



Consultation

Energy

Energy Billing and Metering - Changing Customer Behaviour



Department of
**Enterprise, Trade
and Investment**
www.detini.gov.uk

Department of Enterprise,
Trade and Investment

Energy Billing and Metering – Changing Customer Behaviour

**A consultation on the Energy End Use Efficiency and Energy Services
Directive and Smart Metering in Northern Ireland and of Article 13 of
Regulation EC NO.1775/05**

May 2009

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EXECUTIVE SUMMARY

Determining energy policy is always a difficult balancing act. It is about seeking to make a realistic assessment of the energy challenges we face since there will always be tensions between pursuing economic, social and environmental objectives and accommodating cost implications. The Energy White paper, "Meeting the energy Challenge", set out a range of billing and metering measures designed to give consumers direct access to information about their energy use to help them manage that use and reduce their carbon emissions. The White paper outlined three core billing and metering activities that would heighten awareness of energy use and reduce consumption:

- To promote awareness of domestic energy use through a requirement on energy suppliers to present consumption data on consumers' energy bills to allow them to compare different periods of energy consumption;
- To promote awareness of domestic energy use through a requirement to provide certain customers with real time information so that they can see in real time, and in a way that is relevant to them, how much energy they are consuming and what it is costing; and
- To ensure that business customers in those sectors of the market where it was cost effective would receive smart meters over the next five years.

More broadly the White Paper set out the UK Government's expectation that smart meters would be provided to all business and domestic customers over the next decade. **This consultation therefore proposes how Northern Ireland can implement more effective metering and billing provisions in line with the Energy End Use Efficiency and Energy Services Directive, and seeks views on the proposal to roll out smart meters over the next ten years.** In taking final decisions on metering and billing, the Department will have regard, where appropriate, to the requirement of the Directive on proposals to use metering and billing to help reduce energy consumption. A key proposal in this consultation is to mandate the provision of

historical consumption information on domestic gas and electricity bills.

Following an introduction to the consultation (section 1), and a description of the metering and billing requirements of the Energy Services Directive (section 2), the consultation document goes on to address billing and metering in detail. Section 3 describes current billing and metering arrangements in Northern Ireland, while section 4 sets out how the requirements of Article 13 of the Energy Services Directive might be met. It deals in particular with the frequency of accurate bills, the provision of historical information about energy consumption, the provision of energy efficiency information and the provision of benchmarked information about energy consumption, and signposting to sources of advice on energy efficiency. It seeks consultees' views on all these matters.

Section 5 discusses the future of metering and smart metering in particular and seeks views about potential policy options. Section 6 discusses smart metering in the business sector and seeks views on a potential roll out of smart metering to this sector within five years.

Section 7 outlines the need to implement Article 13 of the Regulation EC No 1775/07 which aims to set non-discriminatory rules for access conditions to natural gas transmission systems taking into account the specificities of national and regional markets with a view to ensuring the proper functioning of the internal gas market. In particular Article 13 of the Regulation requires that member states both establish provisions to penalise infringements of the Regulation and 'take all necessary measures to ensure that the penalties are implemented'.

The consultation will be of primary interest to electricity and gas suppliers and distributors, suppliers of metering services and products, final customers, and, energy and other consumer groups. It will also be of interest to distributors and suppliers of other fuels, and of operators of district heating and cooling systems and their final customers.

In taking this work forward DETI will actively engage with the key statutory players, namely NIAUR and the General Consumer

Council for Northern Ireland (GCCNI). It will also liaise with the other NI Executive Departments who have a significant interest in energy matters along with a range of stakeholder organisations, as appropriate.

How to respond

Responses to this scoping consultation should be forwarded to reach DETI on or before **Tuesday 19 May** and may be sent either: by e-mail

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All responses should include the name and postal address of the responder.

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disclosure of the information we will take full account of your explanation, but we cannot give an assurance that confidentiality can be maintained in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded as binding on the Department.

Help with queries

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Copies of The Consultation

This Consultation document is being produced primarily in electronic form and may be accessed on the DETI Energy website: www.energy.detini.gov.uk or may be obtained from the address above or by telephoning 028 9052 9574.

If you require access to this document in a different format – e.g. Braille, disk, audio cassette – or in a minority ethnic language, please contact the Department on 028 9052 9574 and appropriate arrangements will be made as soon as possible.

INTRODUCTION

1

Summary of Chapter

This chapter sets out the background to energy billing and metering, and this consultation.

- 1.1 Energy is vital to our economy and our way of life, and the Department is committed to ensuring that we continue to have a secure energy supply. But using energy carries environmental costs, the most serious of which is climate change. The publication of the then Department of Business, Enterprise and Regulatory Reform's (BERR) White Paper "Meeting the energy Challenge" underlined the Government's commitment to the reduction of carbon emissions and highlighted the role that individuals could play by reducing their own energy consumption. The UK is committed to meeting a range of carbon reduction goals, culminating in a reduction of around 80% in carbon dioxide emissions by 2050, with real progress having been made by 2020.
- 1.2 Saving energy is a starting point for meeting both our short and long term goals and all sectors of society can play a part in reducing energy consumption. Studies carried out by

Defra¹ suggest that domestic and business customers are more likely to reduce their energy consumption, both by changing the way in which they use energy and by investing in energy efficiency measures, if they have access to better information about their energy use. The evidence suggests that giving better information to customers together with readily visible, easily understandable real-time information on energy use and costs might encourage energy-saving behaviour among households.

- 1.3 The role of metering and billing has the potential to help achieve our climate change and energy saving goals. Improvements to billing, the provision of energy efficiency advice and the provision of real-time information could make a significant contribution to reducing carbon emissions going forward.
- 1.4 This consultation document sets out DETI's metering and billing proposals and asks how best we can reduce energy consumption on the basis of these proposals. Among other things it addresses in detail the provision of better information in customers' bills, particularly in respect of electricity and gas consumption and the role of smart meters.
- 1.5 This consultation also addresses the need to implement and ensure compliance with the metering and billing provisions of the Energy End Use Efficiency and Energy Services Directive. The range of measures discussed in this document is designed to change consumer behaviour through better billing and metering.
- 1.6 This consultation seeks views from interested parties on all our policies on billing and metering and on the development of policy for smart meters.

¹ Climate change : The UK programme 2006
www.defra.gov.uk

BILLING AND METERING REQUIREMENTS OF THE ENERGY END USE EFFICIENCY AND ENERGY SERVICES DIRECTIVE

2

Summary of Chapter

This chapter sets out the billing and metering requirements of Article 13 of the Energy End Use Efficiency and Energy Services Directive.

- 2.1 The Energy Services Directive, which was agreed in December 2005, and came into effect in 2008, requires Member States to develop national action plans for achieving a 1% target for saving energy from end-users. The Directive also contains a series of provisions designed to improve energy efficiency. The provisions dealing with metering and billing are generally contained in Article 13².
- 2.2 On meters, Article 13(1) of the Directive requires that Member States ensure 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.

- 2.3 It further requires that, 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 provided³.
- 2.4 In defining energy efficiency improvement measures, the Directive states that account should be taken of the efficiency gains obtained through the widespread use of cost-effective technological innovations, for instance, electronic metering. It says that, in the context of the Directive, competitively priced individual meters include accurate calorimeters (measuring instruments that determine quantities of heat).
- 2.5 Article 13(2) and (3) of the Directive deal with billing and the provision of information on bills. Article 13(2) requires Member States to ensure 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

² Article 13 should be read in conjunction in tandem with the Recital to the Directive and with Articles 1 (“Purpose”), 2(“Scope”), 3(“Definitions”) and 6 (2Promotion of Energy End Use Efficiency and Energy Services”)

³ Recital 28

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 consumption⁴. The Energy Services Directive makes it clear that to enable final consumers to make better informed decisions about their individual energy consumption, they should be provided with a reasonable amount of information thereon, and should be encouraged to check their own meter-readings regularly⁵.

2.6 The Directive⁶ requires Member States to ensure that, 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.

2.7 Member States may exclude small distributors, small distribution system operators and small retail energy sales companies from the application

of Article 13. These are defined as natural or legal persons distributing or selling less than the equivalent of 75 GWh of energy per annum or employing fewer than ten persons or whose annual turnover or balance sheet total does not exceed EUR 2 million⁷.

The Departments' Response to Article 13 of The Directive

2.8 The Department has drawn on significant customer focus work that has been ongoing over a period of years throughout the UK. The Department is of the view that the NI customer does not differ significantly from those elsewhere in the UK in relation to how they act on the provision of information and that therefore there would be little value in repeating detailed GB focus group work. Indeed in examining the GB and Republic of Ireland work, there are, many occasions, where information provision in relation to energy consumption in Northern Ireland is ahead of GB, and in some cases already meets the requirements of the Directive. For example, just over 200,000 customers in Northern Ireland already have access to 13 months of historical data through pre-payment electricity meters, and energy efficiency advice contacts and help for consumers is already displayed on electricity bills here.

2.9 This being the case, the Department believes that the implementation of Article 13 should be on a broadly similar basis to that in GB. To this end therefore the Department is suggesting that the provision of historical consumption information should be mandated here, as in GB, and draft regulations are attached to this consultation at Annex B.

2.10 The Department is of the view that, given the nature of the market for fuels other than gas and electricity, and the use of these fuels that it would not be practicable, or in some cases possible, for suppliers to provide comprehensive and accurate

⁴ Article 13.2

⁵ Recital 29

⁶ Article 13.3

⁷ Article 2 and Article 3(r)

information in relation to historical use.

- 2.11 However it should be noted that the UK's response to Article 6 of the Energy End Use Efficiency and Energy Services Directive is to agree voluntary agreements with net bound (electricity and gas) and non-net bound (coal, oil, LPG and biomass) energy suppliers to agree to provide information in respect of energy efficiency to their customers. In this way, therefore users of fuels other than gas or electricity will be provided with energy efficiency advice.
- 2.12 The Department believes smart metering is the optimum way of meeting the metering requirements of this Directive in the longer term. Due to ongoing developments in the field of smart metering, and the vision to outline a smart meter roll-out within 10 years, the Department believes that the objectives of the Directive can best be met by a phased approach to smart metering.

CURRENT BILLING AND METERING ARRANGEMENTS IN NORTHERN IRELAND

3

Summary of Chapter

This chapter describes the current billing and metering arrangement in Northern Ireland.

Billing

- 3.1 Domestic gas and electricity customers using basic credit meters are generally billed (or where they pay by direct debit, or receive a statement) for gas and electricity on a quarterly basis. Bills and statements are customarily sent to the customer in paper form, although in Northern Ireland around 30% of customers chose prepayment meters, which offer pay as you go metering and hence no paper bills are issued for this type of metering. Paperless and on line billing is not yet available in Northern Ireland, although NIE Energy, the retail electricity supply company for all domestic homes and a proportion of businesses in Northern Ireland, is currently trialling an online smart product with c.200 homes across Northern Ireland that can be used with a standard meter.
- 3.2 This on-line billing trial has been specifically developed to meet customer desire for accurate and more detailed information about electricity consumption, other than is currently available through the bill. The benefits include on-line access to

electricity usage at any time, accurate and paperless billing and importantly, making electricity usage information readily available to then inform customer energy saving action. Further developments will see customers being able to graphically compare their usage to the average for a household of their makeup, further informing energy saving.

- 3.3 Billing of customers who receive a quarterly bill in paper form is carried out on the basis of a meter reading taken by a representative of the supplier or the customer himself, or an estimate of the customer's use for that quarter. That estimate is based on previous use. In general, suppliers seek to read a meter themselves at least once in every twelve month period. In addition, suppliers are increasingly encouraging customers to provide their own meter-readings by telephone or the internet. Pre-payment meter customers, who purchase their gas or electricity on a pay-as-you-go basis, do not receive any form of bill, but electricity customers have available to them at the meter up to 13 months of past energy consumption data.
- 3.4 The arrangements are more varied in the business sector. Customers using basic credit meters are billed either quarterly or monthly. The frequency of meter-readings varies according to the customer's level of energy use and the terms of the contract with the supplier. Large users who are metered on a half hourly basis and whose meters are read remotely are outside the terms of these arrangements.

Metering

- 3.5 The Electricity (Northern Ireland) Order (1992) and the Gas (Northern Ireland) Order 1996 require licensed gas and electricity suppliers to provide a supply, and ascertain the quantity supplied through an appropriate meter. Domestic and business premises in Northern Ireland that are served by licensed gas and

electricity suppliers are provided with individual gas and electricity meters, known as credit meters, which can accurately record the customers actual consumption. Under a condition in their Electricity Transmission licence, NIE's transmission and distribution business currently carry out the function of a common services provider and as such are the only body licensed to install electricity meters in Northern Ireland. These meters, which may be of electronic or mechanical type, are subject to certification procedures in respect of safety and accuracy, and arrangements are in place to test meters if customers are concerned about the meter's performance. Gas and electricity suppliers pass through metering costs to customers.

- 3.6 There are a number of rules governing metering and meter readings within Northern Ireland. Under the standard terms⁸ of gas and electricity supply licences, there is a requirement to inspect, read and, in the case of gas, ensure that at intervals of not more than two years an inspection of the meter and associated installation shall take place.
- 3.7 Meter readings are also required for other purposes, particularly for the settlement of accounts between buyers and sellers of energy in the market and the distribution network operator. In respect of both gas and electricity meters, the supply licences require suppliers to use all reasonable endeavours to take an actual meter reading at least once a year.
- 3.8 In 2008, over 800,000 electricity meters were in use by customers in Northern Ireland and to date over 100,000 individual gas meters are in use in Northern Ireland. Of these around 70,000 electricity meters are in use at non- domestic premises. Gas and electricity meter owners run meter replacement programmes under which individual metres are replaced with new meters as required.

The replacement rate for electricity meters is around 4% per annum. New or renovated buildings are also provided with such meters.

- 3.9 In respect of electricity credit meters (prepayment meter customers are discussed at paragraph 3.12), as the customer uses electricity, the electricity passes through the meter, which records that use as it occurs on a numerical basis in a way that is visible to the customer. Where the customer takes advantage of time of use tariffs (principally Economy 7), which offer electricity at a lower price at off-peak periods, that electricity will be shown separately on the meter, or on a separate meter, in the same way as electricity provided in peak periods. There are over 220,000 multi-tariff domestic electricity meters in Northern Ireland.
- 3.10 In respect of credit gas meter customers, as the customer uses gas, the gas passes through the meter, which records that use on a numerical basis. As the calorific value of natural gas varies according to the gas's consumption, when the customer is billed for the gas used, the volume measured by the meter is adjusted by a calorific value factor so that customers can use the formula to calculate costs within billing periods. There are no off-peak gas tariffs and thus no multi-tariff gas meters. However a small number of large gas users operate on an interruptible tariff.

⁸ Condition FF of the General Authority to grant electricity licences, Condition 2.19 of the gas supply licences and the Meters (Certification) Regulations (Northern Ireland) 1998 Condition 2.25 of the gas supply licences

Half Hourly electricity meters, daily read gas meters and prepayment meters

3.11 Three other meters types, which have some characteristics of “smart” meters (see section 5) are commonly used in particular segments of the gas and electricity market.

- Half-hourly electricity meters, predominately used by large industrial consumers and required for all customers with a maximum demand greater than 100kW
- Daily read gas meters, predominately used by large industrial customers are required for all customers with an annual consumption greater than 2,196,000 kWh
- Pre-payment meters which allow domestic customers to pay for their gas or electricity as they use it, rather than being billed in arrears and paying by cash, cheque or direct debit. Like credit meters these meters show how much of each commodity the customer is using at the time at which it is used, and enable the customer to see how much he has used over a period of time. In 2008, there were 220,000 electricity prepayment meters in Northern Ireland and 36,450 prepayment gas meters in Northern Ireland.

District heating

3.12 Different arrangements apply to the provision of district heating, where heat is generated in a central boiler or combined heat and power (CHP) plant and provided to residential, business or public sector customers. In the case of CHP, electricity may be supplied to the system’s heat customers or exported. The heat supplied may be charged to the customers either as part of their rent, or as a fixed, average charge additional to their rent. This means that most consumers cannot realise any financial benefit from managing their heat consumption. While district heating systems can provide an

energy efficient way of providing heating to large groups of customers, the penetration of such systems in Northern Ireland and Great Britain is very low in comparison with other EU countries. District heating is widespread in central Europe, Nordic countries, and the Baltic region. In some countries it makes up over 50% of heat delivery to the residential and agricultural sectors.

3.13 Whilst studies suggest there is a large potential for energy savings from the provision of heat meters, the additional complexity of such meters means that they are expensive in comparison to electricity and gas meters. To this end DECC undertook a study⁹, which included Northern Ireland, and looked at both the technical feasibility of installing heat meters and the costs and benefits of such metering for existing or new properties. This study showed that in the UK only about 4% of total building floor area and less than 2% of housing is served by district heating and of these two-thirds of the buildings and three-quarters of the dwellings are not metered. The report showed that, across the district heat scheme sector as a whole, it is not cost-effective to install heat-metering in existing heat schemes, new schemes, or for the two groups combined.

⁹ BRE Client Report 236515: Desk Study on Heat Metering, www.defra.gov.uk/environment/climatechange/uk/energy/energyservices/index.htm

COMPLIANCE WITH ARTICLE 13 OF THE ENERGY END USE EFFICIENCY AND ENERGY SERVICES DIRECTIVE

4

Summary of Chapter

This chapter sets out the Department's view on current levels of compliance with the Energy End Use Efficiency and Energy Services Directive.

- 4.1 The Department believes that smart metering, combined with time of use information, is the optimum way of meeting the metering requirements of the Directive in the longer term. Member States may exclude small distributors, small distribution system operators and small retail energy sales companies from the application of Article 13 of the Directive. These are defined as natural or legal persons distributing or selling less than the equivalent of 75 GWh of energy per annum or employing fewer than ten persons or whose annual turnover or balance sheet total does not exceed EUR 2 million. If this exclusion is relevant to any energy suppliers, the Department will consider applying it.

Domestic Market

- 4.2 In the domestic market, the Department at present proposes to meet the objectives and terms of the Directive by providing customers with information about actual time and levels of energy use. With respect to the billing elements of the Directive, the Department will 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 doing so, the Department will ensure that gas and electricity suppliers have the flexibility to deliver this in the most appropriate manner.

Business Market

- 4.3 In the business energy market, the largest electricity and gas consumers already use smart meters ("half-hourly" and "daily read" meters respectively) and provision of such meters is required under the distribution code. The Department considers that there may be sufficient evidence to indicate that smart metering may be cost effective for a block of business customers with medium levels of use, and proposes to require that these customers be provided with smart meters within 5 years. Further details on this policy can be found in Section 6 of this consultation document.
- 4.4 The Department does not propose to require suppliers to ensure that smart meters are provided to the smallest business customers, at this time until a cost benefit analysis is completed to test the cost effectiveness. We are, however, seeking views from suppliers and small businesses on this issue. The Department expects the roll-out of smart meters to these customers to occur as part of any roll-out to domestic customers.
- 4.5 The provisions of dealing with metering and billing are generally contained in Article 13, and are outlined in detail below:-

Article 13 (1)

- 4.6 On meters, Article 13(1) of the Directive requires that Member States ensure 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.
- 4.7 It further requires that, when an existing meter is replaced, competitively priced 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. In defining energy efficiency improvement measures, the Directive states that account should be taken of the efficiency gains obtained through widespread use of cost effective technological innovations, for instance, electronic metering. It says that, in the context of the Directive, competitively priced individual meters include accurate calorimeters (measuring instruments that determine quantities of heat).
- 4.8 The Department is of the view that Schedule 7 of the Electricity (Northern Ireland) Order (1992) and Article 8 of the Gas (Northern Ireland) Order 1996 provides (through a standard term in licences to gas suppliers requires that a meter of appropriate type for registering the quantity of gas supplied to the consumer shall be provided) provides for “an appropriate meter” and therefore demonstrates compliance with Article 13(1) provisions. **The Department does not propose any further action in this area at this time.**

QUESTION

Do consultees agree with the Department’s view that no further action is required in respect of Article 13 (1)

Article 13 (2)

- 4.9 Article 13(2) of the Energy Services Directive requires Member States to ensure that billing carried out by energy suppliers is, where appropriate, done on the basis of actual energy consumption and is performed frequently enough to enable customers to regulate their energy consumption.
- 4.10 Evidence suggests that, on average, over 87% of customers in the domestic energy sector receive at least one bill based on an actual meter-reading each year. In the business sector, evidence suggests that, on average, electricity suppliers read 92% of non-half hourly meters at least once per year, whilst gas suppliers read 86% of non-daily read gas meters at least once per year.
- 4.11 As we consider billing on the basis of an annual accurate meter read is sufficiently frequent to enable customers to regulate their energy consumption, **the Department does not propose any further action in this area at this time.**

QUESTION

Do consultees agree with the Department’s view that no further action is required in respect of Article 13 (2)

Article 13 (3)

- 4.12 As set out in Section 2 of this consultation document, Article 13(3) of the Energy Services Directive requires Member States to ensure that, where appropriate, energy suppliers make available on bills, contracts, transactions and/or receipts, in clear and understandable terms:
- (a) information about current actual energy prices and consumption;

- (b) comparative information showing the customer's consumption for the same period in the previous year, preferably in graphical form;
- (c) wherever possible and useful, comparative information for an average normalised or benchmarked user in the same category; and
- (d) 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.

Article 13 3 (a) – Provision of current actual prices and actual consumption of energy

4.13 In respect of Article 13 3(a), licensed gas and electricity suppliers already provide customers with clear and understandable bills that show current actual prices and energy consumption. In addition supply licenses stipulate that licensees must inform customers of any variation to the contract they have with the licensee. In the case of electricity, NIE Energy Supply include an information leaflet alongside each bill that precedes the implementation of any new change and write to each prepayment customer in advance of the change. Gas suppliers are required to notify customers within 21 days for a variation in a gas contract. Suppliers of fuels other than gas or electricity will bill customers on the same basis as suppliers of other goods bill their customers, that is, at the time of purchase or shortly thereafter. The customer will, by definition, know the price, and how much he has consumed.

4.14 Estimated readings are widely used by gas and electricity suppliers (estimates on a quarterly basis varies between 27% and 55%), although the proportion of estimates is decreasing. The Department wishes to avoid imposing any unnecessary regulatory burden on suppliers, and thus customers. It therefore envisages that, if suppliers were required to

undertake an annual reading, a supplier might fulfill this function by accepting a customer's own reading. It also envisages that account would have to be taken of cases, where, despite best endeavours, a supplier has been unable to secure a company or customer read.

The Department is not proposing taking any further action in respect of the requirement in Article 13 3 (a) because energy suppliers are already required to set out current prices of energy and the customer's actual consumption in their bills.

QUESTION

Do consultees agree with the Department's view that no further action is required in respect of Article 13 3 (a)

Although the Department is not proposing any further action, we would in particular welcome views on:-

- *the level of accuracy of existing billing arrangements*
- *the appropriateness of using customer's own readings in meeting any requirement*
- *the proportion of meters for which an actual read might not be possible because a supplier is unable to gain access to a property and the customer also fails to provide a reading.*

Article 13 3 (b) - Provision of comparative information: historical consumption

4.15 The Department believes that historical comparative information on bills or statements will help customers to be more aware of their energy consumption and subsequently help reduce that energy consumption. In addition, Article 13 3(b) of the Energy End Use Efficiency and Energy Services Directive requires Member States to ensure that, where appropriate, comparison of a customer's current energy consumption with consumption for the same period in the previous year, is provided by energy suppliers in or with their bills.

- 4.16 To meet its commitment to meet the requirements of the Article 13 3 (b) of the Directive, the Department proposes that gas and electricity suppliers should provide information, in graphical form, about a customer's gas and electricity use in a comparable period from the previous year, where a supplier has that information it should be provided on domestic customer's energy bills or statements.

Draft Statutory Instrument

- 4.17 To this end the Department will seek to introduce the billing and metering requirements by introducing the Electricity and Gas Billing Regulations (Northern Ireland) 2009 as soon as possible. The draft regulations are attached with this consultation (see Annex B). The Department would welcome views on the draft Regulations.

QUESTION

Do you have any views on the attached draft regulations for this policy?

Information to be presented

- 4.18 The Department intends to allow as much flexibility as possible in the provision of comparative information in bills. We recognise that bills already contain a considerable amount of information. We also want to allow suppliers to find innovative means of providing this information on the bill. The Department therefore proposes that, on the bill, data should be provided on the amount of energy used within the period, with estimated readings clearly marked as such. The Department intends to allow suppliers the flexibility to provide *either* the total energy used *or* average data, for example average energy use per day during the period.
- 4.19 The Department is of the view that, given the nature of the markets for fuels other than gas and electricity and the use of these fuels, that it would not be practicable, or in some cases possible, for suppliers to provide comprehensive and accurate information about previous use.

Whilst DETI is not minded to require suppliers of other fuels to provide such information, it invites comments on that view.

QUESTION

What are your views on the information to be presented?

- 4.20 We do not intend to require suppliers to present weather corrected data or to attempt to take account of changes in the household (e.g. additional occupants residing in the property) due to the complexity and prohibitive cost of doing so. However, we do want to consider whether advice should be provided to clarify the relevance and validity of the historical information provided on the bill. Such clarification may be provided on the bill or there may be a reference on the bill to another source, such as a website.

QUESTION

What are your views on the provision of corrected data or advice on uncorrected data?

Change of occupancy

- 4.21 Suppliers will not be required to provide comparative data to a consumer where a change of occupancy has occurred within the previous twelve months.

QUESTION

As a supplier, what proportion of your customers will lack access to comparative data because of change of occupancy?

Presentation of data

- 4.22 The Department intends to give suppliers flexibility in presenting information. This will allow them to provide information in a way that best suits their billing system, and should encourage innovation in presentation. We therefore propose setting a general requirement that information must be presented to consumers in a way that is clear and easy to understand and interpret. Suppliers will retain flexibility on the shape, size

and location of data. While we would prefer to see data presented graphically, we will not require this or specify the type of presentation used.

QUESTION

Is this the right approach to regulating the presentation of billing information?

Frequency of provision of data

4.23 In general, we expect billing and comparator periods to be quarterly but we recognise that this may not always be the case. Some customers will receive bills or statements over other periods, such as monthly or annual basis. In such cases, the comparator period should be the current statement or billing period compared to previous periods.

Article 13 3 (c) – Provision of normalised or benchmarked data

4.24 Article 13 3 (c) requires that, wherever possible and useful, customers should be provided with comparison of their energy use with that of an average normalized or benchmarked user in the same category. Evidence from studies and focus groups (held in GB) suggests that, while customers liked to compare their own energy use compared with earlier periods, they disliked their use being compared with that of “average” homes. Overseas studies tend to confirm this preference also. There was no support from this evidence for providing information of this kind, because, for a variety of reasons, it did not appear useful in helping consumers reduce their energy consumption.

4.25 The Department has concluded that since NI consumers are not significantly different than those in GB (in terms of behavioural change based on information provided), that replicating these focus groups in NI would not yield any significantly different output or additional benefit to Northern Ireland.

Therefore the Department is not proposing at this stage to require

suppliers to provide benchmark data as referred to in Article 13 (3) c.

QUESTION

Do consultees agree with the Department's view that no further action is required in respect of Article 13 3 (c) ?

Article 13 3 (d) – Provision of energy efficiency advice

4.26 Article 13 3(d) requires that where appropriate, contact information for consumers' organisations, energy agencies or similar bodies, including website addresses, from which information may be obtained on available energy efficiency improvement measures, comparative end-user profiles and/or objective technical specifications for energy – using equipment is made available to final customers.

4.27 In respect of Article 13 3 (d), licensed gas and electricity suppliers' bills already direct customers to dedicated energy efficiency advice lines. Electricity and gas bills also direct customers to the Consumer Council, which provides advice on a range of issues affecting all consumers. Equipment manufacturers and retailers already provide technical specifications for energy-using equipment, and gas and electricity suppliers have limited contacts with these organisations or activities.

4.28 The Department is of the view that the current energy efficiency advice on the electricity and gas bills requiring suppliers to make it clear that the Energy Efficiency Advice Centre is a source of information on energy efficiency, complies with the Directive. In addition, suppliers already provide a significant body of energy efficiency information to customers, and are already required to include contact details for the Consumer Council, (the statutory body for consumers in Northern Ireland). The Consumer Council website also signposts customers to other bodies providing energy efficiency advice.

4.29 In respect of domestic customers, we therefore consider that there is no need to take further action to

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implement Article 13 3(d) of the Energy Services Directive. It is also open to suppliers to provide additional references or links to any information that may be available, perhaps to a website.

Would the inclusion of contact points for energy efficiency advice be an effective way of promoting energy saving to business customers ?

QUESTION

Do consultees agree with the Department's view that no further action is required in respect of Article 13 3 (d) for domestic consumers?

Business customers

4.30 The policies on billing only cover domestic customers. Larger business customers will already have either advanced meters or will be subject to the policy on smart metering set out at Section 5, and may, therefore, already have or will shortly have, access to detailed historical information. Smart meters do not automatically provide comparative information – or billing of any particular type – but, equally automatically, they possess the means to allow customers access to comparative information if they require it. The Department wishes to take this opportunity to establish whether the provision of comparative information to the smallest business sector would be appropriate, as an interim measure in advance of any smart meter rollout.

4.31 Gas and electricity suppliers are not required to provide contact details for energy efficiency/ consumer advice on business customers' bills. The Department sees scope for the growth in provision of energy efficiency services in the business sector, and would welcome views on whether such an approach would be a more effective way of promoting energy-saving than the addition of contact details to business customers' bills.

QUESTION

Should comparative information be provided for the smallest businesses in a similar way to that for domestic customers?

THE FUTURE OF METERING – SMART METERS

5

Summary of Chapter

This chapter sets out the potential policy options for smart metering.

- 5.1 This section of the consultation is designed to gather a range of views and evidence from a wide range of stakeholders about smart metering. The UK Government's vision is to have smart meters deployed over the next ten years. The Department is now considering the implications of this vision for Northern Ireland, what, if any, interventions are required to realise this and are seeking views on costs and benefits as well as benefits to consumers and industry. We have therefore set out three potential policy approaches and seek views on these as well as any alternatives. The impact of smart meters and the range of issues we wish to consider go well beyond the effects on customer behaviour with which the majority of this consultation is concerned.
- 5.2 In parallel with this consultation, the Department in conjunction with the Northern Ireland Authority for Utility Regulation (NIAUR) will shortly undertake a more detailed economic analysis of the costs and benefits of smart metering in Northern Ireland. In combination with responses to the overall consultation, and bearing in mind the need for harmonisation in

the single electricity market, this will play an important role in determining the approach to the deployment of smart metering.

Background

- 5.3 Smart meters perform a different function to standard meters, by providing one-way (known as Automated Meter Reading (AMR) or two-way (known as Automated Meter Management (AMM) communication between a supplier and the customer, and require the support of a complex infrastructure. For example an Interval Meter is a two-way meter that can store and communicate data to the customer (in real-time) and the supplier (on a half-hourly basis) thus enabling real-time pricing and the offering of a variety of time-of-use tariffs. The Department therefore defines a smart meter as an interval meter allowing two way communications between the energy supplier and the customer.
- 5.4 Meters of any kind may not necessarily be conveniently sited for frequent reference by the customer. It follows that, to provide information to the customer, smart meters need to be used in tandem with some form of display device that can pick up information from the meter and relay it to the customer. The Department recognises the benefits that smart metering can deliver, including more accurate billing and better customer service. But it also recognises that the cost effectiveness of smart metering needs to be examined in more detail.
- 5.5 Electricity and gas suppliers have not so far rolled out smart meters on a large scale in the UK. DECC has undertaken a series of work from 2006 that looks at the economic case for smart metering in GB in order to draw this conclusion. Interestingly there have been two negative economic assessments of the cost-effectiveness of smart metering in GB (the test laid down in the Directive) in

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the residential sector since 2006, and it is only recent GB work which has produced a positive NPV.

- 5.6 DECC recently legislated for the provision of smart metering in the Energy Act in January 2009. No similar provisions yet exist in Northern Ireland. Significant consumer trials are ongoing in the Republic of Ireland, and a smaller scale technical pilot will take place in Northern Ireland during 2010. However NIAUR are fully informed in relation to the ongoing trial in the Republic of Ireland, and compatibility issues in relation to the single electricity market will be taken into account in the development of a Northern Ireland solution. It is likely to be shortly after the 2010 trial before any specific technical solution for Northern Ireland is identified.

Smart metering in the Business sector

- 5.7 Meters that have some functionality of smart meters are, however, already in place amongst large users of electricity and gas in the business sector. There is a legal requirement on suppliers to install an automatically-read-half-hourly electricity meter on premises where demand exceeds 100kW for three consecutive months over the previous twelve month period. As far as gas consumers in the industrial sector are concerned, there is already often a business case for AMR to support companies to manage energy consumption and deliver against climate change commitments and reduce their management costs.
- 5.8 The Emissions Trading Scheme, the new Carbon Reduction Commitment (CRC) to be implemented in 2010 and the Climate Change Agreements cover the biggest organisations in the business and public sectors. The qualification criteria (currently being consulted on) for the CRC are that an organisation has one or more half hourly electricity meters settled on the half hourly market and a total half hourly metered electricity use of at least 6,000 MWh over the course of 2008. However, there may still exist a policy gap for a large number of smaller organisations. For those organisations smarter metering could offer a way to access better

information about their energy consumption that would enable them to control and manage it better.

- 5.9 The Department recognises that a potential regulatory barrier to the introduction of smart metering may be the requirement in Supply Licences for meters to be read periodically which could be unnecessary if a smart meter were installed. It is unclear at present how much of a barrier this represents. However in the case of gas of course checks may still need to be carried out every two years in any case for health and safety reasons. There also currently exists a limit on the number of pre-payment meters in use in the gas sector. Smart metering the business sector is discussed in more detail in section 6.

Smart metering in the domestic sector and for smaller companies

- 5.10 For smaller companies and the domestic sector meters are read less frequently and estimated readings are widely used. Smart meters are not currently in use in the domestic sector. However, 220,000 current pre-payment meters in use by domestic customers in Northern Ireland provide "semi-smart" functionality to enable processes such as adding credit, changing tariffs and obtaining meter readings to be done remotely.
- 5.11 Evidence carried out by Ofgem in GB suggests that there are five main benefits that flow from the introduction of smart meters into people's homes. These benefits include:
- Avoid manual meter reading costs of both cyclical and final reads. Smart meters would enable suppliers to read meters as frequently as they wanted at relatively low marginal cost.
 - Reduced consumer service costs due to elimination of estimated bills.
 - Reduced theft from more sophisticated tampering

mechanisms

- Potential for avoiding peak load investment as a result of consumers responding to time of use price signals.
- Reduced energy consumption from providing accurate and real time consumption and pricing feedback.

5.12 Given the lack of large scale studies in the UK yielding suitable information, quantifying the benefits of smart metering is much more difficult than estimating the possible costs. Estimates of the costs of smart meters vary, typically the estimated purchase, installation and infrastructure costs of smart electricity meters are from £40 to £180 depending on their functionality. There has been no work done in NI yet to estimate the total cost of installing and maintaining smart meters in all households in Northern Ireland. In addition, the cost of the additional potential benefits of smart metering to those customers in fuel poverty needs to be examined in more detail.

QUESTION

Do consultees have views about the costs and benefits of smart meters in the domestic sector?

Policy Options

5.13 The Department believes that smart metering, is the optimum way of meeting the metering requirements of the Directive in the longer term. The Department considers there are several approaches that may enable it to realise the vision for rolling out smart meters over the next ten years. This part of the consultation seeks views on the following policy options for smart metering for small businesses and for domestic customers. Illustrative options include:-

- Taking no further action beyond mandating smart meters for business as set out in section 6 and providing policy certainty, and then

relying on suppliers to take forward the agenda;

- Requiring all new and replacement meters to be smart
- Requiring all meters to be smart within 10 years (or a similar timescale)

We would welcome views on these and other potential mechanisms that might facilitate the deployment of smart meters over the next ten years.

QUESTION

What are your views on the options presented above and other alternatives that may exist, including how different options might deliver the most cost effective rollout scenarios?

Policy Options in Detail

5.14 The following section provides further details on the possible impacts of each illustrative policy option and how it may facilitate smart meter roll out. This section of the consultation poses questions about roll-out costs, timescales and volumes. We would welcome views on each of the options, whilst recognising that policy decisions may be based on a wider set of options post consultation.

Take No action

5.15 This option, under which the Department would take no action, represents the current regulatory and investment position, with the caveat that an agreed standard for smart meter interoperability in an all island electricity market would be required. It is possible that investment by energy suppliers would only occur were they to view it to be cost effective. This may result in a targeted roll-out to customers carrying a high cost –to serve such as those on prepayment meters, those living on hard to access sites and those who regularly settle their accounts late. It is also noted that initial investment where there is a business case to do so may lead to further cost reductions or efficiencies which in turn may lead to smart meters

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becoming cost effective for other segments.

- 5.16 Without other incentives it is possible that smart metering may only be rolled out to certain groups of customer groups over the next ten years, and that the Department's vision of providing customers with a smart meter over that period would not be realised. Such a deployment would also be likely to result in energy suppliers running multiple operational and IT infrastructures to support the "non-smart" and "smart" operations. That might in itself lead to an accelerated smart meter rollout. If the Department takes no action with regards to smart meter policy then metering in NI will remain a combination of standard metering and pre payment metering.

QUESTIONS

What , if anything, would prevent a critical mass of smart meters being reached, creating a tipping point where it would become cost effective to accelerate smart meter installation?

Should a dual- fuel approach be taken for meter installation?

What percentage of meters would be changed over ten years?

Why has investment in smart metering not occurred to date and what else could be done to facilitate investment?

What other risks or benefits would this option present?

New and Replacement Meters

- 5.17 If an interoperability standard was agreed for an all island market, energy suppliers could quickly move to an approach that would see all new and replacement meters being smart meters, although consideration would have to be given as to how to ensure that this option delivers compliance with the Energy Services Directive.
- 5.18 A small number of gas and electricity meters are replaced each year as they come to the end of their useful lives. In addition, new or substantially renovated properties also receive new

meters. However, very few of these installations are conducted on a dual-fuel basis (where the gas and electricity meter are exchanged simultaneously). Such a deployment of smart meters would also be likely to lead to energy suppliers' running multiple operational and IT infrastructures to support the "non-smart" and "smart" operations. This might accelerate a smart meter roll out.

This policy option has several potential advantages:

- The absence of a requirement for an accelerated asset replacement plan.
- This approach would maintain a "smooth" asset investment profile preventing the creation of a significant investment peak which may be difficult to manage in the future. It should also incentivise energy suppliers to innovate and make least-cost investment decisions

This option also has several drawbacks:-

- Because gas and electricity meters lives and replacement dates are not synchronized, replacing the meters in a "dual fuel" manner may result in one meter being replaced prematurely.
- Although meters must be replaced at the end of their specified life or when faulty, it may be more efficient to replace meters on a geographical basis to maximise density and hence efficiency
- Such a deployment would be likely to lead to energy suppliers running multiple operational and IT infrastructures to support "non-smart" and "smart" operations for a period of time, resulting in duplication of certain activities. It might not facilitate the use of lowest cost communications technologies.

QUESTIONS

What would be the impact – including on consumers- of running two parallel infrastructures to support smart and non-smart meters?

What are the best installation options under this scenario – e.g. on a new and replacement basis, on a geographic basis or through a different replacement approach?

Is a dual-fuel approach possible to meter installation in Northern Ireland in the longer term ?

What other risks or benefits would this option carry?

All Meters Smart within 10 years

5.19 Under this approach, the Department in conjunction with NIAUR would seek to set a time-limit for the replacement of all meters with smart meters. This might take the form of a requirement to replace c.90% of meters within 10 years, with the remaining 10% being replaced over an additional period. This would give suppliers the freedom to choose the most cost effective method of rollout over this period. This policy option has several potential advantages:-

- It ensures that the great majority of meters are smart within a set timescale, possibly 10 years, in line with the Department's vision.
- Suppliers should conduct this work in the most cost effective way available to them within the set timescale.

However this option also has several drawbacks:

- It may lead to suppliers choosing to replace meters in a geographic, not meter age, basis.
- In Northern Ireland it is unlikely that full dual fuel synergies could be attained for meter replacement.

QUESTIONS

What would be the impact – including on consumers- of running two parallel infrastructures to support smart and non-smart meters?

What are the best installation options under this scenario – e.g. on a new and replacement basis, on a geographic basis or through a different replacement approach?

Is a dual-fuel metering approach possible to meter installation in Northern Ireland in the longer term ?

What other risks or benefits would this option carry?

Benefits of smart metering

5.20 The Department anticipates that a wide range of benefits will arise from the deployment of smart metering, across a number of interested parties-including energy suppliers, distributors and generators and consumers – and policy areas for example, the environment. In particular we expect benefits to arise in the following areas:-

- Demand management and carbon reduction;
- Reduced customer management costs for energy suppliers;
- Peak load shifting (with associated time of day tariffs)
- Network management;
- Micro generation
- Consumer benefits – more accurate billing and more control over energy use

QUESTION

What is your view on the benefits of smart metering with regard to specific area detailed above?

Other general issues to be considered

Beyond these policy options, the Department wishes to explore further a number of other

areas, including the communications infrastructure, and IT investment.

Smart Meter Communications Infrastructure

5.21 It appears that a number of communications technologies, or a combination of such technologies could be used. The communication process has a number of constituent and connected parts, potentially including:

- (i) *in the home* : communication between the meter and the chosen means of displaying information (display device) potentially through a low power short-range radio signal or suitable alternative. Technological advances might also allow communication between the meter and the individual appliances for load-management purposes;
- (ii) *local area network*; between the meter in the home to a concentrator, hub or router that could send external communications by power line carrier or radio;
- (iii) *between the local area network and the wide area network*; onward transmission by fixed or cellular means;
- (iv) *between the meter and the wide area network*.

5.22 The choice of communication infrastructure will be driven by cost, regional geography, density of metered locations, regulatory framework and potential longevity.

5.23 There are a number of ways that a communications infrastructure could be deployed across Northern Ireland to support smart meters, and in some cases the infrastructure may already exist. Cognisance will have to be taken of the infrastructure position on an all island basis so that a solution that works within the single electricity market structure is viable. If a smart meter roll out is mandated, energy suppliers must have access to the most cost effective technology. This is a developing area and may require Department intervention to promote

development and investment, although the Department's starting point is that this is first and foremost a matter for energy suppliers

QUESTIONS

What is the cost-effectiveness of the different communication options under different roll-out scenarios? Are there other suitable approaches?

Should the development of a suitable communications infrastructure be left to the market, or is Government intervention of some form required?

Does the communications infrastructure, or particular technologies, represent a natural monopoly?

Metering Technology and Costs

5.24 There are a range of smart metering products on the market, together with compatible display devices. In Northern Ireland, there may be a need for a number of different smart meters: an electricity meter, probably capable of being remotely switched between standard credit and prepayment; and potentially a smart meter that could provide data about both electricity and gas usage. A smart meter-compliant device would also be required. Several factors have, and will continue to, influence the cost of a smart meter. These include level of functionality, volumes purchased and the types of communication used.

QUESTION

What is the likely range of costs of a smart meter, having regard to different levels of functionality?

Micro generation

5.25 Micro generation is growing in popularity, and, with electricity generating technologies now available in large retail outlets, it is anticipated that the market for these technologies will increase over the longer term. For those technologies that have the scope for buyback arrangements with suppliers, an export meter from the property

provides a means of measuring electricity provided by the customer. Such meters may be of a standard or smart type. Whilst a smart meter is not a prerequisite for a successful micro generation installation, it could be helpful in terms of monitoring performance and communicating that performance to the customer. In these circumstances, the development and implementation of smart meters that facilitate the incorporation of micro generation in a system may, in turn, contribute to the growth of micro generation.

QUESTION

How could smart meters facilitate the uptake of micro generation?

Would the inclusion of import/export functionality in smart meters encourage the take up of micro generation in households over the longer term ?

IT Development Costs

5.26 Significant IT investment may be required to support the deployment of smart meters. This may include changes to billing systems, asset management systems and changes to core industry processes and rules.

QUESTION

What is the likely scope of the IT infrastructure and investment and the timescale over which this would fall?

Display Devices

5.27 Installing display devices involves positioning a sensor between the electricity/gas meter and the fuse box on existing meters. Following calibration of energy cost and emission data, information from the sensor is transmitted to a small, portable, display device from which the customer can readily monitor use and cost in real time. Both existing and direct smart meters could connect direct with a display. In Northern Ireland it is possible to have a real time display that operates with a pre-payment meter. Because real-time displays could provide customers with more extensive, automated

information about their energy consumption, it may be that particularly when compared with smart meters, real time displays may be an effective way of helping consumers manage their energy use better.

5.28 Requiring suppliers to provide real time displays to consumers over a fixed period would ensure that all consumers had access to them and the opportunities they offer to consumers to manage their energy consumption more effectively. On the other hand there could be a risk that some customers may not value the devices or use them effectively. The display device is not a substitute for the meter. A smart meter ideally requires a more sophisticated device, and is likely to be able to function with other means of communication.

5.29 The Department recognises that real time displays have the potential to help consumers reduce energy consumption and deliver early carbon savings particularly in advance of a possible roll out of smart meters. However the Department's view, based on evidence from recent GB consultations, is that a stand-alone real-time display should be provided with a smart meter if the full environmental and energy efficiency benefits are to be generated from a roll out of smart metering. The Department accepts that there are clear linkages between a roll out of displays in advance of smart meters and a roll out of smart meters in the future. However the Department is not intending to use the provision of real time displays as a compliance mechanism to the Energy End Use Efficiency and Energy Services Directive.

QUESTION

Should real time displays only be rolled out alongside a smart meter roll-out ?

Is there any value in suppliers providing real time displays to customers in the short to medium term in advance of any possible roll out of smart meters?

Social and personal information issues

- 5.30 Some efficiency gains, such as reduced meter reading costs, that will be gained for energy suppliers through a possible smart meter roll out should also benefit customers as a whole, but may not be regarded as benefits by some customers. For example, suppliers may have the ability to easily switch customers from credit to pre-payment. They may also, subject to the range of safeguards to protect vulnerable customers, be able to remotely disconnect electricity and gas supplies.
- 5.31 Under the standard conditions of gas and electricity supply licences, suppliers cannot disconnect customers unless they have taken steps set out in the licence to recover charges. In addition, they cannot disconnect in winter, where a customer is of pensionable age, disabled or chronically sick. They also have to offer a pre-payment meter before disconnecting. Suppliers would need to conform to these arrangements if a customer were provided with a smart meter capable of being remotely switched between credit and prepayment or of being remotely disconnected.
- 5.32 Once smart meters are installed, energy suppliers will have detailed information about a household's energy consumption at different times. This information will be communicated between the household and the supplier. All data would fall under existing data protection rules. Additionally, the industry has safeguards on protecting consumers' information.
- 5.33 Once a smart meter is installed, especially if a customer has micro generation and exports electricity, bills may be more complicated than at present. The Department is aware that smart metering may give rise to concerns over privacy, including data protection, and fuel poverty. We would welcome comments and views on these issues.

QUESTIONS

What are your views about the social impacts of the added functions of smart meters, for instance, the ability of a supplier to switch meters to pre-payment or disconnect supply more easily? Are any additional safeguards needed?

Given existing data protection rules, and safeguards applied by energy suppliers, are any additional safeguards needed in respect of how the data is used or the way in which it is transmitted?

What are the potential beneficial and negative impacts on the fuel poor and other low-income or vulnerable customers?

The Department welcomes views on whether or not, with appropriate safeguards in place, this data should be used to help target vulnerable customers and facilitate increased competition ?

ADVANCED METERS FOR MEDIUM AND LARGER BUSINESSES

6

Summary of Chapter

This chapter discusses the use of advanced meters for medium and larger businesses.

Background

- 6.1 Advanced types of meters which provide readings on either an automatic half-hourly basis for electricity or on a daily basis for gas are already mandatory for large users of energy. The data provided by these types of meters, combined with energy saving advice, allows businesses, including commercial and public sector organisations, to make informed decisions about investment in energy efficiency. Increasingly, third party organisations are offering such services to smaller users.
- 6.2 The Department proposes that energy suppliers should extend to all but the smallest business users smart metering within the next 5 years. This policy applies to the supply of electricity and gas and excludes "heat". The Department defines a smart meter as an interval meter allowing two-way communication between the energy supplier and the customer. Suppliers may choose to utilise existing technology used for larger electricity and gas consumers in the half hourly and daily read

markets although it is anticipated that more cost effective technologies will be available for the non-half hourly and non-daily read markets.

- 6.3 The findings of recent Carbon Trust smart metering trials in Great Britain¹⁰ support the Department's policies in this area. The results of these trials highlighted that smart metering combined with consumption data and advice was effective at reducing consumers' consumption by 5% on average where potential average savings of 12% were identified. The department agrees with the view of the Carbon Trust report that deploying this technology was only cost-effective, at present, to the higher energy users within the small and medium-sized business market. The Department's policy therefore only applies to those segments where the technology was found to currently be cost-effective.
- 6.4 We therefore propose that smart metering be installed for specific segments of the SME market as follows:
- Profile Classes 5-8 of the electricity markets, which reflect the highest energy users in the sub-100KWh market that currently require metering to record maximum demand peaks and load factors;
 - all non-daily metered gas sites consuming > 732,000 kWh per annum.
- 6.5 This will not affect the current requirement for the provision of half-hourly or daily read meters for large energy users and that requirement will remain in place. The remainder of the business market tends to be broadly similar to the domestic market both in terms of energy

¹⁰ Carbon Trust Advanced Metering for SMEs (www.carbontrust.co.uk/Publications)

consumption and the types of metering used. The Department therefore proposes to consider these smaller businesses within the broader smart metering context for domestic customers. (see Section 5).

QUESTION

What are your views on the segment of the market that we propose will be subject to these requirements?

- 6.6 The Department expects that the availability of more frequent and accurate data will promote growth in ancillary services to these consumers. The Department seeks views on whether additional energy efficiency advice should be provided and who should provide this information.

QUESTION:

What are your views on the provision of such services?

- 6.7 The Department considers that a five year timescale for roll out of smart meters to this sector may be feasible.

QUESTIONS:

Is five years an appropriate period in which to roll out smart meters in the business sector? If not, what might be an appropriate period?

What are cost drawbacks of this proposal and the 5-year timescale?

- 6.8 The Department recognises that this policy will increase the amount of data available to consumers, but also that this data may have effects on settlement processes. It expects such data to make settlement processes more accurate, although there may be a concern in the medium-term about the settlement systems' capacity to respond to a significant increase in customer's metered on something akin to a half hourly or daily-read basis. The Department also expects this additional data to enable energy suppliers to offer more complex time-of-use tariffs that could result in network benefits and peak-load reductions. This data may also lead to an increase in the provision of energy

management services from third parties.

QUESTIONS:

What impacts will this policy have on gas and electricity settlement processes?

Will changes to the Trading and Settlement Code be required?

What changes would be required, and over what timescale, to allow energy to be settled on the time of use data provided by the smart meter rather than via a profile?

What changes, if any, would be required, and over what timescale, to ensure that the best use is made of smart meters in terms of peak load reduction and network management?

What measures should be put in place to ensure that customers or their agents can access data from smart meters ?

Implementation of smart metering in the business sector

- 6.9 In the 2008 budget it was announced that in GB amendments to the Energy Bill would provide the necessary powers for implementation of smart metering in the business sector, subject to the thresholds set out, within five years. No similar provisions exist for Northern Ireland.

QUESTION

Should DETI seek to bring forward legislation to ensure smart metering to business customers with profile Classes 5-8 of the electricity markets and all non-daily metered gas sites consuming > 732,000 kWh per annum would to be in place within 5 years?

IMPLEMENTATION OF ARTICLE 13 OF REGULATION EC NO 1775/07

7

Summary of Chapter

[This chapter sets out the proposed amendments to the Energy \(Northern Ireland\) Order 2003 to give effect to Article 13 of Regulation 1775/07.](#)

Regulation EC No. 1775/05 aims to set non-discriminatory rules for access conditions to natural gas transmission systems taking into account the specificities of national and regional markets with a view to ensuring the proper functioning of the internal gas market.

In particular Article 13 of the Regulation requires that member states both establish provisions to penalise infringements of the Regulation and 'take all necessary measures to ensure that the penalties are implemented'.

Article 13(2) of the Regulation states that these penalties cannot be criminal in nature, the penalties are therefore civil penalties, similar to those which NIAUR can impose under the Energy (Northern Ireland) Order 2003. The Department therefore intends to give effect to Article 13 Regulation EC No. 1775/2005 by adding the Regulation to the definition of 'relevant requirements' under the financial penalty power contained within Articles 45 (1) and Article 45(11) of The Energy (Northern Ireland) Order 2003.

ARTICLE 13 OF THE ENERGY END USE EFFICIENCY AND ENERGY SERVICES DIRECTIVE

L 114/72

EN Official Journal of the European Union

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Article 13

Metering and informative billing of energy consumption

1. Member States shall ensure that, in so far as it is technically possible, financially reasonable and proportionate in relation to the potential energy savings, final customers for electricity, natural gas, district heating and/or cooling and domestic hot water are provided with competitively priced individual meters that accurately reflect the final customer's actual energy consumption and that provide information on actual time of use.

When an existing meter is replaced, such competitively priced individual meters shall always be provided, unless this is technically impossible or not cost-effective in relation to the estimated potential savings in the long term. When a new connection is made in a new building or a building undergoes major renovations, as set out in Directive 2002/91/EC, such competitively priced individual meters shall always be provided.

2. Member States shall ensure that, where appropriate, billing performed by energy distributors, distribution system operators and retail energy sales companies is based on actual energy consumption, and is presented in clear and understandable terms. Appropriate information shall be made available with the bill to provide final customers with a comprehensive account of current energy costs. Billing on the basis of actual consumption shall be performed frequently enough to enable customers to regulate their own energy consumption.
3. Member States shall ensure that, where appropriate, the following information is made available to final customers in clear and understandable terms by energy distributors, distribution system operators or retail energy sales companies in or with their bills, contracts, transactions, and/or receipts at distribution stations:
 - (a) current actual prices and actual consumption of energy;
 - (b) comparisons of the final customer's current energy consumption with consumption for the same period in the previous year, preferably in graphic form;
 - (c) wherever possible and useful, comparisons with an average normalised or benchmarked user of energy in the same user category;
 - (d) contact information for consumers' organisations, energy agencies or similar bodies, including website addresses, from which information may be obtained on available energy efficiency improvement measures, comparative end-user profiles and/or objective technical specifications for energy-using equipment.

DRAFT STATUTORY INSTRUMENT

STATUTORY RULES OF NORTHERN IRELAND

2009 No.

ELECTRICITY AND GAS

Electricity and Gas Billing Regulations 2009

<i>Made</i>	- - - -	***
<i>Laid before Parliament</i>		***
<i>Coming into operation</i>	-	***

The Department of Enterprise, Trade and Investment, makes the following Regulations in exercise of the powers conferred by sections 2(2) of the European Communities Act 1972

The Department is designated for the purposes of the said section 2(2) in relation to measures relating to the regulation of the electricity sector and measures relating to natural gas and oil.

1.— The Interpretation Act (Northern Ireland) 1954 shall apply to these Regulations as it applies to an Act of the Assembly.

2.— In these Regulations—

“Electricity supplier” shall be construed in accordance with Regulation 3(1);

“Gas supplier” shall be construed in accordance with the Regulation

“Domestic consumer” means—

(a) in relation to a gas supplier, any person who has contracted with that supplier for a supply of gas which is reasonably expected not to exceed 2,500 therms in each year; and

(b) in relation to an electricity supplier, any person who has contracted with the supplier for a supply of electricity at any premises wholly or mainly for domestic purposes.

“domestic premises” in relation to any domestic customer means the premises where the supply of gas or electricity to that person is taken.

“corresponding period” shall be construed—

in relation to a bill or statement of account sent by an electricity supplier, in accordance with Regulation 4; and

in relation to a bill or statement of account sent by a gas supplier, Regulation 5.

3. (1) Any person who holds a licence under Article 10(1)(c) of the Electricity (Northern Ireland) Order 1992 (“an electricity supplier”) shall provide each domestic customer supplied by him with electricity with the information referred to in Regulation 4.

(2) Any person who holds a licence under Article 9(1)(c) of the Gas (Northern Ireland) Order 1996 (“a gas supplier”) shall provide each domestic customer supplied by him with gas with the information referred to in Regulation 5.

(3) The requirement in paragraph (1) only applies if the supplier has been contracted to give a supply of electricity to the same domestic consumer at the same domestic premises throughout the period—

(a) commencing with the start of the corresponding period; and

(b) ending with the end of the period to which the bill or statement of account relates.

(4) The requirement in paragraph (2) only applies if the supplier has been contracted to give a supply of gas to the same domestic customer at the same domestic premises throughout the period—

- (a) commencing with the start of the corresponding period; and
- (b) ending with the end of the period to which the bill or statement of account relates.

(5) The requirement in paragraph (1) does not apply if at any time before the start of the corresponding period the domestic customer has been supplied with a meter which provides him with accurate information about his actual energy consumption and its actual time of use.

4. The information referred to in Regulation 3(1) is a comparison of the customer's consumption of electricity in the period covered by the bill or statement or account with the same customer's consumption of electricity for the corresponding period in the previous year ("the corresponding period").

5. The information referred to in Regulation 3(2) is a comparison of the customer's consumption of gas in the period covered by the bill or statement of account with the same customer's consumption of gas for the corresponding period in the previous year ("the corresponding period").

6. Each bill or statement of account containing information in accordance with the requirements of these Regulations must—

- (a) Present that comparison in a form that is clear and easy to understand; and
- (b) Make it clear whether any estimates of the domestic customer's consumption of gas or electricity, as the case may be, had been used in producing the comparison.

7. In Article 42(2) of the Energy (Northern Ireland) Order 2003, in the definition of "relevant requirement"—

- (a) at the end of sub-paragraph (a)(iii) insert—
"or
- (iv) the Electricity and Gas (Billing) Regulations (Northern Ireland) 2009;"; and
- (c) at the end of sub-paragraph (b) insert—

"or under the Electricity and Gas (Billing) Regulations (Northern Ireland) 2008".

8. In Article 45 –

- (a) In paragraph (1) for "the Community Regulation" substitute "a Community Regulation"; and
- (b) For paragraph (11) substitute

""Community Regulation" means Regulation 1228/2003 of the European Parliament and Council on conditions for access to the network for cross-border exchanges of electricity or Regulation 1775/2005 of the European Parliament and Council on conditions for access to the natural gas transmission network."