



Department
of Energy &
Climate Change

Smart Metering Implementation Programme

Consultation on Home Area Network (HAN) Installations

10 April 2014

© Crown copyright 2014

You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the Open Government Licence.

To view this licence, visit www.nationalarchives.gov.uk/doc/open-government-licence/ or write to the Information Policy Team, The National Archives, Kew, London TW9 4DU, or email: psi@nationalarchives.gsi.gov.uk.

Any enquiries regarding this publication should be sent to us at smartmetering@decc.gsi.gov.uk.

This document is also available from our website at www.gov.uk/decc

Table of Contents

General information	4
1. Introduction and executive summary	6
2. Non-standard installations	7
Glossary.....	10

General information

Purpose of this document:

This document constitutes a consultation on Home Area Network Installations

Issued: 10 April 2014

Respond by: 22 May 2014

Enquiries to:

Smart Metering Implementation Programme
Department of Energy & Climate Change
Orchard 3, Lower Ground Floor
1 Victoria Street
London, SW1H 0ET

Telephone: 0300 068 6210

Email: smartmetering@decc.gsi.gov.uk

Territorial extent:

This consultation response applies to the gas and electricity markets in Great Britain. Responsibility for energy markets in Northern Ireland lies with the Northern Ireland Executive's Department of Enterprise, Trade and Investment.

How to respond:

Your response will be most useful if it is framed in direct response to the questions posed, though further comments and evidence are also welcome.

Responses to this consultation should be sent to smartmetering@decc.gsi.gov.uk no later than 22 May 2014.

Additional copies:

You may make copies of this document without seeking permission. An electronic version can be found at www.gov.uk/government/consultations/home-area-network-han-installations.

Other versions of the document in Braille, large print or audio-cassette are available on request. This includes a Welsh version. Please contact us under the above details to request alternative versions.

Confidentiality and data protection:

DECC intends to summarise all responses and place this summary on the following website www.gov.uk/government/consultations/home-area-network-han-installations. This summary will include a list of names or organisations that responded but not people's names, addresses or other contact details. In addition DECC intends to publish the individual responses on the website and you should therefore let us know if you are not content for the response or any part of it to be published. We will not publish people's personal names, addresses or other contact details. If you indicate that you do not want your response published we will not publish it automatically but it could still be subject to information requests as detailed below.

Further, information provided in response to this consultation, including personal information, may be subject to publication or disclosure in accordance with the access to information legislation (primarily the Freedom of Information Act 2000, the Data Protection Act 1998 and the Environmental Information Regulations 2004).

If you do not want your individual response to be published on the Gov.uk website, or to otherwise be treated as confidential please say so clearly in writing when you send your response to the consultation. For the purposes of considering access to information requests it

would be helpful if you could explain to us why you regard the information you have provided as confidential. If we receive a request for disclosure of the information we will take full account of your explanation, but we cannot give an assurance that confidentiality can be maintained in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded by us as a confidentiality request.

Quality assurance:

This consultation has been carried out in accordance with the Government's Consultation Principles, which can be found here:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/60937/Consultation-Principles.pdf

If you have any complaints about the consultation process (as opposed to comments about the issues which are the subject of the consultation) please address them to:

DECC Consultation Co-ordinator

3 Whitehall Place

London SW1A 2AW

Email: consultation.coordinator@decc.gsi.gov.uk

1. Introduction and executive summary

- 1 Energy suppliers are required to take all reasonable steps to install smart meters in GB domestic and smaller non-domestic premises by the end of 2020. A complete smart metering installation will include gas and electricity smart meters, an in-home display (IHD) (for domestic premises), and a communications hub each with a Home Area Network (HAN) compliant with the SMETS requirements. The Government expects that the benefits relating to the provision of a HAN will be realised by consumers regardless of the type of premises. Without any 'range-extending' solution, the 2.4 GHz HAN standard that is specified in the second version of the Smart Metering Equipment Technical Equipment Specifications (SMETS 2)¹, along with the 868MHz HAN standard which will be introduced later, are expected to serve around 95% of premises in Great Britain². This leaves up to 5% of properties, including some multi-dwelling units (MDUs), where additional 'range-extending' technology might be required to establish a HAN.
- 2 The Government is aware that different range-extending solutions may be required for different building types and consider that suppliers are best placed to identify these. We therefore confirm our support for the supplier-led development of solutions, which could include a wired HAN standard. These could be incorporated into the SMETS at a later stage if required.
- 3 To safeguard the consumer experience and potential for energy saving benefits, the Government **proposes to make clear its intent that suppliers should take all reasonable steps to establish a SMETS compliant HAN within each premises**. This will support interoperability of in-home devices while providing suppliers with the flexibility to use range-extending technologies that are best suited to individual premises. This will be achieved by proposed modifications to the regulatory framework.
- 4 The Government understands that energy suppliers are considering a co-ordinated approach to establish HANs in MDUs. We recognise that this approach might be advantageous in some premises but see no case for regulatory intervention.
- 5 The Government will continue to monitor the development of wired HAN solutions and the rollout of smart metering in MDUs.

¹ The content of SMETS 2 was subject to consultation in 2012 with the Government Response released in two parts in 2013 (www.gov.uk/government/consultations/smart-metering-equipment-technical-specifications-second-version). SMETS 2 is not yet in legal force, but is subject to the programme's transitional change control process; the most up-to-date version will be made available on request.

² According to a study undertaken by Red M for DECC <https://www.gov.uk/government/publications/smart-meters-rf-survey>

2. Non-standard installations

- 6 The Government expects that additional equipment or a wired HAN will be required in up to 5% of GB properties, some of which will be multi-dwelling units (MDUs).
- 7 Suppliers will need to provide a range-extending solution to establish a HAN in these properties which could be achieved by using:
- (1) Additional technology such as a wired HAN to provide a 'bridge' between the communications hub, which could be located in a basement, and the premises;
 - (2) Additional technology such as a wireless repeater to repeat messages between the communications hub and the premises;
 - (3) A combination of (1) and (2) above.
- 8 The Government-hosted Alternative HAN Technology Industry Event in September 2013 demonstrated that there are a number of candidate range-extending solutions that can communicate with out of range devices in this manner in three basic topologies:
- Point to point: all additional equipment to establish a HAN is located within the boundary of a consumer's premises (including out-buildings), and the consumer can grant permission to install the equipment;
 - Communal individual: additional equipment to establish a HAN in a single premises is located in a communal area and permission to install the equipment is required from a third party (for example, a management committee for a block of flats) in addition to the consumer; and
 - Communal shared: additional equipment to establish a HAN in multiple premises is located in a communal area and permission to install the equipment is required from a third party in addition to the consumers.
- 9 The Government is aware that different range-extending solutions may be required for different building types and consider that suppliers are best placed to identify these. There is insufficient evidence to mandate any particular technology solution / standard at this point in time. We therefore confirm our support for the supplier-led development of solutions, which could include a wired HAN standard. These could be incorporated into the SMETS at a later stage if required.
- 10 During the period when solutions are being developed, it is important to safeguard the consumer experience and potential for energy saving benefits. To avoid the risk that a proliferation of HAN standards emerges in consumers' premises, the Government **proposes to make clear its intent that suppliers should take all reasonable steps to establish a SMETS compliant HAN within each premises**³ (i.e. regardless of the range-extending technology used). Mandating suppliers to install and maintain a SMETS compliant HAN in all properties will therefore:
- provide flexibility to suppliers to use whatever range-extending technologies are best suited to individual premises whilst also supporting interoperability of in-home devices; and
 - avoid imposing a standard which may not be suitable across all buildings.
- 11 We propose that this obligation is implemented through making changes to existing supplier licence conditions as summarised on page 9. We also propose to make minor

³ This should be in a main dwelling area of domestic premises or main work area of non-domestic premises.

consequential amendments to SMETS 2 through the transitional change control process⁴.

- 12 We expect that a supplier gaining a consumer with a range-extending solution should be able make a commercial decision to either use the existing solution or install a new solution. The Government believes that suppliers can establish commercial arrangements to support the continued use of range-extending equipment without additional regulatory intervention, and that this will provide gaining suppliers with the flexibility to determine how they should meet their customers' requirements on change of supplier.
- 13 We understand that some suppliers are considering co-ordinated approaches to installation of a HAN solution in MDUs, where multiple suppliers provide energy to those premises. This approach could be advantageous for the provision of such range-extending solutions where space to install additional equipment is limited or where access to communal meter cupboards is required. Given this, we would encourage suppliers to consider working together where this leads to the most efficient solution and more cost-effectively allows consumers to benefit from smart metering.
- 14 However, the Government sees no case for **regulatory intervention**. There is no evidence to suggest that existing market mechanisms cannot provide the necessary solutions for MDUs. There is also little evidence about the number of buildings that would require a co-ordinated approach and therefore the scale or complexity of any co-ordinated approach. Our technical analysis suggests that 'point-to-point' or 'communal individual' solutions would suffice for many MDUs.
- 15 The Government will continue to monitor progress in the development of alternative HAN solutions and the rollout of smart metering in MDUs via energy supplier reporting obligations and other engagement.

⁴ These changes will clarify that metering equipment must be capable of meeting all SMETS requirements which relate to joining networks and supporting communications links via the standards and frequencies specified in the Physical Requirements of each section within the SMETS

Summary of the proposed amendments to the gas and electricity supply standard licence conditions

The proposed amendments to the licence conditions which relate to proposals in this consultation are summarised below and are provided in full at www.gov.uk/government/consultations/home-area-network-han-installations.

These draft licence conditions also include changes relating to a separate consultation on 'changes to equipment installation requirements and the governance arrangements for technical specifications', which is available at www.gov.uk/government/consultations/changes-to-equipment-installation-requirements-and-governance-arrangements-for-technical-specifications.

Definitions	<p>The definition of "HAN" has been included to identify the series of communications links that are capable of being established between the smart metering system and other relevant devices through their HAN Interfaces.</p> <p>The definition of "HAN Interface" has been amended to refer more specifically to the physical frequency and communications standards defined in the SMETS (SMETS 1 refers to 'any open standard' and SMETS 2 refers to 2.4 GHz ZigBee SEP and DLMS COSEM, but the intention is to extend this to include 868 MHz).</p> <p>Minor amendments have also been made to the definition of Communications Link and Consumer Device.</p>
49.4 (electricity) and 43.4 (gas)	<p>The requirements that were at (d) and (e) are now amended in (c), (d) and (e) to focus on the provision of the HAN (which through the definition of HAN Interface requires it to be a SMETS compliant HAN) in consumer premises and on the connection of suitable devices to that HAN where the HAN extends to those devices.</p>

Consultation Question

Q1	Do you agree that energy suppliers should be required to take all reasonable steps to establish a SMETS compliant HAN in all consumer premises? If not, please provide an explanation for your answer.
Q2	Do you agree with our proposed approach and the proposed amendments to the gas and electricity supply standard licence conditions? Please provide a rationale for your views.

Glossary

Communications Hub

A device which complies with the requirements of CHTS.

Communications Hub Technical Specifications (CHTS)

A document which sets out the minimum physical, functional, interface and data requirements that will apply to a Communications Hub.

Device

One of the following: (a) an Electricity Smart Meter; (b) a Gas Smart Meter; (c) a Communications Hub Function; (d) a Gas Proxy Function; (e) a Pre-Payment Interface; (f) an HAN Controlled Auxiliary Load Control Switch; or (g) any Type 2 Device (e.g. IHD).

DLMS COSEM (Device Language Message Specification Companion Specification for Energy Metering)

The suite of standards developed and maintained by the DLMS User Association that describes a common communications language for exchanges with energy meters.

Electricity Smart Meter

A Device meeting the requirements placed on Electricity Smart Metering Equipment in the SMETS.

Gas Smart Meter

A Device meeting the requirements placed on Gas Smart Metering Equipment in the SMETS.

Home Area Network (HAN)

The means by which communication between Devices takes place within a premises.

Smart Metering Equipment Technical Specifications (SMETS)

A document that sets out the minimum physical, functional, interface and data requirements that will apply to smart metering equipment.

ZigBee SEP (Smart Energy Profile)

A specification for a suite of high level communication protocols used for energy applications on local networks.

© Crown copyright 2014
Department of Energy & Climate Change
3 Whitehall Place
London SW1A 2AW
www.gov.uk/decc
URN: 14D/096