



Department
of Energy &
Climate Change

The metering and billing of district heating, district cooling, and communal heating and hot water systems

Government Response to the 'Implementing the
Energy Efficiency Directive as it applies to the
metering and billing of heating and cooling'
consultation

URN 14D/434

November 2014

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Ministerial Foreword



I am pleased to set out the Government's final position to support the implementation of the metering and billing elements of the Energy Efficiency Directive, as they apply to district and communal heating and cooling.

I am grateful to all those who provided feedback through the consultation process, both in the formal responses and during the five consultation workshops that we held around the country.

I recognise that the requirements set out in this document represent a significant development for the district heating and cooling, and communal heating sectors in the UK. This is a transition that presents both opportunities and challenges. Currently there are no requirements around metering and billing for heat. This is in many ways an anomaly; it has long been taken as a given that the amount of gas and electricity that we consume needs to be metered and billed, and our ambition in these areas is to replace the standard meters with smart ones; a programme that is now being rolled out nationally. Yet when it comes to heat that is delivered through pipes into homes, there is currently no requirement even for a basic meter.

Our ambition must be to give consumers better control over the heat they consume; it should be clear how much they are consuming, that they are billed on this basis and they know how their bill is derived. This is likely to be fairer for the consumer, and to encourage more efficient use of energy. That is why these provisions are included in the Energy Efficiency Directive.

However, consumers will only benefit as long as it is not disproportionately expensive to make the metering that are required. It must be practical and economic to do so. That is why we are including provisions for suppliers to apply a "cost-effectiveness and technical viability test" when making these changes to existing schemes, as the Directive allows us to do.

Heat networks are a complex and varied sector – by scale, by age of network and by end consumer. This creates challenges when introducing new regulations. The Department has stated its significant ambition for the future deployment of heat networks and is taking practical steps to help to achieve this, including through the work of the newly-established Heat Network Delivery Unit.

The industry has responded to the need to move the sector forward by developing an independent consumer protection scheme for heat network customers, and by seeking to

establish common technical standards for heat networks schemes. Our regulations are therefore timely and are linked to these initiatives.

We will be monitoring implementation of these regulations carefully and working very closely with the scheme administrator – the National Measurements Office - to raise awareness and to work with those required to take action as a result. I am very clear that this is about supporting a transition, and about understanding and managing the challenges to implementation that will inevitably arise.

We look forward to continuing to work with you as these measures are introduced

A handwritten signature in black ink, appearing to read 'Amber Rudd', is written over a faint, illegible background. The signature is written in a cursive style.

Amber Rudd MP

Parliamentary Under Secretary of State

Executive Summary

Summary of the Government's policy approach

This document sets out the Government's response to the consultation on the metering and billing articles of the EU Energy Efficiency Directive as they apply to district heating, district cooling, communal heating and hot water systems.

It is being published alongside our Final Impact Assessment and an assessment tool to assess metering viability. In parallel, regulations which will give effect to UK implementation of the Directive's requirements in this area have been laid in Parliament.

Copies of all these documents can be found here:

<https://www.gov.uk/government/consultations/implementing-the-energy-efficiency-directive-metering-and-billing-of-heating-and-cooling>

The Directive's requirements

Articles 9(1) & (3) of the Directive impose metering requirements on district heating, district cooling and communal heating/hot water systems. Article 9(3) also states that Member States may consider the introduction of transparent rules on the allocation of the costs of heat consumption in multi-apartment buildings. Articles 10 and 11 require Member States to create rules to govern billing information and the costs of access to billing information. Article 13 concerns penalties in cases of non-compliance with national provisions.

These articles can be found at: [http://eur-](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:315:0001:0056:EN:PDF)

[lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:315:0001:0056:EN:PDF](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:315:0001:0056:EN:PDF)

Who must comply with the regulations

All organisations or individuals who supply heating, hot water or cooling via district heating or district cooling networks or communal heating will need to comply with the regulations. The onus will be on the final 'Heat Supplier' – the final contractor of heating, cooling or hot water to the final consumer and who charges for this supply.

The support the Government is putting in place to assist implementation.

The National Measurement Office (NMO) will take on the role as scheme administrator and enforcing authority. The NMO is an Executive Agency of The Department for Business, Innovation and Skills. Although heat meters are not presently regulated in the UK, the NMO is the government's technical and policy lead on them. See Question 28 for more details

In certain circumstances the installation of meters is a mandatory requirement. These are where a new district heating or district cooling connection is made in a new building, where a building undergoes a major renovation or at the point at which a multi-apartment/multi-purpose building is supplied from a district heating or district cooling network. However, in all other circumstances and for all buildings, individual meters must be installed where it is cost effective and technically feasible to do so. DECC commissioned Aecom to develop a Metering Viability Tool. The tool is designed to assist Heat Suppliers in carrying out the tests of cost-effectiveness and technical feasibility. The tool allows Heat Suppliers to quickly understand whether meters (or in some circumstances, heat cost allocators) are or might be viable. See Question 9 for more details.

The analysis carried out for the Final Impact Assessment and in the piloting of the Viability Tool suggests that, currently, metering will be viable in only a small proportion of properties on heating or cooling networks.

Reporting requirements

The consultation contained a number of options on monitoring compliance of implementation. The Government has decided that a system of notification will be required. This will address potential concerns around under-implementation and support the broader requirements of reporting to the Commission on the status of implementation. It will also assist in developing a more robust evidence base to provide a better understanding of the impact of the requirements and enable the scheme administrator and or the Government to respond, where needed. See Question 18 for more details.

Penalties

The enforcing authority shall have the power to impose penalties on participants that are found to be non-compliant. See Question 30 for more details.

Devolution and territorial extent

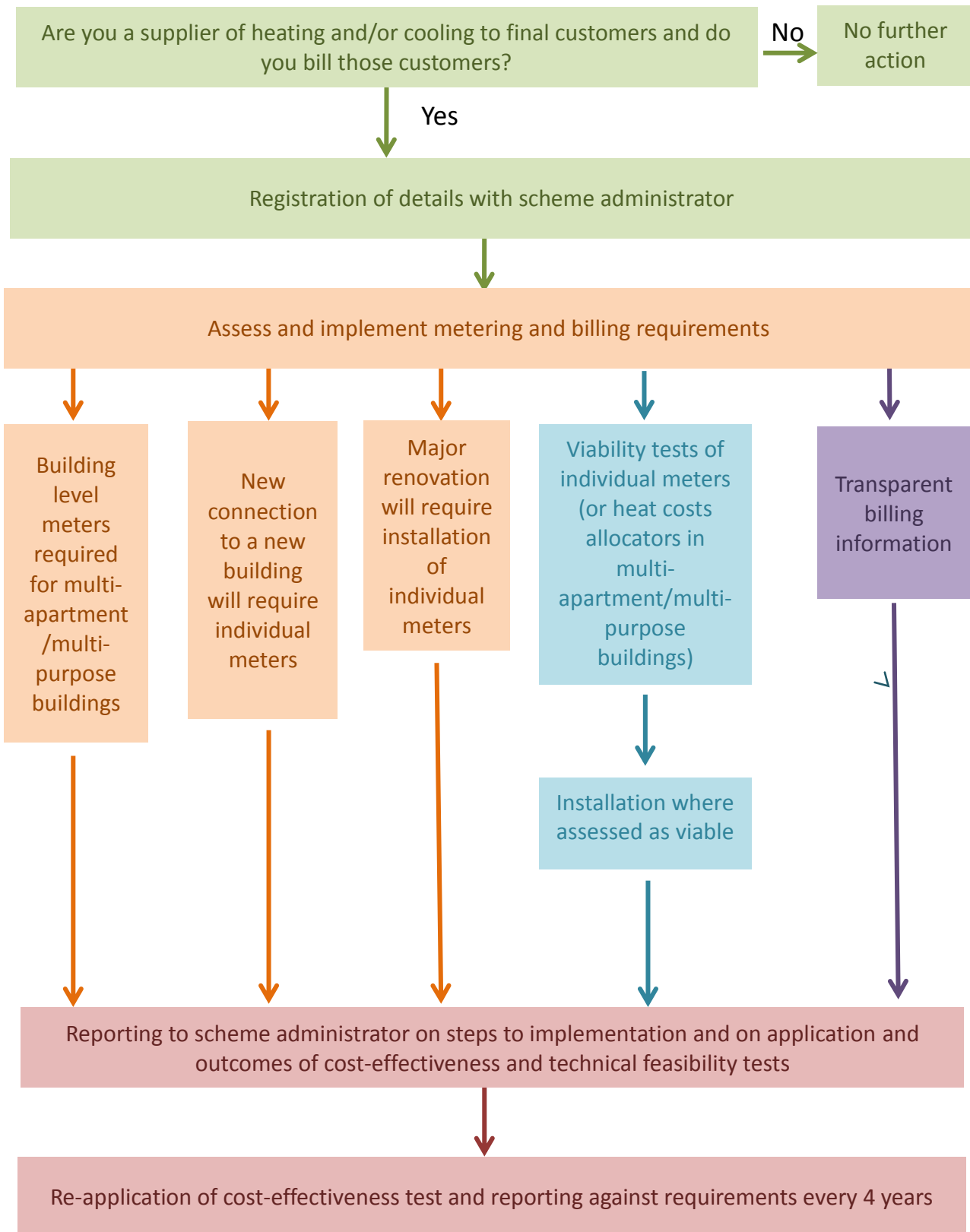
The Directive applies UK-wide and requires UK-wide compliance. The consultation was therefore carried out on a UK-wide basis and the implementation regulations and the scheme administrator, acting on behalf of the enforcement authorities in the Devolved Administrations, will operate throughout the UK. This consistent approach across the UK will simplify the administrative requirements and create a 'level playing field'. Where necessary, the regulations have been modified to reflect different circumstances in the Devolved Administrations, for example on the application of penalties.

What happens next

Some key dates relating to the implementation of the regulations and administration are provided below:

- November 2014 – The Government Response, the Final Impact Assessment and the Metering Viability Tool and supporting guidance are published.
- November 2014 - Implementing regulations are made and come into force in December 2014.
- 31 December 2014 – Accurate billing information (where technically possible and economically justified) requirements come into force
- 30 April 2015 - Heat Suppliers are required to notify the scheme administrator – the National Measurement Office
- 31 December 2016 – Deadline for first metering/heat cost allocator viability assessment in multi-apartment/multi-purpose buildings, and installation where viable.

Key implementation steps:



Conducting the Consultation Exercise

Consultation approach

DECC's consultation [Implementing the Energy Efficiency Directive as it applies to the metering and billing of heating and cooling](#) ran from 10 January to 21 February 2014. The consultation sought views on how the UK should implement the heat metering and billing requirements in the Directive. The consultation posed 34 questions on a range of topics including on the extent and costs of metering and heat cost allocators, on billing information and costs, on options for implementation, on impacts on consumers, scheme administration and sanctions.

As part of the consultation, the Department ran a number of workshops and gave presentations on the requirements and the Government's proposed options for implementation. The workshops involved over 150 people. The organisations represented included: local authorities, housing associations, manufacturers and those in district heating supply chain, consultancies, umbrella organisations and consumer/resident groups.

The consultation was also publicised through a range of communication channels, including through the membership of umbrella organisations and through local authorities.

Summary of responses

A total of 30 formal responses were received (listed at the end of the document) and these are broken down by respondent type in the table below. Useful feedback was also received from discussions with experts working in the sector.

Respondent type	Number of responses
Local authorities/housing associations/consumer groups	13
Manufacturers/service companies/trade bodies	12
Umbrella organisations	4
Consumers	1
Total	30

Findings

The following sections relate to the various aspects of the consultation. They follow the chapter structure of the consultation document. For each topic, information has been set out as follows:

- **What we proposed** – as set out in the consultation document
- **What respondents said** – an overview of responses to each topic
- **Government consideration and decision** – our response to stakeholder feedback, including the rationale for considering or adopting particular details.

Findings by consultation question

1.0 Extent of heat metering

What we proposed

The consultation and the consultation stage Impact Assessment referred to a study in 2012 by Databuild and the Building Research Establishment (BRE) on a database of heat networks and on heat meters. The database estimates that there are approximately 1,800 heat networks in the UK. The BRE work concluded that it was difficult to say how many dwellings are served by heat meters. The survey work undertaken by Databuild suggested that approximately 25% of existing residential-led heat networks schemes have heat meters installed. The Government does not have information on the extent of district cooling or communal heating and/or hot water systems or the extent of the metering of these technologies.

Q1: DECC is undertaking further evidence gathering on the extent of heat networks and heat metering. In addition to this work, do you have information about smaller heat networks and the extent of metering, including in the non-domestic sector?

What respondents said

Out of the 30 respondents, 18 responded to this question. Evidence was provided of operational district heating systems. Respondents commented on a range of metering solutions, and confirmed that significant proportions of UK district heating networks are not metered; this is discussed further in Q2. Some specific examples were provided of projected future capacity.

Government consideration and decision

Extent of properties on heat networks

The Final Impact Assessment has refined the previous best estimate of the number of properties connected to heat networks or communal heating, and broken this down by dwellings and by age band in the following table.

	Flats	Terraced	Semi-detached	Detached	Total
1918 - 1938	0	0	0	0	0
1939 – 1959	23371	437	0	0	23809
1960 – 1975	186911	1771	440	14	189136
1976 – 1982	49884	2857	35	101	52877
1983 – 1989	16887	340	179	1	17406

1990 – 1999	11327	655	761	318	13061
Post 2000	108366	531	308	4	109210
Total	396746	6592	1723	438	405,499

Source: Final Consultation Impact Assessment.

Current level of heat metering

The Final Impact Assessment uses the existing evidence base that suggests around 25% of dwellings have individual meters. There is very little evidence on the current installation of building-level heat meters connected to multi-apartment/multi-purpose buildings. Discussions with Heat Suppliers suggest it is likely that meters will already be installed for non-domestic buildings where it is cost-effective to do so.

Q2: Do you have information about the extent of metering of cooling or communal heating, including communal hot water in the UK?

What respondents said

Out of the 30 respondents, 4 responded to this question. Comments did not differentiate between hot water and space heating. No comments were provided that related to metering cooling. The comments suggest that there is significant metering where a new district heating project is developed. For older schemes the proportion of properties that are metered was markedly lower. The details provided did not explicitly detail how the metering was configured.

Government consideration and decision

The Government has noted the comments that support its overall assumptions in the consultation document and the consultation Impact Assessment on the broad extent of metering. The initial estimates of the extent of metering have been used in the Final Impact Assessment.

Q3: The European Commission's guidance is that meters must comply with the Measuring Implements Directive (MID) and heat cost allocators (HCAs) must comply with the relevant European Standards (EN 834 and EN 835). What steps should the Government take to ensure the accuracy of meters and HCAs at the point of installation and on their on-going accuracy?

What respondents said

Out of the 30 respondents, 19 responded to this question. The majority view was that heat meters should be compliant with MID standards. Three respondents explained that the requirements should align with the MID requirement of meters standards under the Renewable Heat Incentive (RHI). Some concerns were expressed about how older meter accuracy would be monitored and enforced. A service provider highlighted that various components of the heat

network would have to be maintained to ensure the meters provided accuracy; this would include Automatic Metering Recording (AMR) and Building Energy Management Systems (BEMS). Views on Heat Cost Allocators (HCA) were limited; however the consensus from those who commented was to ensure that any compliance requirements were similar to those in Europe.

Government consideration and decision

The Government’s implementing regulations require that meters and heat cost allocators must accurately reflect the use of heat, cooling or hot water by a building or final customer. The National Measurement Office’s supporting guidance will explain how a fitted meter and heat cost allocator will be required to be of a suitable quality and performance to meet the requirements of the regulations.

It should be noted that the intention is that this requirement will be broadly consistent with the metering requirements of the Renewable Heat Incentive. The enforcing authority will expect that the use of existing meters used as the basis of final customer bills will comply with the required meter accuracy standards to ensure that “*billing information is accurate and based on actual consumption.*” (Article 10.1 of the Directive)

1.1 Heat metering cost estimates

What we proposed

The consultation document and the consultation Impact Assessment referred to the BRE study in 2012 that provided an assessment of the costs of metering, covering the capital cost of the meter, the cost of installation, data gathering and overall running costs. This data is captured in the table below

Cost description	Cost per dwelling
Capital cost of heat meter	£212
Capital cost of installation of heat meters	£80
Capital cost of data gathering system	£62
Capital cost of installation of data gathering system	£93
Running costs	£81 per year

Q4: Do you agree with the cost estimates for heat meters?

What respondents said

Out of the 30 respondents, 26 responded to this question. The results provided by the respondents were not always comparable. For example, some manufacturers compared

particular metering component costs based upon new build installations, this contrasted with housing associations and the quotes they had received to retrofit meters into their existing housing stock.

The costs of installing meters in new build properties appear broadly in line with the BRE study. On retrofitting meters, there was broad agreement that to retrofit heat meters would be more expensive.

Specific issues included: the capital cost of data gathering system and installation of data gathering system and the details of what this included; running costs with information suggesting a range of costs from £30 to £219 per meter; whether commissioning costs were included; evidence that meter lifetimes should be 10 years.

Government consideration and decision

The Government's Final Impact Assessment has noted that while responses to the consultation generally agreed that retrofitting heat meters was more costly than installing meters in new build properties, a wide range of costs for retrofitting meters had been presented. The original capital and annual operating costs have been retained, as taken from the BRE report. This assumes the capital cost of the meter, data gathering system and installation is £447. Annual operating costs are assumed to be £81/year. The assumed lifetime of the meter has moved from 15 years to 10 years. Customers will not be able to control their heating unless suitable temperature control devices are installed, such as room thermostats or Thermostatic Radiator Valves (TRVs). The absence of controls means that the expected energy savings of switching to metering would be less likely to be delivered. The cost of temperature control devices should therefore be included in the consideration of viability.

Q5: Would the costs of building-level meters serving, communal heating or district cooling be significantly different to the cost of individual consumption meters?

What respondents said

Out of the 30 respondents, 17 responded to this question. There was strong consensus that building-level meters were more expensive than individual property meters, given larger pipe diameters and flow rates requiring a larger and different type of heat meter. Limited information was provided on the costs of building level meters. The range of costs provided was £1,500 to £10,000. Factors that would have a significant bearing on the cost included the choice of meter, and access to and any alteration of pipework. It was noted that in some older district heating systems two building level meters would be required where there are separate hot water and heating supply systems.

Government consideration and decision

Based on the evidence from the consultation, the Government's Final Impact Assessment has used a figure of £2,000 for a building-level meter with the addition of installation costs of £500. These meters are assumed to have a lifetime of 15 years. The assumptions in the Final Impact Assessment suggest that 7,345 buildings will be required to install building-level meters as a result of the Directive.

The justification for the requirement for building-level metering was two-fold. First, to establish the amount of heat entering a building which may provide a better basis to apportion charges between individual dwellings/units – this allowed some calculation and allocation of the costs of

background heat in the communal areas of a building. Secondly, metering at this level assisted with the overall management of a district heating scheme and supported efficiency improvements.

Nevertheless, as a result of feedback from the consultation, the Government recognises that there will be some very limited circumstances when it will be technically very challenging and/or disproportionately costly for the mandatory requirement for building-level meters to be met. In such cases the Heat Supplier will need to agree with the scheme administrator an alternative and reasonable means by which the performance of the network can be characterised. Alternatively, the enforcing authority may grant additional time within which to comply with the requirement

Q6: Are there any issues when considering replacing one meter with another? Are they necessarily compatible?

What respondents said

Out of the 30 respondents, 20 responded to this question. Direct physical replacement of one make of heat meter with another, with the same technical specifications, should be feasible on technical grounds. However, one issue needing further consideration was the compatibility of the data collection and software components of different metering systems. There was a broad consensus that a change of meter often meant that the new meter's communications protocol was not directly compatible with the existing system. This theme was raised by respondents from all groups including manufacturers/service companies/trade associations, local authorities and housing associations.

Seven respondents representing a range of manufacturers/service companies, local authorities, housing associations and consumer groups indicated that they would be in favour of the harmonisation of metering protocols, to support competition in the sector.

Government consideration and decision

The Government has included this requirement in the regulations unless it would be technically unreasonable or the estimated cost would be unreasonable. The Government notes the consensus on the need to improve industry harmonisation of metering protocols. The Government will investigate this issue further to better understand how this barrier in the market might be addressed.

1.2 Heat cost allocators

What we proposed

The Directive requires that heat cost allocators must be considered in multi-apartment/multi-purpose buildings where individual heat meters have been assessed as not technically feasible or cost effective.

Q7: Do you have evidence of the overall cost of HCAs – including calibration, installation and

maintenance, and when combined with TRV installation?

What respondents said

Out of the 30 respondents, 19 responded to this question. Little evidence or direct experience was provided about Heat Cost Allocators (HCAs).

Four respondents provided information on the use of HCAs, three manufacturers/ service companies/trade bodies and a single local authority/housing association/consumer group. The following information was provided:

Two service companies provided a cost for various components related to HCAs these included capital costs of between £20-£50 and Thermostatic Radiator Valves (TRVs) capital costs of £50-£100, with one service company commenting that installation costs were included in these figures. A service company commented that HCAs were used to help estimate heat use rather than to determine final energy use. However the information provided by the service company respondent reflected the wide use of HCAs across Europe.

A trade body contrasted the individual costs per dwelling by providing a cost by property. Information from various members suggested the cost would be approximately £600 per property. They did not provide further details but based upon costs provided by other respondents this would equate to a property with 4-6 radiators.

Government consideration and decision

The Government's Final Impact Assessment has reflected the information gathered through the consultation. The Impact Assessment assumes capital costs (including data gathering costs) of £45 per radiator; and on-going costs per dwelling of £35 per year. Customers will not be able to control their heating unless suitable temperature control devices are installed. The installation of TRVs should therefore be an integral part of the viability assessment. The cost of installing TRVs is estimated at £50 per unit.

Q8: How is hot water consumption measured where HCAs are used and what are the associated costs?

What respondents said

Out of the 30 respondents, 6 responded to this question. The majority did not have evidence or did not know. Respondents from the manufacturers/services companies/trade bodies sector stated that a separate hot water meter would be required. Practical issues on hot water metering alongside HCAs are considered under Question 9. A service company commented that the cost of an installed individual water meter would be approximately £150.

Government consideration and decision

The Government's Final Impact Assessment has included the requirement for a hot water meter (for hot water consumption only) where HCAs are used. The water meter capital costs (including installation) are estimated at £150 per dwelling.

1.3 Heat meter installation

What we proposed

In some circumstances the Directive's requirements for metering are subject to tests of technical feasibility and cost-effectiveness. In addition to commissioning the development of the Heat Metering Viability Tool, the Government sought evidence of those circumstances where the installation of metering may not be feasible.

Q9: Our assumption is that heat metering is not feasible where installation would require changing the in-house piping for hot water heating in the building?

What respondents said

Out of the 30 respondents, 19 responded to this question. 14 respondents agreed that it would not be feasible to meter heat where the installation would require changing the in-house piping in the building. Most of the responses suggested that it was not feasible (technically and/or economically) to retrofit meters where the pipework required modification.

Government consideration and decision

Schedule 1 of the Regulations sets the assessment criteria that are to be used to determine the cost-effectiveness and technical feasibility of individual meters.

The Government recognises that undertaking such an assessment could be an onerous task, particularly for smaller Heat Suppliers. A Heat Metering Viability Tool has therefore been developed and has been published by the National Measurement Office in their role as scheme administrator.

It is important to note that following the testing of the Tool - and consistent with the analysis undertaken for the Final Impact Assessment - in the majority of cases at present, the conclusion from the testing of the Tool is that the retrofitting of heat meters is not cost effective.

Q10: Are there other technical or cost considerations regarding the installation of building-level meters or in metering cooling?

What respondents said

Out of the 30 respondents, 18 responded to this question. Respondents agreed that there were further considerations required for building-level heat or cooling meters. However, there were no comments directly related to cooling. The respondents provided technical and cost considerations, though some of these related to all heat meters, rather than specifically to building-level meters.

The technical concerns included: pipework characteristics and access; operating down time while meters were installed; the availability of power supplies; insufficient knowledge in the practical aspects of meter installation; space constraints; handling difficult materials such as asbestos; and compatibility issues with meter reading services.

The financial concerns included: ongoing meter administration costs; reduced heat consumption reducing the income for a Heat Supplier; general cost of installation and the lack of a cost-effectiveness test; the risks of metering costs displacing other measures such as other energy efficiency measures; the impact on the smallest operators and whether economies of scale would drive down costs.

Government consideration and decision

As stated in Question 5, the Government recognises that in some very limited circumstances it will be technically very challenging and/or disproportionately costly for this requirement to be met. In such cases the Heat Supplier will need to agree with the scheme administrator an alternative and reasonable means by which the performance of the network can be characterised. Alternatively, the enforcing authority may grant additional time within which to comply with the requirement.

Q11: Do you have evidence of who currently installs heat meters in existing heat networks – and any qualifications or experience that are required?

What respondents said

Out of the 30 respondents, 19 responded to this question.

Many respondents were not aware that any qualifications were required for the installation of the heat meters or HCAs, with varying installation standards. There was a view that there should be a requirement to demonstrate installers were competent. An umbrella organisation commented that they were undertaking research on standards, and a local authority highlighted that there were training courses available accredited to the City & Guilds standard. A service company respondent explained that they conducted training and accreditation for all the metering installations.

Government consideration and decision

It appears there is no particular standardised level of qualification or competency specified or used for the installation of heat meters or heat cost allocators. The Government notes while there is interest in the setting of formal specification or competency, there was no clear consensus on the best approach.

1.4 Transition from flat-rate charging

What we proposed

The Directive allows Member States to introduce rules on the allocation of costs of heating, cooling or hot water consumption in multi-apartment buildings.

Q12: Do you agree the Government should not seek to mandate the introduction of transparent rules on the allocation of costs?

What respondents said

Out of the 30 respondents, 20 responded to this question. The majority of respondents requested that transparency should not be mandated, for the following reasons: difficulties in establishing a methodology to calculate an equitable tariff; impacts on pricing innovation; the impacts on existing tenancy agreements; heat pricing and that the allocation of cost should best be left to the Heat Suppliers provided these were transparent and explained to the consumer.

A few respondents commented that transparency rules should be mandated. A local authority, housing association and consumer group respondent commented that the Government should mandate such rules to help protect final consumers. This would also minimise disputes between final customers and Heat Suppliers about the way charges had been calculated.

Government consideration and decision

The Government does not propose to mandate rules on the allocation of costs. The situation will however be kept under review and considered alongside the implementation of the billing information requirements.

1.5 Billing Information

What we proposed

The Directive requires Member States to ensure, by 31 December 2014, that billing information is accurate and based on actual consumption.

Member States

(a) shall require that, to the extent that information on the energy billing and historical consumption of final customers is available, it be made available, at the request of the final customer, to an energy service provider designated by the final customer;

(b) shall ensure that final customers are offered the option of electronic billing information and bills and that they receive, on request, a clear and understandable explanation of how their bill was derived, especially where bills are not based on actual consumption;

(c) shall ensure that appropriate information is made available with the bill to provide final

customers with a comprehensive account of current energy costs, in accordance with Annex VII;

(d) may lay down that, at the request of the final customer, the information contained in these bills shall not be considered to constitute a request for payment. In such cases, Member States shall ensure that suppliers of energy sources offer flexible arrangements for actual payments;

(e) shall require that information and estimates for energy costs are provided to consumers on demand in a timely manner and in an easily understandable format enabling consumers to compare deals on a like-for-like basis.

Q13: As a heat supplier do you offer electronic billing (or if you are a customer do you receive or have the option of electronic billing)? What are the costs of introducing electronic billing?

What respondents said

Out of the 30 respondents, 19 responded to this question. Three service companies commented that in their experience electronic metering was cost effective, in the absence of printing and posting costs. Online portals, messages by text and email were routes through which customers could check their bills.

A local authority explained that they did not provide electronic metering. In unmetered properties a service charge for the cost of rent and heat was issued. Different billing strategies were applied between non-domestic and domestic tenants. Where prepayment meters were installed there was no electronic billing. Changing to electronic billing would be challenging, and in some instances may not be feasible.

Various cost estimates were provided some ranged between £50-£90 per annum in addition to the costs of data storage, system management and back up and software licencing. A local authority provided costs of fully managed electronic schemes at £1 per property per week. A service company respondent believed that billing would cost approximately £3 per electronic bill produced.

Government consideration and decision

The Government notes the responses on the extent of electronic billing currently and those situations where electronic billing is not provided. It should be noted that the requirement of electronic billing, and the other requirements on billing information, will apply only to those metered consumers or those with heat cost allocators. The approach that the enforcing authority will take will be to carefully monitor and support compliance.

Q14: Should the Government make the requirement 10.3 (d) mandatory (that, at the request of the final customer, the information contained in these bills shall not be considered to constitute a request for payment. In such cases, Member States shall ensure that suppliers of energy sources offer flexible arrangements for actual payments)?

What respondents said

Out of the 30 respondents, 16 responded to this question. Of those who provided a clear view, 7 respondents did not support mandating while 5 did.

Arguments against making this requirement mandatory were that it would increase the administrative burden, increasing costs. Several respondents were concerned that mandating the requirement would make it difficult to enable flexible payments and potentially lead to payment arrears. An umbrella organisation supported a flexible approach given the variety of billing arrangements that are likely to be in place in different schemes. For example, under pre-payment schemes the billing information (where provided) is usually only a statement showing the energy consumption and payments made. In other circumstances, whilst bills may be sent out periodically, regular payment arrangements are agreed with the customer to spread cost. However, where heat is included in the service charge invoice, it might be appropriate for such a bill to constitute a request for payment to avoid additional administration.

Support for mandating this requirement included a local authority operating a variety of billing arrangements to different consumers. For commercial tenants, a statement would constitute a request for payment to avoid additional documentation. However, billing information sent to residents with individual meters (paying by pre-payment), would just be a statement of usage rather than a bill.

Government consideration and decision

The Government will not make the requirement 10.3 (d) mandatory in the regulations.

Q15: Where an individual heat meter is provided, is that consumer always billed on the basis of actual consumption?

What respondents said

Out of the 30 respondents, 20 responded to this question. 14 respondents commented that they billed their customers based on actual use. Exceptions were noted where there were problems of meter maintenance; where frequent manual readings were not always possible and estimates were used; the supply of heat to vulnerable customers was charged at a flat rate, and where pre-payment meters were used and where the tariff factored in wider network running costs.

Other comments from those billing customers based on metered data included that: data was generally collected remotely; the data was collected either quarterly or in most cases every month. A service provider highlighted that a larger portion of the bill should be fixed to assist vulnerable customers. Reducing the variable component associated assisted the management of payments, removing the link to seasonal variation.

Government consideration and decision

Standing charges can vary considerably as a proportion of the final bill. The Government recognises that standing charges can be used to cover fixed costs and can have a role in protecting vulnerable consumers. However, it is important for customers that there is consistency between the requirement for greater transparency of metered billing of variable charges and the standing charge. The Government proposes that where standing charges are used as part of metered consumption that a breakdown of how the standing charge is derived is

included in the billing information. This is consistent with the industry-led Independent Consumer Protection Scheme's approach.

Q16: How should the like-for-like comparison of deals in 10.3 (e) be applied?

What respondents said

Out of the 30 respondents, 19 responded to this question. The responses covered the following points: that any methodology should be realisable and relevant, for instance in its treatment of variable and fixed charges; should be easy to understand and based on accessible, comparable information.

Some respondents put forward ideas about potential methodologies, such as particular metrics on the carbon dioxide of the generated heat, the use of the Sutherland Tables, the Ofgem methodology for electricity and gas licencing could be applied to heat, or that the Independent Heat Consumer Protection Scheme could play a role. Options proposed varied from scheme-level, to building-level or at meter-level.

Some believed a standard method should be employed while others believed that it should be left to the Heat Supplier, and that it would not be possible to generate a comparable calculation process.

Government consideration and decision

The Government has concluded that it will not be prescriptive in the approach that should be taken in the like-for-like comparison. However, it is possible that the proposed industry-led Heat Consumer Protection Scheme which is under development may provide one route to demonstrate this comparison, where a price comparison methodology is made available.

1.6 Costs of billing

What we proposed

Article 11.1 of the Directive requires all final customers to receive all consumption data as well as bills and billing information free of charge.

Article 11.2 states that costs of billing information in multi-apartment and multi-purpose buildings shall be carried out on a not for profit basis. However, where this task is undertaken by a third party, covering the measuring, allocation and accounting for actual energy individual consumption in such buildings, reasonable costs may be passed on to the final consumer.

Q17: What are the cost implications of meeting the requirements of Article 11 for heat or cooling network operators or for communal heating schemes?

What respondents said

Out of the 30 respondents, 22 responded to this question. The general view was that the costs would increase to meet the Directive's requirements which would have to be passed onto final consumers. However, some respondents believed that energy savings from metering would largely offset this cost. The concerns surrounding additional costs were primarily from housing associations and local authorities, and other not-for-profit organisations. Any increase in administrative costs would have to be passed onto the final consumer. The different approach in the Directive where a third party undertook billing and billing information services was noted.

The typical costs that were described by the respondents included data collection, validation and billing production. There were some fixed costs that would also apply to the administration and management of the scheme. Three respondents provided information on the costs meeting these requirements would incur: from £25-£72 per dwelling/unit per year and one housing association commented that additional cost of tariff setting, reporting and credit control would incur an additional development cost of £2000.

Government consideration and decision

This cost data has been incorporated in the Final Impact Assessment. The guiding principle that will influence the monitoring of compliance will be that consumers must not face a separate, specific charge for bills and billing information. There should not be a disincentive to receiving this information.

1.7 Options for Implementation

What we proposed

The Government consulted on six policy approaches.

The high-level options in the consultation document were:

Option 1: Implementation is supported by detailed unit-level technical feasibility and cost-effectiveness test guidance provided by a scheme administrator. No direct notification of implementation is required. Monitoring is undertaken using a larger sample (as defined by the scheme administrator)

Option 2: Implementation is supported by detailed unit-level technical feasibility and cost-effectiveness test guidance provided by a scheme administrator. Notification of implementation is required. Light- touch monitoring and audit is needed (as defined by the scheme administrator)

Option 3: Implementation is supported by broader building and scheme-level technical feasibility and cost-effectiveness test guidance provided by a scheme administrator. No direct notification of implementation required. Monitoring is undertaken using a larger sample for audit.

Option 4: Implementation is supported by broader building and scheme-level technical feasibility and cost-effectiveness test guidance provided by a scheme administrator. Notification of implementation is required. Light-touch monitoring and audit is needed.

Option 5: Implementation is supported by broader building and scheme-level technical feasibility and cost-effectiveness test guidance provided by a scheme administrator. Notification of implementation required. Light- touch monitoring and audit. Use of building regulations to implement the new connection metering

Option 6: Implementation is supported by broader building and scheme-level technical feasibility and cost-effectiveness test guidance provided by a scheme administrator. Notification of implementation required. Light- touch monitoring and audit. Costs of scheme administration are recovered from heat network operators.

Q18: Which of the options presented, or combination of, do you think would best meet the requirements, and why? What alternative approaches might there be?

What respondents said

Out of the 30 respondents, 15 responded to this question. There were 6 respondents that described an explicit preference for a particular option for implementing the Directive. There were 6 respondents who provided an opinion on the options. Option 3 received the widest consensus, 4 respondents, among those who provided an explicit choice. There were 6 respondents who provided their views of how components from various options might be combined

Detailed below are the respondents' views for each option:

- **Option 1**
None of the respondents thought that this option should be considered. There was a general view that the compliance costs should be minimised as proposed for Option 3.
- **Option 2**
There were two respondents that believed that Option 2 should be adopted. They were both companies that provide services. One provider expressed the view that this option would enable full compliance of the Directive. Another provided a view that this option should be reserved for those who are likely to be able to understand the requirements. One services company felt that options 1 and 2 should be discounted as a building systems approach as per option 3 would be the most appropriate for assessing cost effectiveness and technical feasibility.
- **Option 3**
There was general consensus, among those who expressed an explicit option, that this was the best option. They all believed that this option would result in the least cost burden to the Heat Supplier with implications for consumers and for the overall the take up of district heating. Other comments included that the requirement for cost effectiveness should be simple and limited to the building level rather than for individual metered dwellings. A services company explained that this option was preferred as long as the benefit gained by the approach proved greater than the requirements of administrator sampling and monitoring.
- **Option 4**
There were two respondents who requested that only this option should be applied. The requirement to notification would reduce the number of surveys and on-site visits undertaken by the scheme administrator. A service company believes that this option would place a low cost burden on operators and scheme administrator.
- **Option 5**
There was only a single respondent that believed that this option should be applied. A service company respondent believed that this option should cover both new and existing buildings. One manufacturer suggested that this option was helpful for smaller developments. Some concerns were expressed about the link to Building Regulations. See Question 19.
- **Option 6**
This option was not considered to be applicable by any of respondents. The main reason given was the heat networks sector was too small to enable self-funding enforcement.

Government consideration and decision

The Government's starting point is that Heat Suppliers will be responsible for the implementation of the metering and billing requirements of the Directive. We have defined 'Heat Supplier' – as the final contractor of heating, cooling or hot water to the final consumer and who charges for this supply.

We have revised the description of the responsible organisation from 'Heat Network Operator' which was the term used in the consultation. From the consultation process we received feedback that this description did not adequately reflect the likely range of final contractual arrangements for heating and cooling. Some requirements may not fall to the final Heat Supplier where there are contractual arrangements to this effect. For example, the requirement for building-level meters may fall to the main operator of the heat network who then sells the heat on to a final Heat Supplier - the Regulations accommodate this wider categorisation. The term Heat Supplier is also consistent with the terminology used in the industry-led draft Independent Heat Consumer Protection Scheme.

Implementation by Heat Suppliers will be supported by a scheme administrator - the National Measurement Office (see Question 29) .

The Government has weighed up the arguments for and against notification. On balance the Government considers that a simple notification process should be established. This will address potential concerns around under-implementation and support the broader requirements of reporting to the Commission on the status of implementation. It will also assist in developing a more robust evidence base to provide a better understanding of the impact of the requirements and enable the scheme administrator and or the Government to act, where needed.

The Government has therefore drafted Regulations that reflect Option 4 in the Consultation. By adopting Option 4, there will be an obligation on organisations, which are Heat Suppliers to notify the scheme administrator, in the following areas:

- the location of the district heat network or communal heating;
- the estimated total for that district heat network or communal heating, per calendar year, of installed heating capacity, heat generated, and heat supplied;
- the number and type of buildings supplied by that district heat network or communal heating;
- the number and type of meters or heat cost allocators installed in any buildings supplied by that district heat network or communal heating;
- the number of final customers supplied by that district heat network or communal heating;
- the name and business address of the heat supplier;
- where any analysis as to cost effectiveness or technical feasibility has been carried out, the results of that analysis together with details of any meters or heat cost allocators which have been installed as a result;
- the expected frequency and content of billing information provided by the heat supplier to the final customers; and
- any other information reasonably required by an authorised person for the purpose of determining whether the heat supplier has complied with the duties in these regulations.

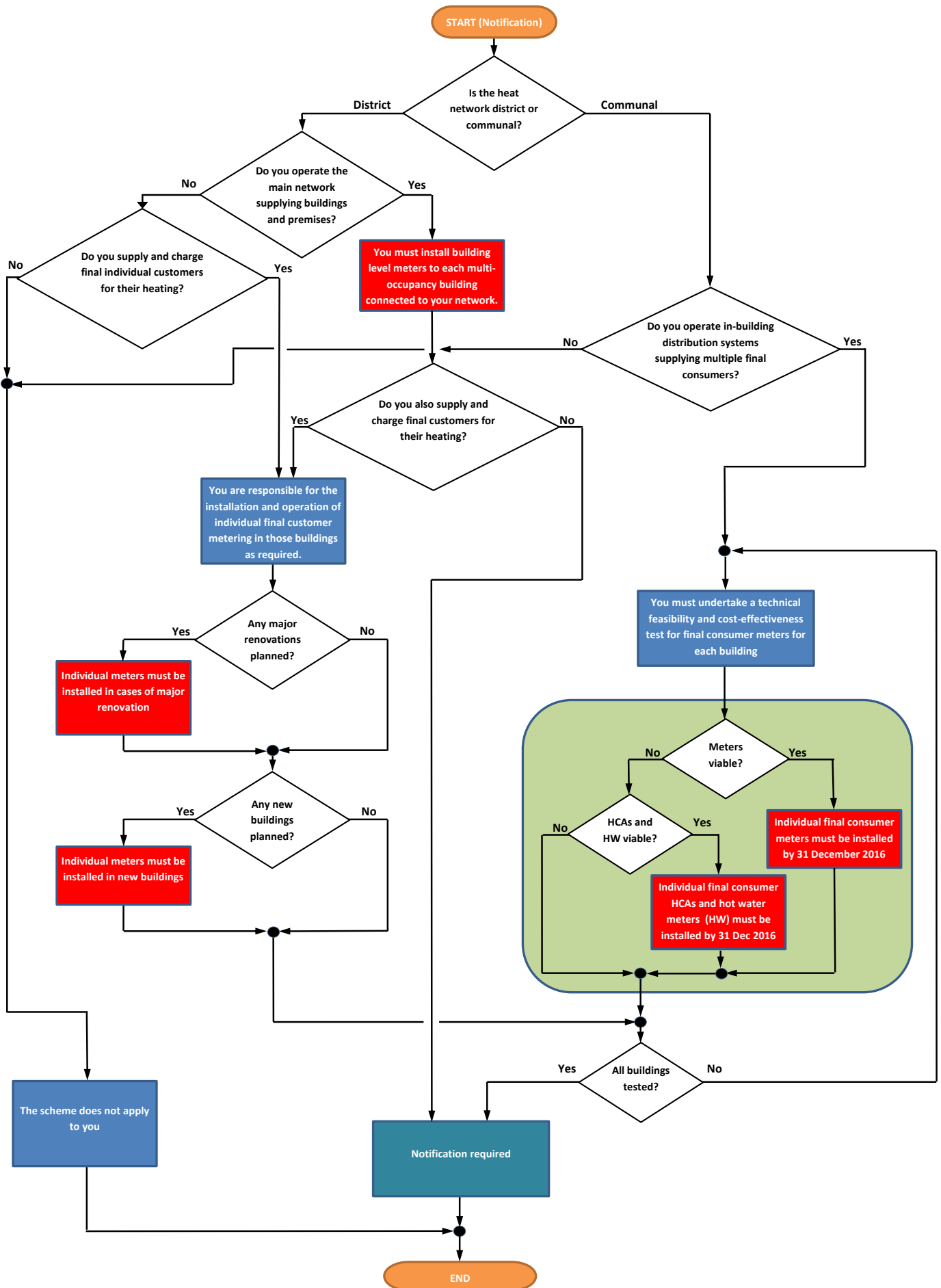
Notification will be managed by the National Measurement Office (NMO). It will be the responsibility of each Heat Supplier to ensure that the NMO is provided with the required Information by 30 April 2015.

Heat suppliers will be required to take the following steps:

- I. Notify and access implementation guidance from the scheme administrator (the NMO)
- II. Implement the mandatory requirements for metering, should these apply. The mandatory requirements apply only in the following circumstances:
 - individual meters must be installed where a new district heating connection is made in a newly constructed building; or
 - individual meters must be installed where a building supplied by district heating undergoes a major renovation that includes the renovation of the technical services of the building; or
 - where heat is supplied from an external source to multi-apartment or multi-purpose buildings, building-level meters must be installed to measure the amount of heat coming into the building as a whole
- III. Carry out a cost effectiveness/technical feasibility tests on whether individual meters or heat cost allocators and hot water meters should be installed, and install those meters where it is viable to do so (we have developed a tool to make this a simpler exercise – see Question 9)

IV. Provide transparent billing information where heat is metered and where it is cost effectiveness/technical feasibility to do so.

The diagram below sets out how the metering requirements will be applied and the link between the various steps and requirements that Heat Suppliers will need to follow. This incorporates the mandatory requirements and those requirements that are subject to tests of cost effectiveness and technical feasibility. This includes the Directive's requirements which are specific to multi-apartment/multi-purpose buildings.



Monitoring

As administrator, the NMO will undertake a risk based programme of audits of organisations that have notified the NMO of their compliance with the Regulations in respect of building level meters and/or individual unit level meters/HCAs and billing information, including:

- Inspection of building level meter installations against the requirements of the Regulations.
- Inspection of completed technical feasibility and cost effectiveness tools.
- Inspection of unit level meter and HCA installations against the requirements of the Regulations.
- Inspection of the application of billing information requirements, including frequency and costs of access to metering and billing information according to the Regulations
- Undertake testing of installed meters where considered necessary by NMO.

The NMO will also undertake a risk-based programme of identifying heat networks for which no notification has been made as required by the Regulations. It is the Government's intention that the NMO will take a light-touch approach to enforcement with an emphasis on assisting organisations to comply through advice and education. Ultimately, however, where an organisation repeatedly and unreasonably fails to meet its obligations, the NMO will be able to apply appropriate enforcement action and penalties.

Q19: How best do you think the automatic requirement for the installation of an individual heat meter following a 'major renovation' should be triggered – through building control officers (where this definition applies in the building regulations) or by placing an obligation on heat network operators to ensure building owners are made aware of this requirement?

What respondents said

Out of the 30 respondents, 16 responded to this question. 16 provided a view on who should be responsible for the installation of the heat meters following a major refurbishment. Of those who responded, the majority believed that the requirement should be placed on the Heat Supplier.

The respondents highlighted that Building Control Officers generally get involved toward the end of projects. This meant that there is not sufficient time to enforce changes. The Heat Supplier would be involved in generating and determining the metering and network feasibility study, and therefore have better understanding about the requirements. The Heat Supplier would also be required to generate supply contracts and therefore would have knowledge of the entire system.

There were some concerns raised regarding the definitions of certain terms. Respondents were unsure what would be classified as a major refurbishment. A Heat Supplier would not necessarily be aware of major renovations because they were not the building owner. A question was raised as to whether meeting the requirement could be limited to the Heat Supplier notifying each building owner of the requirement.

Many of the respondents representing all sectors raised concerns about the potential unintended consequence of this requirement. Major energy efficiency renovations might not proceed where the additional costs of installing individual meters had to be added. A consumer group commented that carbon and fuel savings from thermal cladding/new windows/new heating controls would far outweigh the energy savings from individual metering.

Government consideration and decision

The Government has noted the risks to energy efficiency projects were this requirement and considered this against the definition of works that could be described as a major renovation under the Energy Performance of Buildings Directive (2010/31/EU).

The Government has decided therefore that 'major renovation' will be defined as the renovation of a building where the total cost of the renovation relating to the technical building systems is higher than 25 % of the value of the building, excluding the value of the land upon which the building is situated.

This approach is consistent with the Energy Performance of Buildings Directive referenced in Article 9(1)(b). The Building Regulations [England and Wales] employ the alternative definition from Directive 2010/31/EU, which is when more than 25% of the surface of the building envelope undergoes renovation. But we are not adopting this definition as this will not always extend to the technical systems. By not linking this to the current application of major renovation in Building Regulations, we will not require Building Control for these requirements.

The Government has decided that it will be the responsibility of the relevant Heat Supplier to identify where there is a major renovation planned as defined above. Steps to ensure this may include notifying building owners of this requirement.

Q20: Are there any particular issues that should be taken into account for the Devolved Administrations?

What respondents said

Out of the 30 respondents, 3 responded to this question. It was noted that regulations in the Devolved Administrations may differ from that in England. For example, Scottish Law may be different to English Law in matters such as the contracts between the Heat Suppliers and customers.

Government consideration and decision

The Government has worked closely with the Devolved Administrations in developing the regulations to ensure consistency and applicability on a UK-wide basis.

1.8 Steps for implementation of metering requirements

What we proposed

To help ensure the correct installation of heat meters, we proposed that there may be a need to make a link to the RHI Heat Meter Installation Good Practice guide.

Q21: The RHI heat metering guidance has been consulted on through the Microgeneration Certification Scheme (MCS). Do you have views on whether and, if so, how similar guidance may need to be tailored for the metering of heat networks?

What respondents said

Out of the 30 respondents, 14 responded to this question. The general view of the respondents was that the information presented for the Renewable Heat Incentive (RHI) was acceptable. There were a few respondents who provided further clarifications on various topics related to the RHI and how it could be used or modified. There were views that existing material should be used as much as possible, noting the difference between guidance for the metering of individual properties as opposed to build-level metering. Additionally, views were expressed that any new guidance should be developed with the industry, building owners and Heat Suppliers.

Government consideration and decision

There are a number of guidance documents that will be relevant for heat meter installers as listed below.

- MCS, Domestic RHI Metering Guidance v 1.0
- Ofgem, Easy guides to the metering requirements for the Non-Domestic Renewable Heat Incentive
- Building and Engineering Services Association, Guide to Good Practice: Heat Metering for the RHI
- BS EN 1434:2007 Heat Meters Parts 1 to 6 (Particularly Part 6: Installation, Commissioning and Maintenance)
- BSI PD CR 13582:1999 Heat meter installation – Some guidelines for selecting, installation and operation of heat meters
- Measuring Instruments Directive 2004/22/EC, including Annexes 1 and MI-004
- Euroheat and Power, Guidelines for district heating substations (2008)

In addition, it should be noted that the work to produce guidance on technical standards for heat networks, being led by CIBSE and the CHPA, also includes meter installation. The Government is therefore not proposing at this stage to develop additional guidance to that above.

Q22: Do you have evidence or views of how the tests of cost effectiveness and technical feasibility should be applied?

What respondents said

Out of the 30 respondents, 17 responded to this question. From the 17 respondents, most comments related to cost effectiveness.

The comments on the cost effectiveness considerations included the following costs:

<i>Tangible costs</i>	<i>Intangible costs</i>
Capital costs Installation costs Operational costs (meter reading etc.) Servicing costs (maintenance and servicing) Legal costs (associated with changes to Terms and Conditions of tenancy or leasehold) Other variable costs Operational risk – payment risk, arrears possible to quantify. Operational risk – energy load risk Property access risk	Social impacts Risk of returning to fuel poverty Risk of heat disconnection as a result of the above

In terms of methodology and estimates, in some cases some values and costs would not be known and that there would be a role for the administrator to provide suitable benchmarks. Some respondents stated that whole life costing should be completed to determine the cost effectiveness. This would include metering amortisation; the level of energy reduction; the carbon reduction; placing a value on the future savings such as on future energy plant and the return on investment and whole life costing. Overall system efficiency should be determined when there was low demand, factoring in overall heat network efficiencies, rather than generation efficiency.

Two respondents highlighted that it should be the responsibility of the Heat Supplier to complete the calculations. A housing association explained that research in 2010 which provided the following costs on tenant and leaseholder access costs for installation and maintenance. These included: Tenancy variation costs - £300 + per unit; lease variation costs - £2000 - 3000 per unit; cost of meter at £10 per unit; chasing arrears - £12.20 per annum per unit; meter calibration £350 every 5 years.

Government consideration and decision

Refer to the answer for Question 9.

Q23: Do you agree that the assessment of technical feasibility and cost-efficiency should be undertaken on a 4-yearly basis to reflect real world changes?

What respondents said

Out of the 30 respondents, 17 responded to this question. The respondents were evenly distributed between those who agreed and those who did not. Those opposed to a fixed period between assessments commented that it would be costly to complete the task, and should be avoided unless there are significant changes to key factors. There could be a mismatch

between the 4-yearly requirement and maintenance or capital investment cycles, this could follow meter and HCA replacement schedules.

Government consideration and decision

The analysis carried out for the Final Impact Assessment and in the piloting of the Viability Tool suggests that, currently, metering will be viable in only a small proportion of properties on heating or cooling networks. The Government has therefore decided that there should be repeat assessments to ensure that where inputs to the Viability Tool change over time these are reflected in the cost-benefit analysis. The Viability Tool is designed to make it relatively easy to carry out this assessment, and it has been tested on this basis. Should the 4-yearly frequency prove to be too onerous in future assessment rounds then this will be reviewed. But our ambition is that where and when it is cost effective and technically feasible to install meters then they should be installed.

1.9 Steps for implementation of billing requirements

What we proposed

Heat suppliers will need to establish where they do or do not meet the requirements on Articles 10 and 11 in their billing, billing information and charging arrangements. The Government's intention is that heat suppliers should have the flexibility to meet these requirements in the most cost-effective manner. Where requirements are subject to tests of technical feasibility, cost effectiveness, or appropriateness, heat suppliers will need to be able to demonstrate how they have interpreted these conditions.

The deadline for implementation of these requirements in multi-apartment/multi-purpose buildings will be 31 December 2016, consistent with the timetable for individual metering assessment/installation. The scheme administrator will include compliance with Articles 10 and 11 in the monitoring that it undertakes on metering implementation.

Q24: How would it be best to monitor compliance with the billing information (Article 10) and cost of access to metering and billing information (Article 11) requirements?

What respondents said

Out of the 30 respondents, 14 responded to this question. The respondents suggested that a number of organisations could take on this responsibility. There was no clear preference.

A respondent did state that financial or administrative costs should not be passed onto those required to comply. There were comments requesting that the body chosen discuss requirements with consumer groups, such as Citizen Advice or Which. The various bodies included, in order of greatest preference first:

- The Heat Supplier, via self-certification
- The industry-led heat consumer protection scheme
- Local trading standards officers

- Through a registration scheme
- Through annual or bi-annual audit conducted by a trade body

Government consideration and decision

Given the link with metering regulations the Government is appointing the NMO to support and to monitor compliance with the regulations on billing and billing information alongside those on metering.

It is important to note that the requirements for billing will be limited to those metered consumers. The Government has revised its interpretation of the billing requirements in the Directive and concluded that including unmetered properties would exceed the minimum requirements of the Directive.

Where building-level meters have been installed but where no individual meters have heat suppliers should ensure that they follow a fair and transparent procedure for allocating the cost of heat, cooling or hot water to individual final customers within the building. The use of consumption data from building-level meters may provide a useful starting point for this allocation.

Q25: What approach should be taken where some consumers want to sign up to electronic billing while others do not?

What are the tipping points in establishing such a mechanism in multi-apartment/multi-purpose buildings?

What respondents said

Out of the 30 respondents, 14 responded to this question. A sector body felt that given the wide range of billing arrangements in place it would be unwise to have a uniform approach. A service company felt that consumers should have the choice between various billing methods. It was noted that a lack of internet access in some properties would make electronic billing difficult.

A service provider commented that they automatically provide electronic meter readings unless a customer requests paper billing. Where customers wish to have an electronic bill but no system is present then more time should be allowed for the necessary installation, or to allow the Heat Supplier to determine if it was commercially viable. A services company explained that there was a significant cost associated with installing an electronic billing system. There would be an optimal number of dwellings before a system would be feasible. A separate service provider suggested this would once there were more than 300 meters.

Government consideration and decision

The Government will not prescribe those scenarios where tipping points for electronic billing might be reached. This will be caught by the implementation of the tests on cost effectiveness and technical feasibility and the results of these assessments.

2.0 Fuel poverty

What we proposed

Heat networks offer an important means of achieving low carbon heating, in areas of high heat density. As savings from bulk fuel purchasing and higher efficiency plant (such as CHP) can be passed on through lower charges, they can also lead to fuel bill reductions and therefore make a key contribution to improving affordability of energy for the households they serve. Installing heat networks in, for example, previously electrically heated tower blocks may make a significant impact on lowering fuel costs.

Q26: Do you have evidence of the impact of heat metering/heat cost allocators on the fuel poor, or how the transition to metered charging has been managed?

What respondents said

Out of the 30 respondents, 12 responded to this question.

The respondents gave various examples on the effects of metering. The following points were raised:

- Local authority views included the following: that a successful transition from electric storage heating to gas-fired district heating with energy efficiency improvement was expected to be over 45%; a detailed explanation of the results found with the change to metering including likely behavioural changes and on the fuel poor.
- Housing Association views included the following: the effect of standing charges and system efficiency on the effect increasing the overall costs to the fuel poor; and that the number of unmetered district heating schemes that supply those who are vulnerable or on low incomes was not known.
- Service company views included the following: examples of saving achieved by installing a metering system was almost 66%. The final bill was £5 /week reduced from £16/week; the behavioural changes they found as a result of changing two electrically heated high rise apartments, one was on prepayment meters and the other was unmetered.
- A sector body raised concerns that the Directive could lead to lower uptake of district heat and therefore risked increasing fuel poverty.
- A manufacturer: believed that moving vulnerable customers to metered billing had the potential to create significant issues to customers exposed to direct heating costs whilst also creating credit worthiness and debt issues to the customer and Heat Supplier. In most cases they believed it will be most appropriate to use Pay As You Go or Prepayment meters. A number of issues required consideration, such as; ease of use, customer understanding, debt collection methods and recovery rates, identification of vulnerable customers by Heat Suppliers, prepayment meter fault rectification and access to prepayment infrastructure. The experience of Gas Prepayment Meter Systems was mentioned.

Government consideration and decision

Providing meters to individual customers is intended to incentivise more efficient use of heat as reductions in energy use are translated into bill savings. However, bills based on metering may incentivise people to under-heat their properties (relative to need) in order to reduce their bills.

This may be particularly important for customers on heat networks, many of whom are in social or local authority housing.

The context for the Government's position in this area is that the analysis carried out for the Final Impact Assessment and in the piloting of the Viability Tool suggests that, currently, individual metering will be viable in only a small proportion of properties on heating or cooling networks. Furthermore, there are examples where a successful transition has been made to a metering regime - some of these were set out in the consultation document.

The additional costs passed through to individual consumers by Heat Suppliers, taking into account data collection, billing, capital costs etc., should be offset by the benefits that they will receive, either from reduction in consumption or by being charged less for their actual consumption. The move from a flat rate charge to a system based on actual consumption is likely to benefit those under-heating (relative to need) their homes or heating their homes less than others on the network.

Currently a flat rate charge allows for these consumers to subsidise people heating their homes more, as charging is not based on individual consumption. There is currently very little evidence on the number of fuel poor residents currently living in properties served by heat networks and of under-heating their homes in properties without meters, therefore the effect of metering on those in fuel poverty is uncertain.

The Government's ambition is to align metering and billing based on actual consumption of heat with that for electricity and gas. The Directive does not apply particular exemptions for particular consumers, organisations or sectors. However, the Government will keep this area under close review and if necessary, work with local authorities to explore appropriate policy responses should these be needed. An integral part of the transition to metering, where required or viable, will be the NMO's approach to enforcement. One of the primary functions will be to support implementation and to take a proportionate role in addressing non-compliance.

The Government is undertaking a number of actions to help people use less energy, these include the Green Deal, the Energy Company Obligation, the Warm Home Discount, Winter Fuel Payments and cold weather payments. The Department for Communities and Local Government, supported by DECC, is also working to improve the energy efficiency of buildings.

The Scottish Government's Home Energy Efficiency Programmes for Scotland (HEEPS) provide energy efficiency measures to a large number of Scottish Households. There are Area Based Schemes, delivered by local authorities and National Schemes that can support those likely to have difficulty paying their fuel bills or keeping their home sufficiently warm. As part of the National Schemes, the Scottish Government also fund Home Energy Scotland which provides free and impartial advice to all householders in Scotland and ensures they can be referred through the most appropriate scheme specific to their personal circumstances.

Q27: If you do not currently meter heat in multiple-apartment/multi-purpose buildings, particularly in social housing, can you provide evidence of the impact the introduction of heat metering would have?

What respondents said

Out of the 30 respondents, 16 responded to this question. The respondents provided evidence to suggest that there would be an increased risk to the vulnerable/fuel poor if heat metering for billing was introduced.

Information provided by three of the respondents, a consumer group, an umbrella organisation, and a service company, predicted increase in costs was greater than that expressed by BRE in the consultation documentation. They suggested that an increase in cost between 18-27%, would be incurred.

A greater risk of fuel poverty would also increase the risk of bad debt. A housing association provided an example where the scale of the debt burden resulted in a return to apportioned rate charging. Two service companies highlighted that a metered solution may reduce energy use but would increase the burden associated to the standing charge. One respondent suggested that the standing charge might need to be as great as 70% of a resident's bill.

A local authority stated that they would have to pass the cost onto the end user as they could not afford to absorb the costs of installing meters. At present the heat usage across their network varies meaning that those who consume less subsidising those who use more. From their experience, where vulnerable individuals have to pay a variable amount for heat they will generally choose to stop heating. They expressed concerns that the unit heat price will increase for the vulnerable.

Several service companies commented that the majority of customers would benefit from metering; though acknowledged that a minority would not. One service company proposed that there should be guidance for Heat Suppliers to describe the procedures for vulnerable individuals using their heat. One manufacturer referred to the UK's Gas Prepayment Management System as an example of how this transition could be managed.

A service provider highlighted that metering would reduce carbon emissions, cost savings, and result in greater choice and greater transparency. The additional costs passed through to individual consumers by Heat Suppliers, taking into account factors like data collection, billing, and capital costs should be offset by the benefits that they will receive, either from reduction in consumption or by being charged less for their actual consumption.

Government consideration and decision

The Government's answer to Question 26 also applies here. The impacts of these regulations will be closely monitored and enforced proportionately. Where meters are introduced, standing charges can have a role to play in managing the impacts of consumption charging, providing the composition of the standing charge is transparent.

An Equality Impact Assessment accompanies the Government Response.

2.1 Consumer behaviour

What we proposed

The European Commission have proposed that the benefits of installing individual heat meters/heat cost allocators should include energy saving among final customers that could be achieved through behavioural changes triggered by the metering data and billing information. Various studies indicate that the range of savings due to behavioural change after the introduction of individual metering and billing based on actual consumption of heat can reach 30% in comparison to systems without individual metering and with billing based on flat rates.

BRE's previous work on heat networks metering highlights a 15-17% realistic minimum energy saving, with up to 30% potential savings. A Danish study saw rented housing energy reductions of 28-42%, however these reductions occurred alongside an extensive information campaign as well as government grants to install controls and other efficiency measures. Another prevalent finding from this study is the noted lag in behavioural change after the transition to individual meters –energy savings lags were observed as being 1-2 years in length.

There was also anecdotal evidence from a previous consultation; where of two identical blocks of flats – one with a meter, one without – revealed a 25-33% reduction in energy in the presence of a meter. However this does not take into account baseline trends. A literature review for Defra found that there was a 5-15% saving to be made from direct feedback (i.e. live monitors) and a 0-10% saving from indirect feedback (i.e. through informative billing), but only one of these studies focussed on heat networks which was from Sweden and failed to include a comparable control group

Q28: Do you have further evidence of the impact of heat metering/heat cost allocators on consumer behaviour and the resulting impacts on heat consumption?

What respondents said

Out of the 30 respondents, 17 responded to this question. A range of respondents commented that the installation of heat meters led to a reduction in energy use. Some examples were provided of reduction as high as 45% in heating load. This was achieved when the meters were accompanied with better controls. A housing association highlighted that energy savings could only be attained following a tenant education programme. Some respondents were concerned about the effect on the generation plant as a result of changes to the heat load.

One service provider explained that a study conducted for Ofgem considered the effect of metering. This study found that there were behavioural changes in the final energy use with metering but those on a fixed flat-rate tariff were less inclined to make behavioural changes. Wider comments and impacts following heat metering installations were also raised. One housing association explained that at present that there was insufficient consumer protection in the heat metering industry. Current market conditions could potentially lead to anti-competitive behaviour.

A number of housing associations and local authorities commented that there was a risk people would self-disconnect because of financial constraints. One respondent commented on the impact that a lack of control of heat consumption, as a result of unmetered flat-rate charging, was having on the ability to budget and on meeting other essential services. A potential mitigation to this risk was offered by one local authority where the bills of vulnerable households could be checked and any health-risks addressed. The use of wireless metering schemes would assist this check.

Government consideration and decision

The Final Impact Assessment has re-considered the scale of the energy savings following the installation of meters. A figure of 20% in energy savings has been used through the Impact Assessment. This figure has also been scrutinised by Aecom as part of the preparation of the Heat Metering viability Tool. The conclusion reached was that 20% was an appropriate assumption.

As noted in the response to earlier Questions, an industry-led Independent Heat Customer Protection Scheme is under development to protect the interests of householders and micro businesses connected to heat networks. The scheme's proposals will establish a common standard in the quality and level of protection given by heat supply contracts and offers heat network customers an independent process for settling disputes. Consumer groups and DECC and Scottish Government Officials are represented on the scheme's steering committee which is overseeing the scheme's development.

2.2 Scheme administration

What we proposed

The scheme administrator will have several key regulatory responsibilities in administering the requirements of the Directive. The Government envisages that these will include: a system of monitoring of scheme notification and monitoring for compliance; responsibility for the central guidance on technical feasibility and cost-effectiveness; and responsibility for scheme enforcement. Two organisations were put forward: The National Measurement Office, to be extending the role of DECC's Heat Networks Delivery Unit (HNDU).

Q29: Who do you think should be appointed as the scheme administrator?

- a. The National Measurement Office*
- b. DECC, through the HNDU in England and Wales*
- c. Other options, particularly for Northern Ireland and Scotland (and if so, who)?*

What respondents said

Out of the 30 respondents, 18 responded to this question. There was a slight preference for the appointment of the National Measurement Office (NMO) over the Heat Network Delivery Unit (HNDU). The general reason why respondents favoured the NMO was because of their existing metering knowledge, experience of similar administration and its UK-wide remit..

The HNDU was favoured by some respondents because the Directive covers more areas than metering alone and HNDU brings particular heat networks expertise. There was a suggestion by a manufacturer that the scheme administrator could evolve as the policy is implemented, with HNDU starting in the role, with a transition to the NMO over time. A local authority commented that a competition for the role should be undertaken.

Government consideration and decision

The National Measurement Office (NMO) is an Executive Agency of the Department of Business and Skills (BIS) and is responsible for ensuring fair and accurate measurements are available and used for transactions regulated by law, enforcement of a range of technical and environmental regulations and maintaining the science base for measurement in the UK. The NMO is also responsible for approving gas and electricity meters used for the purposes of billing and some market surveillance responsibilities for the accuracy of meters in the field.

Given the similarities with its existing metering work and enforcement powers, the NMO will be appointed to administer the scheme across the UK, with the agreement of the Devolved Administrations. This initial appointment will be until March 2017 when it will be subject to review. DECC (with contributions from the Devolved Administrations) will fund the NMO's role as scheme administrator and enforcing authority, though this funding arrangement will also be subject to a future review.

2.3 Sanctions

What we proposed

In the consultation document, the Government proposed that penalties should be in place for misdemeanours and provided a list of possible misdemeanours for which penalties could be applied. The Government also proposed that civil sanctions should be sufficient to address the majority of misdemeanours, though in some limited circumstances criminal penalties could be applied. The consultation document stated that it will be a decision for the enforcing authority to determine the appropriate response to a particular instance of regulatory non-compliance.

Q30: Do you agree that these sanctions provide appropriate routes to address non-compliance and that these should address the following misdemeanours?

- a. Failure to notify or respond to the enforcing authority.*
- b. Failure to carry out a feasibility test or to install a heat meter or heat cost allocator where required.*
- c. Failure to provide evidence of actions taken when requested by the enforcing authority, or providing misleading information.*
- d. Failure to ensure accurate bills and billing information based on actual consumption are provided, where heat meters or heat cost allocators are installed.*
- e. Refusing to allow the enforcement body access to premises, where access is reasonable (e.g. in order to check the installation of a heat meter or the application of a technical feasibility/cost-efficiency test)*

What respondents said

Out of the 30 respondents, 16 responded to this question. There was broad agreement with the sanctions proposed in the consultation document, however some considerations were raised. These included gaining the necessary access to dwellings; damage to or faults with metering and billing hardware and the impact on accurate billing requirement, and the importance of allowing the estimating consumption in such circumstances.

Government consideration and decision

In line with the significant majority of consultation responses, and the requirements of the Directive, the Government is creating a group of penalties to ensure compliance with the metering and billing requirements.

Penalties will be enforced by the NMO in a discretionary, flexible and proportionate way. As set

out in the consultation document, the NMO will need to closely follow the Government's better regulation principles (contained in The Regulators' Code) and may offer informal courses of enforcement action. These alternatives may include but are not limited to:

- Verbal warnings
- Written warnings
- Negotiated agreements with businesses to make changes

The offences to which penalties shall apply are:

1. A failure to notify the scheme administrator (by the required date and/or failure to provide basic data)
2. A failure to install meters where required. This will cover the requirement in the Directive for the installation of individual heat meters where it is cost effective and technically feasible to do so. This regulation also cover the mandatory requirement for building-level meters - to measure the heat supplied to a multi-apartment/multi-purpose building (Regulation 5)
3. A failure to install heat cost allocators. In multi-apartment/multi-purpose buildings, where an assessment for an individual heat meter has been shown to not be cost-effective or technically feasible, the Directive requires that heat cost allocators must be installed where it is cost effective to do so (Regulation 6)
4. A failure to install Individual meters when a new district heating connection is made to a new building or where a building supplied by district heating undergoes a major renovation. (Regulation 7)
5. A failure to meet on-going obligations to ensure that heat meters and heat cost allocators operate continuously and that they are properly maintained and periodically checked for errors (Regulation 8)
6. A failure to meet the billing requirements where meters are installed (HCAs) (Regulation 9).
7. It will also be an offence to obstruct an authorised person acting in the pursuance of their powers or duties in these Regulations.

The Government has determined that the following penalties are appropriate to ensure compliance. The enforcing authority may impose some or all of these penalties:

The civil sanctions that can be applied will be a compliance notice, or a requirement to pay a non-compliance penalty. A person suspected of having committed an offence may also enter into an enforcement undertaking with the enforcing authority.

Compliance Notice

A compliance notice is a written notice issued by the enforcing authority which requires a heat supplier to take actions to ensure compliance with the law and/or return to compliance within a specified period.

Where a Compliance Notice is not complied with the enforcing authority will have the powers to impose a financial penalty and take forward criminal proceedings, if that penalty is not paid.

Enforcement Undertaking

An enforcement undertaking is a voluntary agreement to undertake specific actions that would make amends for non-compliance and its effects within a specified timeframe.

Where an Enforcement Undertaking is not complied with, the enforcing authority may serve a Compliance Notice, Non-Compliance Penalty or bring criminal proceedings, if that penalty is not paid.

Non-Compliance Penalty

Where a person fails to comply with a compliance notice or enforcement undertaking a monetary penalty ("a non-compliance penalty") may be imposed.

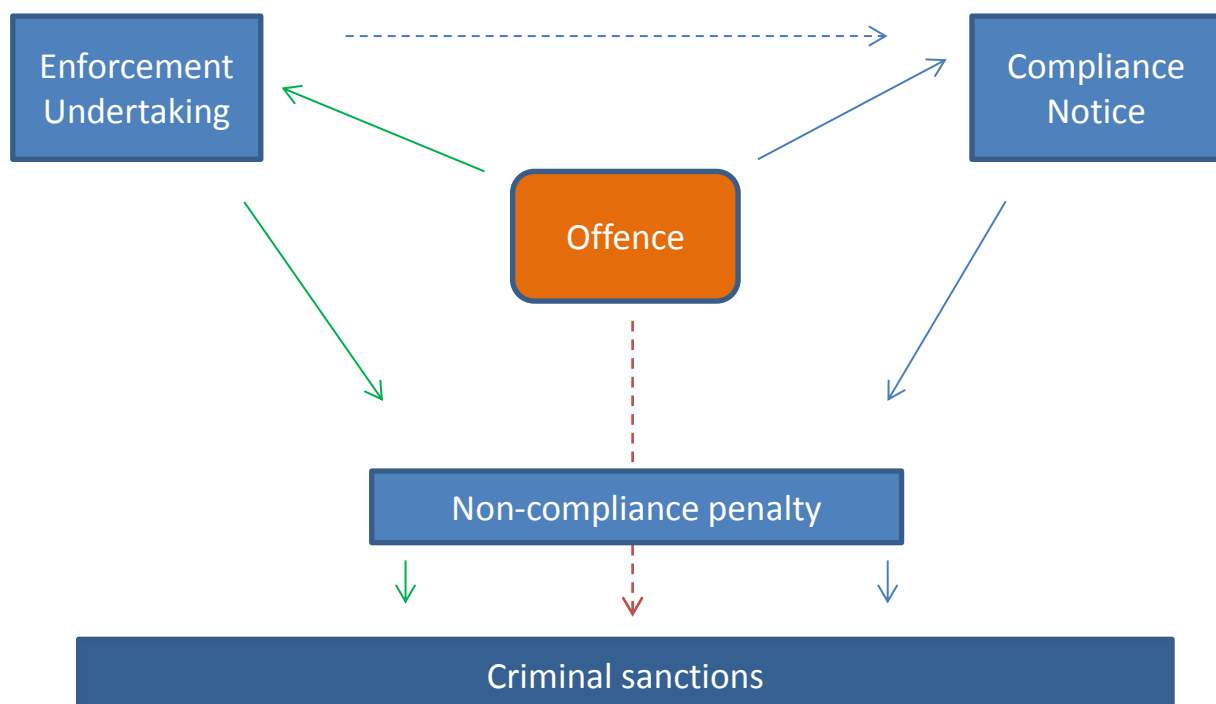
If a non-compliance penalty is not paid in the specified time criminal prosecution may follow

Criminal proceedings

Where criminal proceedings are brought this will result in a sentence, following either summary conviction or conviction on indictment, of a fine. It is anticipated that, in general, criminal measures will follow the failure to comply with civil sanctions, as set out above. However the enforcing authority will have the power to bring criminal proceedings immediately if they consider it appropriate, for example where there is a fraudulent or flagrant breach of the regulations.

The Government has set 30 April 2015 as a commencement date for the introduction of criminal liability. Offences committed before this date will not be subject to criminal prosecution but may be subject to civil enforcement action.

The relationship between the enforcement measures



Powers of Entry

The associated powers set out in the Regulations are those that currently exist in similar comparable UK regulations.. They are the powers necessary to secure evidence that at a future date will be able to meet the admissibility rules for evidence in a UK court of law should this be necessary.

An authorised person may, in order to ascertain if any provision of these Regulations has not been complied with, inspect goods, or documents; make such examination or investigation as is necessary; require the production of goods/documents and examine or remove any meter. They can also seize and detain goods when reasonably suspecting non-compliance; seize/detain goods which may be required as evidence in proceedings under the Regulations;

The general power of entry will not extend to any premises used wholly or mainly as a private dwelling unless a warrant has been obtained.

Q31: What burden of proof should the enforcing authority apply when assessing whether an offence has been committed - beyond reasonable doubt or a balance of probabilities test or something else?

What respondents said

Out of the 30 respondents, 14 responded to this question. The majority view was to align the evidence to that of a criminal court. They requested that the burden of proof would have to be "beyond reasonable doubt". Some respondents commented that should this fall under the civil courts then they would expect the burden of proof to be considered as "balance of probabilities." Further comments included that the sanctions imposed should be similar to those for electricity and gas meters.

Government consideration and decision

The Government has concluded that an authorised person must be satisfied beyond reasonable doubt that a person has committed an offence.

2.4 Appeals

What we proposed

The Government proposed that appeals in respect of sanctions imposed under the implementation of Articles 9, 10 and 11 (as they apply to heat metering and billing) should be submitted to the First-Tier Tribunal.

Q32: Do you consider that the First-tier Tribunal is the appropriate body to hear and determine appeals against decisions to issue a civil penalty for failure to provide relevant information?

What respondents said

Out of the 30 respondents, 13 responded to this question. 7 respondents gave a clear positive response to this question. Six respondents did not provide a formal response to this question, either stating that they had no comment, did not know or required further time to consider a response. Out of the seven respondents that gave a positive response a service company pointed out the cost of laying an appeal at a Tribunal was £140 for an oral hearing and £80 for hearing based on paperwork. They commented on the skill of the Tribunal when considering technical designs and various cost benefit analysis. They suggested that “parties should be able to elect by common consent an Arbitrator skilled in the art if they see that as a more cost effective solution than using expert witnesses to guide the Tribunal.”

Government consideration and decision

The Government proposes that the First-Tier Tribunal shall receive appeals against sanctions and the enforcement actions of the enforcing authority.

Q33: Do you consider that the General Regulatory Chamber Rules of the First-tier Tribunal will suit the handling of these appeals against decisions by the Secretary of State? (The General Regulatory Chamber Rules may be found at: <http://www.justice.gov.uk/guidance/courts-and-tribunals/tribunals/rules.htm>)

What respondents said

Out of the 30 respondents, 15 responded to this question. The majority were in favour; however there were a significant number of “don’t know” responses. One comment considered the limit of the appeals process and whether matters could be referred to Higher Courts.

Government consideration and decision

The Government proposes that the General Regulatory Chamber Rules of the First-tier Tribunal will handle these appeals.

2.5 Other issues you may want to raise

Q34: Are there any other issues you wish to raise in relation to the requirements on metering and billing that have not been covered in other consultation questions?

What respondents said

Out of the 30 respondents, 9 responded to this question. The further details and comments provided that related to metering and billing, and that were not covered in the other consultation questions, were:

- **Consumer Protection:** The need to consider consistency with the regulations with the industry-led consumer protection scheme.

- **Data availability:** This could support data comparison and the development of metering assumptions in the cost effectiveness assessment, this might include publishing a database of relevant costs.
- **Further consultations:** Two respondents commented on the potential need for future consultations. This could include further work on the type and impacts of metering.
- **Heating controls.** A consumer group highlighted the importance of heating controls and that the availability of suitable controls presents a market barrier.
- **Smart metering:** A service company and a consumer group noted the introduction of smart metering in other utilities. Equivalent meters for heat would help to provide consumers with information to use heat more efficiently.
- **Energy Services Directive:** A consumer group noted that the requirements in Article 13 of the previous Energy Services Directive included a number of requirements on metering which had been incorporated in Article 9.1 of the new Directive. They queried the Government approach to implementing the earlier Directive and how this aligned with the new Directive, including on the deadlines for compliance.

Government consideration and decision

The additional information provided in response to this question, and through additional stakeholder engagement before, during and after the consultation process, was used to inform the policy-making process. The Government considers that our policy approach meets the requirements of the Directive and also provides flexibility and support for implementation. The burden of compliance is minimised. The Government will closely monitor the implementation and impacts of the regulations and the proportionate approach of the scheme administrator/enforcing authority.

Glossary

“Communal heating” - means the distribution of thermal energy in the form of steam, hot water, or chilled liquids from a central source in a building which is occupied by more than one final customer, for the use of space or process heating, cooling or hot water;

“District heat network” - means the distribution of thermal energy in the form of steam, hot water or chilled liquids from a central source of production through a network to multiple buildings or sites for the use of space or process heating, cooling or hot water;

“Electronic billing” – bills or billing information supplied in an electronically such as via an online portal, e-mail or other means.

“Final customer” - means the person who purchases heat, cooling or hot water for their own end consumption from a heat supplier

“Heat cost allocator”- means an instrument for the measurement of energy consumption of a room heating radiator where that energy has been supplied from the district heat network or communal heating operated by a heat supplier;

“Heat meter” - a device that measures the temperature difference between the flow and return pipes and the volume of water flowing through the meter.

“Heat Supplier” - means the supplier of heating, cooling or hot water to a final customer and who charges for that supply through a communal heating; or a district heat network or a district cooling network.

“Major renovation” - means the renovation of a building where the total cost of the renovation relating to the building envelope or the technical building systems is higher than 25% of the value of the building, excluding the value of the land upon which the building is situated

“Meter” - means an instrument designed to measure, memorise and display the consumption of heating, cooling or hot water by a final customer where that heating, cooling or hot water has been supplied from a district heat network or communal heating operated by a heat supplier; and

“Multi-apartment building” - a building with at least two apartments

“Multi-purpose building” - a building with at least two entities with different functions

“Prepayment meter” - A heat meter operating in a mode which requires a customer to pay charges for the supply of heat in advance

“Unit” – In a multi-occupancy building, an individual dwelling or non-residential unit occupied by a single entity

Relevant extracts from the Energy Efficiency Directive

Article 9

Metering

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, district 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.

Such a competitively priced individual meter shall always be provided when:

(a) an existing meter is replaced, unless this is technically impossible or not cost-effective in relation to the estimated potential savings in the long term;

(b) a new connection is made in a new building or a building undergoes major renovations, as set out in Directive 2010/31/EU.

2. Where, and to the extent that, Member States implement intelligent metering systems and roll out smart meters for natural gas and/or electricity in accordance with Directives 2009/72/EC and 2009/73/EC:

(a) they shall ensure that the metering systems provide to final customers information on actual time of use and that the objectives of energy efficiency and benefits for final customers are fully taken into account when establishing the minimum functionalities of the meters and the obligations imposed on market participants;

(b) they shall ensure the security of the smart meters and data communication, and the privacy of final customers, in compliance with relevant Union data protection and privacy legislation;

(c) in the case of electricity and at the request of the final customer, they shall require meter operators to ensure that the meter or meters can account for electricity put into the grid from the final customer's premises;

(d) they shall ensure that if final customers request it, metering data on their electricity input and off-take is made available to them or to a third party acting on behalf of the final customer in an easily understandable format that they can use to compare deals on a like-for-like basis;

(e) they shall require that appropriate advice and information be given to customers at the time of installation of smart meters, in particular about their full potential with regard to meter reading management and the monitoring of energy consumption.

3. Where heating and cooling or hot water are supplied to a building from a district heating network or from a central source servicing multiple buildings, a heat or hot water meter shall be installed at the heating exchanger or point of delivery.

In multi-apartment and multi-purpose buildings with a central heating/cooling source or supplied from a district heating network or from a central source serving multiple buildings, individual consumption meters shall also be installed by 31 December 2016 to measure the consumption of heat or cooling or hot water for each unit where technically feasible and cost-efficient. Where the use of individual meters is not technically feasible or not cost-efficient, to measure heating,

individual heat cost allocators shall be used for measuring heat consumption at each radiator, unless it is shown by the Member State in question that the installation of such heat cost allocators would not be cost-efficient. In those cases, alternative cost-efficient methods of heat consumption measurement may be considered.

Where multi-apartment buildings are supplied from district heating or cooling, or where own common heating or cooling systems for such buildings are prevalent, Member States may introduce transparent rules on the allocation of the cost of thermal or hot water consumption in such buildings to ensure transparency and accuracy of accounting for individual consumption. Where appropriate, such rules shall include guidelines on the way to allocate costs for heat and/or hot water that is used as follows:

- (a) hot water for domestic needs;*
- (b) heat radiated from the building installation and for the purpose of heating the common areas (where staircases and corridors are equipped with radiators);*
- (c) for the purpose of heating apartments.*

Article 10

Billing information

1. Where final customers do not have smart meters as referred to in Directives 2009/72/EC and 2009/73/EC, Member States shall ensure, by 31 December 2014, that billing information is accurate and based on actual consumption, in accordance with point 1.1 of Annex VII, for all the sectors covered by this Directive, including energy distributors, distribution system operators and retail energy sales companies, where this is technically possible and economically justified.

This obligation may be fulfilled by a system of regular self-reading by the final customers whereby they communicate readings from their meter to the energy supplier. Only when the final customer has not provided a meter reading for a given billing interval shall billing be based on estimated consumption or a flat rate.

3. Independently of whether smart meters have been installed or not, Member States:

- (a) shall require that, to the extent that information on the energy billing and historical consumption of final customers is available, it be made available, at the request of the final customer, to an energy service provider designated by the final customer;*
- (b) shall ensure that final customers are offered the option of electronic billing information and bills and that they receive, on request, a clear and understandable explanation of how their bill was derived, especially where bills are not based on actual consumption;*
- (c) shall ensure that appropriate information is made available with the bill to provide final customers with a comprehensive account of current energy costs, in accordance with Annex VII;*
- (d) may lay down that, at the request of the final customer, the information contained in these bills shall not be considered to constitute a request for payment. In such cases, Member States shall ensure that suppliers of energy sources offer flexible arrangements for actual payments;*
- (e) shall require that information and estimates for energy costs are provided to consumers on demand in a timely manner and in an easily understandable format enabling consumers to compare deals on a like-for-like basis.*

Article 11

Cost of access to metering and billing information

- 1. Member States shall ensure that final customers receive all their bills and billing information for energy consumption free of charge and that final customers also have access to their consumption data in an appropriate way and free of charge.*
- 2. Notwithstanding paragraph 1, the distribution of costs of billing information for the individual consumption of heating and cooling in multi-apartment and multi-purpose buildings pursuant to Article 9(3) shall be carried out on a non-profit basis. Costs resulting from the assignment of this task to a third party, such as a service provider or the local energy supplier, covering the measuring, allocation and accounting for actual individual consumption in such buildings, may be passed onto the final customers to the extent that such costs are reasonable.*

Article 13

Penalties

Member States shall lay down the rules on penalties applicable in case of non-compliance with the national provisions adopted pursuant to Articles 7 to 11 and Article 18(3) and shall take the necessary measures to ensure that they are implemented. The penalties provided for shall be effective, proportionate and dissuasive. Member States shall notify those provisions to the Commission by 5 June 2014 and shall notify it without delay of any subsequent amendment affecting them.

Full list of respondents

Company	Organisation type
Aberdeen Heat & Power Co. Ltd	Local Authorities/Housing Associations/Consumer Groups
Association of Meter Operators	Manufacturers/Services Companies/Trade Bodies
British Gas	Manufacturers/Services Companies/Trade Bodies
Byker Community Trust	Local Authorities/Housing Associations/Consumer Groups
Combined Heat and Power Association	Umbrella organisations or sector body
Consumer futures	Local Authorities/Housing Associations/Consumer Groups
Deighton Pierce Glynn	Local Authorities/Housing Associations/Consumer Groups
Dundee City Council	Local Authorities/Housing Associations/Consumer Groups
ENER-G Switch2 Ltd	Manufacturers/Services Companies/Trade Bodies
Energy and Utilities Alliance (EUA)	Manufacturers/Services Companies/Trade Bodies
EON	Manufacturers/Services Companies/Trade Bodies
Expert Commission on District Heating	Umbrella organisations or sector body
Fife Council, Property Services	Local Authorities/Housing Associations/Consumer Groups
Helix Agencies Limited	Manufacturers/Services Companies/Trade Bodies

Hillcrest Housing Association	Local Authorities/Housing Associations/Consumer Groups
Islington	Local Authorities/Housing Associations/Consumer Groups
Ista Energy Solutions Limited	Manufacturers/Services Companies/Trade Bodies
Housing Leeds	Local Authorities/Housing Associations/Consumer Groups
National Housing Federation	Local Authorities/Housing Associations/Consumer Groups
Oldham Council	Local Authorities/Housing Associations/Consumer Groups
Scottish Renewables	Umbrella organisations or sector body
Siemens Operational Services part of the Smart Grid Division	Manufacturers/Services Companies/Trade Bodies
Sycous Limited	Manufacturers/Services Companies/Trade Bodies
Teno Accounting Ltd	Manufacturers/Services Companies/Trade Bodies
Thameswey	Manufacturers/Services Companies/Trade Bodies
The Hyde Group	Local Authorities/Housing Associations/Consumer Groups
The Scottish Federation of Housing Associations	Local Authorities/Housing Associations/Consumer Groups
UKDEA	Umbrella organisations or sector body
Vital Energi	Manufacturers/Services Companies/Trade Bodies
Your Homes Newcastle	Local Authorities/Housing Associations/Consumer Groups

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