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Westminster Tower
3 Albert Embankment
London SE1 7SL

T +44 (0) 20 7793 3000
E info@beama.org.uk
W beama.org.uk

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BEAMA Comments - Eco Design Preparatory Study on Smart Appliances

BEAMA is the trade association for the UK electro-technical industry, representing over 200 companies in the power, electrical and building services sectors. Our members, who range from multinationals to SMEs, manufacture the wide range of equipment required for end-to-end electrical systems.

BEAMA therefore represents a wide range of manufacturers in the connected homes and smart controls sector. This includes, but is not limited to, consumer access devices, heating controls, heat pumps, ventilation equipment, and the multitude of smart devices, control systems and communication platforms designed for connected homes and buildings.

BEAMA is taking a strong interest in the preparatory study on smart appliances as it opens up new questions with regards to energy efficiency, smart control, and system design. BEAMA has worked with its members to develop this response to the Task 1 report consultation. BEAMA also sent an initial letter to Sarah Bogaert at Vito, in response to the questions posed during the initial stages of the study, addressing interoperability gaps.

BEAMA Response

Following the initial discussion paper published for the preparatory study, one of the key observations from BEAMA related to scope, as this seemed unclear and we were unsure what the Commission are looking to achieve from this study. While the Task 1 report outlines in more detail what is defined as a smart appliance, in the context of this study, it is still not clear what the recommendation would be and how this would be structured under a framework directive such as Eco Design. The Task 1 report is a good review of the current market and the standards available today, and although some areas require a little more clarification, which we have commented on in the following sections of this paper, this report does provide useful review of smart appliances and the requirements for flexibility as a functionality in the domestic premises.

BEAMA sees this as a positive step to understanding the needs of this market. If we are to develop a market for flexibility and Demand Response (DR) domestic customers will need simple controls, communications and automation in the home.

BEAMA has been closely involved in the GB Smart Meter rollout and the development of the GB specification, which includes the full range of customer benefits. The emphasis on consumer benefits as part of the GB rollout means that the market demand and growth in smart and digital technologies to manage energy in the home is growing significantly. We therefore take a strong interest in this study, to ensure that no market barriers are placed on the customer benefits we are expecting from GB smart meter rollout, and to ensure the innovation in smart technologies and cloud services continues to develop.

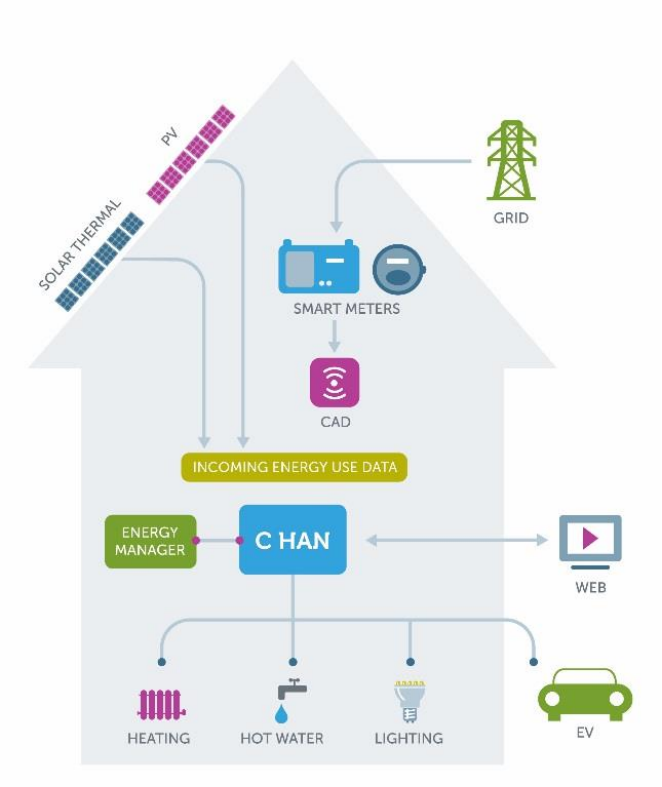
We also acknowledge the multi-faceted benefits that can come from smart meter data and smart controls. Energy efficiency and demand flexibility is just one of a range of social benefits that consumers can have access to, including assisted living, security and lifestyle. The market for smart appliances and other services (security, assisted living) will therefore have to develop with an appreciation that decisions potentially taken forward under Eco Design will have knock-on effects in other market sectors that national social services are reliant upon.
The crucial concern BEAMA has at this stage is around the suitability of Eco Design as a market mechanism to standardise the data models for smart appliances. If this is in fact what the Commission is looking to achieve. Eco Design applies to energy-related products and implements measures based on energy efficiency. It would therefore not have the capacity to measure additional benefits associated with security and assisted living that so many of the smart systems include. Much of the innovation in the market today is around how to extract the full range of benefits and we do not want to limit this. The measure of multi-faceted consumer benefits like this will be challenging and complex. The concern and market risk would be that manufacturers are limited to measuring the value of their products based on energy efficiency, which may restrict innovation in extracting the full range of benefits for consumers.

Furthermore, the market drivers for flexibility and Demand Response are still not clear. How this market develops and the type of services suppliers and DSOs deliver will also influence the requirements for smart appliances. It is difficult to fully understand what an individual smart appliance should deliver for a consumer, until the market drivers for flexibility are better understood. Key for such an appliance is an understanding of how it needs to communicate and react to any on site generation, storage and other appliances in the premises.

This study is therefore reviewing the potential measures for smart appliances before the market is sufficiently developed, and therefore we risk adding unnecessary cost in a fledgling market. We therefore risk losing small companies and the wealth of innovation, which is very evident in the UK today. At this stage BEAMA does not see interoperability as a risk to the consumer, and the market is already moving in the right direction to develop integration platforms for smart appliances and controls in the home. Furthermore, the standardisation work in CEN/CENELEC and ETSI, as referenced in the Task 1 report, is making great progress in defining a top level of standardisation so we can ensure systems speak the same language and are therefore able to interpret commands effectively. Provided this standardisation work remains open and transparent, and member states contribute effectively, we do not foresee interoperability being a problem for consumers.

In conclusion, BEAMA members agree that it is too early to set regulatory measures for the smart appliance sector for the reasons mentioned above. Heavyweight legislation will limit product development and the benefits potentially gained from smart meter rollout, especially for those member states who have invested in extracting the full range of consumer benefits. If the market does require this BEAMA is not convinced that Eco Design is the right vehicle to do so given the limitation to energy efficiency.

1. What is a connected home?



A connected home enables a consumer to have full control of their primary services, through the application of simple controls. The architecture of a connected home system includes devices, sensors and controls all linked and managed centrally, using common communication channels (wired, wireless, or over the mains) to deliver 4 key benefits (comfort, lifestyle, safety & security and savings).
The Consumer Home Area Network (C HAN) enables the various actions and technologies to be initiated together to deliver the different aspirational benefits to the consumer.

The smart meter is part of this architecture.

In designing smart appliances and devices in the connected home the benefit to the consumer is evaluated on a number of factors, including: health, lifestyle and security. The connected home is not just for the control of energy. Many of the

controls and devices relevant to the discussion here have functions beyond just energy management.

Currently, manufacturers are designing platforms for connected homes that enable the integration of multiple devices in the home, these may use different protocols.

2. What role does the smart meter play in the application of smart appliances in the domestic premises?

The scoping work so far implies that the smart meter could take up the role of a central energy manager, provided it supports sufficiently timely and reliable back ended communications, which today is often not yet the case.

In the UK this will never be the case. The GB smart meter rollout places strong emphasis on consumer engagement but the metering system is never intended to be a home energy manager. The smart meter however has a key role in providing real time consumption and tariff data into the home. GB rollout allows for the connection of Consumer Access Devices (CADs). CADs are trusted physical or virtual (a chip in a device or control) devices, paired with the Smart Metering HAN (SM HAN) that provides a gateway for data from the SM Han into the C HAN. A CAD could form part of a central energy manager that receives data from the SM HAN, as well as other incoming sources of energy data, including onsite PV generation. It is the role of the home energy manager to interpret this information and can therefore make informed decisions on the most efficient (cost, energy, time) use of appliances[1].

BEAMA would be very happy to discuss any of the points made above and will develop further guidance as the preparatory study develops. In meantime if you have any questions regarding the above please contact Yselkla.farmer@beama.org.uk , Manager Emerging Markets.

Yours sincerely

Dr Howard Porter
CEO

[1] For more information on the connected home architecture and the role of CAD devices please refer to the BEAMA Guide to Consumer Access devices http://uksmartgrid.org/consumer-access-devices-a-beama-guide-articles/

T +44 (0) 20 7793 30??
M +44 (0) ?? ???? ????
W beama.org.uk