average 87% of

customers receive at least one bill per year based on an actual read. Suppliers take significant steps to access sites for reads and also provide opportunities for customers to provide their own meter reads.

Ofgem, the ERA, suppliers and National Grid all highlighted the significant and recent efforts that have seen the implementation of the ERA Billing Code and the fact that estimates are on the whole relatively accurate.

Several respondents expressed concerns over, or flatly opposed, the idea of a mandatory 100% annual read requirement. They felt that the potential costs would outweigh the benefits, with costs ultimately being passed on to the consumer. A different view, however, was expressed by Energywatch, which believed more could be done and supported a minimum requirement for an annual meter reading. Energywatch felt that more requirements for billing should be set out in the Supply Licence.

Elxon highlighted that suppliers already have a commercial incentive to meet the 97% Balancing and Settlement Code target and that in many cases the remaining 3% is made up of hard-to-access sites such as mobile phone towers.

However, Siemens, City of London, CIBSE, Orsis said that more frequent reading should be mandated in some form. Some respondents also referred to receiving inaccurate estimates and suppliers failing to always provide at least one bill per year based on an actual reading.

In general, suppliers and meter manufacturers were in agreement that the delivery of smart metering would lead to improvements in (actual) bill accuracy.

Siemens argued that meter read frequency and bill frequency should be disaggregated when discussing how to influence consumer behaviour and reduce consumption. They suggested that very frequent meter reading would enable detailed consumption profiles and that these could be provided with bills (although less frequently than bills). This data would help customers to make alterations to their consumption profile at a more detailed level (for instance, if daily consumption data is provided on a quarterly basis).

The majority of respondents, including large suppliers, Energywatch and meter manufacturers, felt that small suppliers should not be exempt from any requirement here.

Business Sector

Many business customers already receive a higher frequency of reading and billing than domestic customers. Some of these are in the half hourly or daily metered market segments. Others receive monthly readings and bills.

Several suppliers indicated that they were already using some smart metering for sites outside the half-hourly and daily-metered markets to improve bill accuracy. Centrica were in favour of this approach, but on a voluntary basis.

The Government's Response:

The Government notes the comments made by respondents. Given the level of actual annual meter reads and the disproportionate costs associated with ensuring 100% actual reads, the Government does not intend to introduce any new requirements in this area at present.

What forms of comparative benchmarking might provide useful information to domestic or business customers?

Domestic Sector

Several common views were expressed by a range of respondents:

- benchmarking is of limited value and difficult to achieve due to the diversity of consumer circumstances (house type, lifestyle etc);
- there is no evidence that consumers would change behaviour in response to comparative benchmarking;
- there is evidence that consumers dislike comparative benchmarks;
- for benchmarking to be effective, a complex range of customer groupings would need to be developed and maintained and this may not be cost-effective or possible;
- benchmarks or comparators should be customer-specific;
- benchmarking may encourage vulnerable customers to reduce their usage further;
- energy efficiency advice is preferable to benchmarking.

Business Sector

Similar views were expressed in relation to comparative benchmarking for the business sector. In particular, it was noted that businesses were even more varied as customers than households and

development of effective benchmarks would, therefore, be especially difficult. Any benchmarking would best be delivered on an individual basis.

There were some new suggestions for approaches to benchmarking, such as use of benchmarking clubs and benchmarks across relevant sectors, leading to specific metrics such as KWh per hotel room, or KWh per pupil.

The Government's Response:

The Government accepts the points made by respondents about the availability of useful data for benchmarking, and concludes that it would be unlikely to help consumers reduce their energy consumption at this time. The Government is therefore not proposing to require suppliers to provide benchmark data at this stage.

What further information about sources of energy efficiency advice would be useful?

Domestic & Business

Responses to this question were limited in number, and some of those who did respond felt that a considerable amount of information was already available to customers in both the domestic and business sectors.

However, BEAMA and Centrica suggested a more strategic Great Britain-wide education programme to run alongside current initiatives, plus media campaigns to raise general awareness about energy efficiency. Some respondents also suggested more use of internet-based approaches, increased use of existing support structures and dynamic messaging delivered through smart meters.

The Government's response:

As mentioned above, the Government does not intend to require suppliers to provide further energy efficiency advice.

What are consultees' views on the provision of individual meters to individual premises within district heating systems?

Domestic and Business

Most who answered this question felt that individual metering for district heating schemes was in principle the correct thing to do to ensure visibility of consumption which may subsequently lead to reductions in energy use. Switch 2 claimed to be able to demonstrate that sites with a meter will use between 30% and 50% less heat than an un-metered site.

There were, however, several concerns and practical issues raised. Installing meters or retro fitting may not be cost-effective. Energy Action Scotland was against introducing metering as it may result in district heating schemes becoming financially unviable. However, Energy for Sustainable Development noted that, although metering costs were higher than those for gas or electricity, the cost is small in relation to overall development of a district heating scheme.

One respondent also noted a potential negative impact of installing metering for vulnerable households as it may encourage them to use less heating.

The Government's Response:

The Government agrees with the respondents who feel that, in principle, individual metering should be provided in district heat systems. However, its initial view is that, at present, requiring the installation of individual meters for final customers in domestic heat schemes – either retrofitting meters into existing schemes or installing them into new build - would not be financially reasonable or proportionate in relation to the potential energy savings. The Government view is based on comments by some respondents on the lack of cost-effectiveness and the findings of a BRE study¹. This study showed that, in all but the most optimistic of scenarios, installing individual meters is not cost-effective. However, the Government's view is subject to further analysis and it is seeking more information in further consultation.

What would be the best method of rolling out real-time displays (RTD)?

Domestic Sector

¹ BRE Client Report 236515: Desk Study on Heat Metering,
www.defra.gov.uk/environment/climatechange/uk/energy/energyservices/index.htm

The majority of respondents were not in favour of an immediate roll-out of this technology on a self-standing basis due to limited information on its benefits and the risk of diverting resources from work on smart metering. Some argued that the uptake should be consumer driven. Many of these respondents felt that provision of real time data to the customer through such displays will have a positive impact, but that this should be done in conjunction with new smart metering rather than current metering technology.

Two key themes emerged from the responses.

Firstly, a range of respondents, including Ofgem, suppliers and meter manufacturers, expressed concerns about a mass roll-out of an unproven technology. The majority of these respondents suggested the results of the planned Ofgem-managed trials in this area should be understood before any decisions are taken.

Secondly, a majority of respondents, including suppliers, manufacturers and other stakeholders argued that, if the Ofgem trials prove that displays are successful at reducing demand, it would be best to deploy them as part of a smart meter deployment rather than utilising the clip-on technology. Some respondents were concerned that a mandated roll-out of display units in the short term could seriously damage any future business case for smart metering.

Suppliers mentioned a range of other concerns about the potential roll out of displays, including:

- health & safety implications of D-I-Y installation;
- the fact that there was no effective gas display device;
- a potential lack of manufacturing capacity to enable a rapid roll-out;
- a lack of evidence suggesting longer term consumption pattern changes;
- the ongoing need to recalibrate devices in line with changing energy prices;
- the fact that devices were not aligned with meters and were potentially +/- 10% inaccurate, meaning possible variances with billed energy usage;
- any shortcomings in the display devices could be detrimental to customer perceptions of these technologies.

The Energy Saving Trust and manufacturers of display devices were in favour of the roll-out of display devices.

Business Sector

Respondents envisaged little relevance for this technology in the business market.

The Government's response:

The Government notes the concerns of respondents regarding real-time displays.

Following the publication of the November consultation, analysis was undertaken that suggested that displays could raise consumers' awareness of energy use and help them reduce consumption. The analysis suggests that, using central assumptions about costs and persistence of reduced energy use, 0.15MtC per annum could be saved by 2020 through the use of displays in a limited number of households. In its analysis, the Government has also taken into account experience in other electricity markets.

The Government has considered the health and safety implications of the provision of real-time displays and does not consider that there are significant health and safety risks at this time. It has also taken into account the fact that some energy suppliers have already provided their customers with displays for self-installation.

The Government therefore believes there is both a role for real-time electricity displays with smart meters and potentially for other forms of transmitting information about energy use via digital technology to a television, mobile telephone or personal computer, in the longer term, and with existing meters in the shorter-term. The Government also believes that electricity suppliers are in a good position to deliver display devices cost-effectively.

The Government therefore considers that suppliers should provide a display when a meter is replaced or when a meter is installed in a newly built domestic property. In addition, it considers that, for a two-year period, an electricity supplier should provide a portable display device free of charge at the request of a customer. These customers may have the greatest interest in saving money. Suppliers will not be required to install a device where because of the metering arrangements (e.g. the position of the meter in relation to the property) the display device will not function.

The Government must also take into account the need to comply, by May 2008, with the provisions of the Energy Services Directive and its commitment in the climate change programme for carbon savings in 2010 from improved billing and metering.

Noting the concerns of respondents, the Government wishes to allow suppliers as much choice as possible in their choice of display device, how they offer devices to customers and any ancillary services they wish to build around them, subject to a common requirement that the customer should receive time of use information about electricity consumption and cost on a device that enables them to see the effects of using or not using appliances. The Government's intention at this time is to not impose a standard on the accuracy of data provided to consumers through these devices.

As regards business customers, the Government's view is that self-standing display devices would not materially help them to reduce energy use because of the different circumstances in which domestic and business customers use electricity supply. The Government does not, therefore, propose that the display device policy should apply to small and medium sized enterprises (many small firms, however, are based in domestic premises and will have access to a display device in line with other domestic customers), although it is seeking further views on this approach in its new consultation.

What would be the costs and benefits of changing the existing thresholds for half hourly and daily-read meters in the business sector or of promoting other smarter alternatives?

Business

None of the respondents stated explicitly that the thresholds should not be changed, but the majority stressed that there was a considerable commercial appetite to provide smart metering to business segments below the half hourly and daily metered markets. Benefits were noted for customers in terms of accurate and frequent billing and provision of consumption data, and also for suppliers in terms of a reduced cost to serve.

Several respondents cited the high cost of half-hourly and daily-metered meters as a key reason for not expanding the current thresholds. One concern, mentioned by Centrica, Elexon and SSE, was that expensive meters would deter the uptake of smart metering in the SME sector.

National Grid expressed concerns that a change in the thresholds in the gas markets would generate significant costs for IT systems and meter installations.

Several suppliers, including Eon, suggested that Government should create drivers in the business market to create additional “pull” for smart metering. ACE suggested that this could be linked to the Energy Performance Commitment.

The Government Response:

The Government agrees with respondents who have noted potential benefits flowing to business customers from smart metering.

The largest electricity and gas consumers already use smart meters (“half-hourly” and “daily read” meters respectively). Beyond this level, the Government considers that there is evidence that smart metering would be cost-effective for a bloc of business customers with medium levels of use, and proposes to require that these customers be provided with smart meters.

The Government does not propose to require suppliers to ensure that smart meters are provided to the smallest business customers, as there is no evidence that they would be financially reasonable and proportionate in relation to the potential energy savings at this time. The Government expects the roll-out of smart meters to these customers to occur as part of the roll-out to domestic customers, on which it is calling for evidence.

Trials of smart meters and other devices in the domestic market will shortly begin. Do consultees have views about the costs and benefits of smart meters in the domestic sector?

The majority of respondents from all sectors strongly indicated a desire to implement smart metering across the Great Britain in both the domestic sector and business markets.

A range of benefits were highlighted, but few respondents quantified these. Benefits ranged from providing customers with real time consumption data, assuming real-time displays are provided, to reductions in energy usage levels - and hence reductions in carbon emissions - through to reduced meter reading costs and significant improvements in bill accuracy.

Meter manufacturers, National Grid and suppliers highlighted significant cost concerns regarding the potential roll out of smart metering. These included asset write off, meter installation costs, IT changes and training. The level of impact of these is influenced by the proposed or mandated methodology for the roll out of smart meters.

Respondents outlined two main possible approaches to the roll-out of smart metering. The first is the progression to smart metering on a commercial basis, in line with Ofgem's approach to develop a competitive metering market. This would see suppliers develop discrete business cases for relevant sections of the market at appropriate times.

The second approach would see the mandated roll out of meters over a shorter time horizon than might occur if left to the market.

Several respondents also stressed the importance of interoperability to maintain the effectiveness of the competitive GB Supply market.

The Government's Response:

The Government is encouraged by the positive responses and recognises the benefits that smart metering can deliver, including more accurate billing, a wider range of tariff offers and better customer service. But it also recognises that, on the basis of available information, smart metering is currently cost-effective only for the very largest industrial electricity and gas users (who already use such metering) and for the next class of industrial and commercial business users, to whom we propose to roll out smart meters over the next five years.

For the remaining customers – smaller businesses and households – whose energy use is much lower, a cost-effective position has yet to be reached across-the-board, although there is evidence that smart metering is theoretically cost-effective in certain customer segments, such as prepayment meter customers or those whose meters are hard to access.

Following the consultation, the Government set out its vision in the Energy White Paper of having smart meters deployed over the next ten years. The Government is now seeking detailed views in its further consultation on metering and billing about the costs of metering, different approaches to the roll-out of meters, asset stranding issues, the communications infrastructure required to support smart meters and also the benefits to consumers and industry. The Government is also seeking updated views on the costs and benefits of smart metering.

In parallel with the consultation, BERR will shortly undertake a more detailed economic analysis of the costs and benefits of smart metering. In combination with responses to the overall consultation, this will play an important role in determining our approach to the deployment of smart metering.

In addition, the Government is closely monitoring progress from two initiatives already under way, which will provide additional insights to

smart metering for both Government and gas and electricity suppliers. These are:

- the series of trials under the Energy Demand Research Project that the Government is co-funding with supplier-led consortia, which will run for two years. These trials, which are now underway, will give a much greater understanding of the impacts of smart meters and associated improved consumption data on customer behaviour;
- the inter-operability work being undertaken by gas and electricity suppliers under the aegis of Ofgem. This seeks to agree a set of functions that can be applied to all smart meters. This will help to avoid the need for customers to switch meters when they change supplier and, as a result, minimise the potential for asset stranding. This will have a significant impact on the cost/benefit analysis. The level of functionality will have a material impact on the cost of smart meters. Government will have oversight of the process.

4. Next steps

In August 2007, BERR published its second consultation on energy billing and metering. This seeks views on a range of measures which were set out in the Energy White Paper.

The key proposals in the second consultation are that, from 2008, the Government will:

- require the provision of comparative historical consumption data on bills for all domestic gas and electricity customers;
- require electricity suppliers to provide (where technically possible) a real-time display unit when an electricity meter is replaced or newly installed in domestic premises;
- require electricity suppliers to provide a real-time display to all electricity consumers who request one for a period of two years;
- require gas and electricity suppliers to install smart meters in those parts of the SME sector, above a certain energy usage threshold, where it has been shown to be cost-effective to do so and where such a meter is not already installed.

In addition, the Government set out its expectation that, over the next ten years, all gas and electricity customers will be given smart meters with separate visual displays or other ways of providing real-time information

that allow communication between the meter, the energy supplier and the customer.

The consultation is available at:

<http://www.berr.gov.uk/consultations/page40850.html>

Annex A – List of Respondents

| | |
|--|---------------------------------------|
| AccuRead Ltd | Meter Manufacturer / Service Provider |
| Actaris | Meter Manufacturer / Service Provider |
| Ampy Metering Ltd | Meter Manufacturer / Service Provider |
| Association for the Conservation of Energy (ACE) | NGO / Environmental |
| BEAMA | Trade Association / Industry Body |
| Bizz Energy | Energy Supplier/Distributor |
| British Energy | Energy Supplier/Distributor |
| Centrica | Energy Supplier/Distributor |
| Chartered Institution of Building Services Engineers | Trade Association / Industry Body |
| Complex Built Environment System/University College London | Government / Education |
| DEFRA (Fuel Poverty Advisory Group) | Government / Education |
| EAGA | NGO / Environmental |
| Edevice (Subsidiary of Edf) | Meter Manufacturer / Service Provider |
| EDF Energy | Energy Supplier/Distributor |
| Elexon | Trade Association / Industry Body |
| EMeter Strategic Consulting | Meter Manufacturer / Service Provider |
| Energy Action Scotland | NGO / Environmental |
| Energy for Sustainable development Ltd | NGO / Environmental |
| Energy Retail Association | Trade Association / Industry Body |
| Energy saving Trust | NGO / Environmental |
| Energy Watch | Trade Association / Industry Body |
| Environmental Change Institute (Sarah Darby) | Government / Education |
| Eon (Powergen) | Energy Supplier/Distributor |
| ESTA Energy Services and Technology Association | Trade Association / Industry Body |
| Federation of Petroleum Suppliers Ltd | Trade Association / Industry Body |
| Green Alliance | NGO / Environmental |
| Herefordshire Council | Government / Education |
| IMServe Europe Ltd (IMServe) | Meter Manufacturer / Service Provider |
| John Gallop | Individual |
| Microwatt | Meter Manufacturer / Service Provider |
| More Associates Response | Business |
| National Caravan Ltd | Misc |
| National Energy Action | NGO / Environmental |
| National Grid Plc | Energy Supplier/Distributor |
| Neil Kermode | Individual |

| | |
|---|---------------------------------------|
| Ofgem | Government / Education |
| OFTEC | Trade Association / Industry Body |
| Orsis (UK) Ltd | Meter Manufacturer / Service Provider |
| PRI Ltd | Meter Manufacturer / Service Provider |
| RSA Carbon Ltd | NGO / Environmental |
| RWE (npower) | Energy Supplier/Distributor |
| ScottishPower PLC | Energy Supplier/Distributor |
| Siemens | Meter Manufacturer / Service Provider |
| SSE | Energy Supplier/Distributor |
| Sussex Energy group - SPRU | NGO / Environmental |
| Switch 2 | Misc |
| Team (Energy Auditing Agency Ltd) | Misc |
| The Application Home Initiative (TAH) | Misc |
| The City of London Corporation | Government / Education |
| The Electricity Club | Trade Association / Industry Body |
| Total GP | Energy Supplier/Distributor |
| Tridium Europe Ltd | Meter Manufacturer / Service Provider |
| Ubiquitis Ltd | Meter Manufacturer / Service Provider |
| UKMF Secretariat | Trade Association / Industry Body |
| United Utilities | Energy Supplier/Distributor |
| Welsh Language Board | Government / Education |
| Wireless Monitors Australia Pty Ltd (WMA) | Meter Manufacturer / Service Provider |