



Department
of Energy &
Climate Change

Smart Metering Implementation Programme

Government response to the consultation on Home Area Network (HAN)
Installations

November 2014

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1 Executive Summary and Introduction

- 1 This document sets out the Government's response to the consultation on HAN Installations ("the consultation"), which was published on 10 April 2014.
- 2 The consultation sought views on:
 - The proposal to require that energy suppliers take all reasonable steps to establish a Home Area Network (HAN) that is compliant with the Smart Metering Equipment Technical Specifications (SMETS) (a summary of responses and the Government conclusions is set out in Chapter 2);
 - The proposed amendments to the operational licence conditions to introduce the SMETS-compliant HAN requirements (a summary of responses and the Government conclusions is set out in Chapter 2);
 - The proposed approach to non-standard HAN installations, which explained that the Government saw 'no case for further regulatory intervention to support non-standard installations' (a summary of responses and the Government conclusions is set out in Chapter 3).
- 3 Twenty-four consultation responses were received from a range of stakeholders including small and large energy suppliers, communications and technology groups, consumer groups, energy networks and other interested parties. A full list of respondents is provided in Annex 1.
- 4 The vast majority of respondents agreed with our proposal that consumers should be provided with a SMETS-compliant HAN and with the proposed amendments to the operational licence conditions. As a result we will now make these changes.
- 5 A number of respondents caveated their support by noting that the provision of a SMETS-compliant HAN in non-standard installations would be facilitated by more explicit expectation-setting regarding the term "all reasonable steps'. Whilst we note these concerns, we believe that 'all reasonable steps' accurately reflects the Government's policy intent in this area. More broadly, respondents took the opportunity to call for more Government involvement in the development of an approach for non-standard installations. As part of Transitional governance arrangements, we have therefore set-up a Government-chaired sub-group to the Technical and Business Design Group (TBDG) – the HAN Strategy sub-group.
- 6 The primary aim of the sub-group is to support the development of the strategy to ensure 100% HAN coverage, including non-standard HAN installations. Further detail of the sub-group's work is provided in Chapter 3 and in Annex 2.

2 Requirement on Energy Suppliers to Establish a SMETS-compliant HAN

Summary of Issue under Consideration

Energy suppliers are required by the operational licence conditions (in the standard conditions of the electricity and gas supply licences) to take all reasonable steps to establish a HAN in consumers' premises, and to make consumption and tariff information available to the consumer via that HAN. However, the current licence conditions do not specify whether the HAN which the energy supplier establishes needs to comply with the version of the SMETS- that is valid at the time of installation¹.

The consultation set out proposals to require that the HAN established in consumer premises must be a **SMETS compliant** HAN and amendments to the operational licence conditions to achieve this intent.

The consultation asked stakeholders whether they agreed with the policy proposals and proposed amendments to the licence conditions.

Government Consideration of Issue

- 7 The majority of respondents agreed that consumers should be provided with a SMETS compliant HAN. However, a number of respondents, from across several sectors, caveated their responses stating that whilst they supported the spirit of the policy clarification in terms of safeguarding consumer benefits, they were of the view that guidance is needed regarding what constitutes 'all reasonable steps'. They argued that this was needed to ensure that the requirement to provide a SMETS-compliant HAN to all premises is fairly implemented. These respondents cited for instance, that a SMETS-compliant HAN should only be provided subject to the costs being reasonable and sought clarification of how this would be assessed (by Ofgem).
- 8 The cost issue was cited as a particular issue for non-standard installations², especially where a shared solution³ may be the only cost-efficient implementation option. Stakeholders noted that establishing a consensus on what could be considered 'all reasonable steps' in these scenarios could be more difficult. More detail on the issues raised in relation to non-standard installations, and the steps being collectively taken to help address these, is set out in Chapter 3.
- 9 Whilst we note these concerns, we believe that 'all reasonable steps' accurately reflects the Government's policy intent in this area. 'All reasonable steps' is a standard regulatory phrase that is widely used in energy suppliers' licences. It places the onus on energy suppliers to show that they have made genuine

¹ SMETS 1 requires that the HAN is based on an open standard, while SMETS 2 refers to 2.4 GHz ZigBee SEP and DLMS COSEM. The intention is to extend the SMETS to also permit the use of 868 MHz on certain devices.

² Installations where equipment and/ or technologies additional to standard SMETS compliant equipment is needed to provide the HAN in the consumer's premises.

³ A shared solution is one where additional equipment is used to provide a HAN for more than one premises.

good faith efforts with all their customers, while allowing them important flexibility where they are unable to install a SMETS-compliant HAN after taking all reasonable steps.

- 10 The amendments to the operational licence conditions will give consumers certainty that they will be able to purchase an off-the-shelf Consumer Access Device (CAD) to connect to their HAN. Allowing both consumers and their CADs (e.g. smart heating systems, smart appliances) to access consumption and tariff information from smart meters via the HAN will provide an unprecedented platform for innovation in a range of markets from smart grids to assisted living services. To provide this platform it is important that consumers have certainty regarding the type of HAN that is available in their premises. Providing this certainty will also benefit CAD manufacturers as they will know which communications standards their CADs will need to support to interact with smart metering equipment, which should help create a vibrant market for such devices.
- 11 Therefore, we confirm that all energy suppliers will be required to take all reasonable steps to establish a SMETS compliant HAN in all their consumers' premises.
- 12 Few respondents commented on the proposed amendments to the gas and electricity supply standard licence conditions. One respondent suggested changes to the wording of the conditions to allow future versions of SMETS to offer non-radio HANs. We believe that the suggested drafting already allows for non-radio HANs and we have purposefully built-in flexibility within the regulatory framework to allow parties to propose the addition of HAN standards to the SMETS and CHTS through the SEC modifications process⁴.
- 13 We will introduce the operational licence conditions as drafted in the consultation with minor editorial amendments to clarify the intent⁵.

Summary of Government Conclusion

Energy suppliers will be required to take all reasonable steps to establish a SMETS compliant HAN in all consumer premises. We will seek to introduce the amendments to the licence conditions in early 2015.

⁴ Any SEC party may propose modifications to the SEC. Further detail is available at: <https://www.smartenergycodecompany.co.uk/modifications/about-modifications>.

⁵ The conditions are provided at <https://www.gov.uk/government/consultations/home-area-network-han-installations>.

3 Non-standard HAN Installations.

Summary of Issue under Consideration

The Government expects that non-standard installations will be required in order to provide a HAN in up to 5% of GB properties, most of which will be properties in a building or unit which houses more than one property (multi-dwelling units - MDUs). Range-extending solutions will be needed 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.

The Government proposed that, once the updated obligations regarding provision of a SMETS-compliant HAN were in place, the market could be expected to arrive at an optimal solution without further regulatory intervention. The consultation asked stakeholders whether they agreed with this approach.

Government Consideration of Issue

- 14 While most respondents agreed that energy suppliers should have responsibility for providing a SMETS-compliant HAN in all consumer premises, many also argued that further intervention is required to ensure efficient provision of range-extending solutions. In particular a number of respondents said that there is a need for a standard set of rules where the cost-optimal approach involves energy supplier cooperation. They argued that cooperation would allow energy suppliers to share the costs of a shared solution or to agree on standards for additional equipment required to support non-standard installations. Many respondents suggested that the Government should take a coordinating role and provide guidance to help overcome a range of expected commercial and technological issues that could otherwise present a barrier to delivery models that are in the best interest of consumers.
- 15 One respondent said that to ensure interoperability the specifications of any additional equipment provided would need to be included in the SMETS. Another said that they would like to see large scale trials to prove solutions, and that Government is best place to lead these trials.
- 16 Three respondents said that they believed that the barriers to provision are commercial rather than technical, explaining that existing technologies are available to allow the establishment of a SMETS-compliant HAN in all premises. Technology providers also reported that they had significant experience in overcoming similar technological challenges in other jurisdictions.
- 17 The majority of respondents agreed that technologies which could allow the establishment of a SMETS-compliant HAN in non-standard installations fall into one of the three deployment categories identified in the consultation:

- 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.
- 18 Some respondents were of the view that an individual energy supplier-led approach to installing a SMETS-compliant HAN may not be optimal in all instances. These respondents stated that they expect a communal shared approach would be the most efficient solution in larger Multi-dwelling Units (MDUs) and that the costs of installing this infrastructure should be shared by all of the energy suppliers who have customers in that building.
- 19 One respondent argued that key principles of the commercial model (the 'MAP model') used to provide and maintain metering assets today could be applied to the provision of range-extending technology to support the provision of a SMETS-compliant HAN. They stated that the MAP model is well proven and an efficient solution for suppliers, who only pay for the use of equipment whilst it is in their supply.
- 20 Energy suppliers were of the view that competition law would prevent them from cooperating on shared communal solutions. They argued that a central body (such as DCC) should lead the procurement and provision of the HAN solution in MDUs and that the central body should also manage information flows and payments between technology providers and energy suppliers.
- 21 We recognise that this is a complex area, and provision and maintenance of interoperable solutions will require the cooperation of a range of actors – including energy suppliers, technology solution providers, financiers, building management companies and energy consumers. At each stage of the life-cycle of a HAN solution (planning, pre-installation, installation, maintenance, change of supplier, change of tenancy, equipment upgrade and replacement/ decommissioning) these parties may need to cooperate to ensure that solutions are provided in an efficient manner. For example, cooperation may lead to suppliers sharing the costs of a communal solution or agreeing on the equipment to be used in a point-to-point solution.
- 22 We also acknowledge that in some cases this may require modifications to the regulatory framework, or changes to existing industry processes or data flows. However, at this point we remain unconvinced of the case for a regulated central procurement body, nor that competition law necessarily prevents open and transparent supplier cooperation particularly where this contributes to achieving the economic and technical progress associated with the smart metering programme and achieves efficiency savings that will be passed on to energy consumers. We will be considering these issues further with energy suppliers through the TBDG HAN Strategy sub-group which the Government

has established to help address the complexity and to better understand implementation options for non-standard installations.

- 23 The sub-group includes representatives from the energy suppliers, device manufacturers, communications technology providers, and the DCC. It is currently undertaking a structured review of the commercial, technological and regulatory issues that exist at each stage in the HAN solution life-cycle. The sub-group will then develop detailed options for how these can be overcome. This will include consideration of a range of different implementation options, including models which may require changes to the regulatory framework. We will work with industry to gather evidence on the efficacy of solutions that can be used to extend the range of the HAN. We will also gather statistics, where available, on HAN coverage from on-going smart meter deployments in GB.
- 24 This work is scheduled to complete by March 2015. Subject to the evidence provided by the sub-group, and the options presented, the Government aims to present its findings at this time.

Summary of Government Conclusion

The Government will gather further evidence on implementation options through the TBDG HAN Strategy sub-group. We will consider the evidence provided by the sub-group and propose any changes to the regulatory framework that are required to ensure the provision of efficient non-standard HAN solutions.

Annex 1: Consultation Respondents

The following organisations submitted responses to the Consultation on HAN Installations:

Ofgem	Good Energy	PPC	Telent
British Gas	Co-operative Energy	DCC	Tech UK
Energy UK	EDF	GEO	SSE
Association of Residential Managing Agents	Peabody	E.On	Siemens
Npower	Jetlun	Greenvity	Citizens Advice Bureau
EDMI	Macquarie	Scottish Power	SilverSprings

Annex 2: HAN Strategy Sub-group – Purpose and Scope

Purpose

The purpose of establishing the HAN Strategy Sub-Group is to support the development of the strategy to 100% HAN coverage by providing a working level forum through which DECC can work together with key industry and other delivery partners to support the development and timely availability of HAN solutions in all premises.

Scope

The scope of the sub-group includes:

- developing the HAN Solutions Roadmap (including alternative HAN technologies to standard 2.4GHz and 868MHz);
- considering evidence gaps and how these can be filled;
- identifying issues and risks to 100% HAN coverage (including alternative HAN) and develop options papers (for example, detailing testing and trialing of solutions) for how these can be overcome;
- reporting progress on project delivery to TBDG;
- providing evidence, insight and recommendations on design and implementation issues; and
- monitoring and where appropriate managing risks and issues related to the delivery of 100% HAN coverage (including via alternative HAN solutions).

Glossary

Consumer Access Device (CAD)

A device that can be securely connected to the Smart Metering System, via the HAN interface, and that can receive consumption and tariff information. A CAD may be one of a number of devices, such as an enhanced energy display, a smart appliance or a home automation controller.

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.

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