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Dear Helena Gerard

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 and electric heat and hot water systems, heat pumps, ventilation equipment, and the multitude of smart devices, control systems and communication platforms designed for connected homes and buildings.

BEAMA has therefore taken a strong interest in the preparatory study for smart appliances. We have responded to past consultations and this letter is a continuation of our position to help support the recent Task 7 report and policy options proposed.

Overall BEAMA members were encouraged to see the study extended to produce the Task 7 report as we did have some concerns previously on the approach being taken in this study and the level of detail applied in the analysis. The proposal supports a number of the key points we raised in our last letter, they include:

1. *Interoperability and mandatory principles should be determined through the standardisation process led by industry. It is not acceptable to decide on a horizontal mandatory principle for the market. Analysis should continue for each product category, identifying those products with the most potential for DSF and lowest cost impact to industry and the consumer. Until a detailed review of product categories is made the CBA for smart appliances and associated functions cannot be made, and industry will not support any* regulation*.*
2. *Industry would favour a labelling scheme that incentivises the market to adopt DSF* capable *systems, and this should be aligned with other regulatory activities, specifically the revision of the Energy Performance in Buildings Directive.*
3. *Industry would not support ‘specific requirements’ as a mandate under eco design. It is* more *favourable to consider ‘essential requirements’ that set a principle for the market, e.g. any communications enabled appliance must be interoperable (See Annex 2). Furthermore non- DSF capable systems are allowed to exist on the market – assuming that the incentives in place for consumers and industry are enough to drive market uptake of DSF appliances.*

*In summary developing the market for smart appliances should be done through:*

* *The provision of appropriate information to consumers*
* *Incentives for manufacturers to develop DSF capability*
* *A market design that provides the business case and value for consumers to adopt DSF capable appliances which will ultimately drive market uptake.*

Therefore the proposal to include an ‘energy smart’ icon into existing Energy Labelling under (EU) 2017/1369 for those appliances already covered by the Energy labelling regulation is supported by UK industry.

The proposal for appliances already in scope of Eco-design to include an ‘energy smart icon, complying to agreed criteria and ‘energy smart’ functionality is also supported by UK industry.

UK industry also support the continuation of preparatory studies for EV charging and battery storage. It is very early stages for these markets and this requires further review to fully understand the requirements of the market and any potential measure under Eco-design or Energy labelling. For now these products are best left out of the regulation to ensure continued market development.

**Specific comments and recommendations**

Here we make reference to some specific content within the task 7 report and recommendations for next steps. BEAMA will be attending the stakeholder meeting on the 14th September and would ask for some of these points to be raised.

1. **Clarity on the scope of products is needed**. From table 8 the scope of products that would be covered by the proposed labelling requirements seems clear. However, we are concerned ‘Storage Space Heating’ (lot 20) is being missed. Electric radiators with inertia is referenced, and Storage Water Heating is also listed separately, therefore we would expect Storage Space Heating to be referred to. This is an important application for our members with regards to the potential for flexibility services.
2. **The domestic demand side flexibility market should be incentivized through appropriate market design, not product regulation –** in our last letter we raised the point that the business cases for DSF with domestic smart appliances are still evolving and the policy options for flexibility and associated market design will influence the benefits and value that can be achieved from ‘energy smart’ appliances. We were very pleased to see this raised in the Task 7 report. We strongly agree that policy makers have to consider carefully national and regional market mechanisms (e.g. congestion management, imbalance markets etc) along with the policy options put forward for different appliances and system combinations (e.g PV with heat pump, PV with storage/ without storage, electric water heating etc). Some consideration now needs to be given to national implementation and how this would work in practice and with existing EU and National Market Design plans (referring to the EU Market Design Package).
3. **With this in mind, the need for a vertical policy approach to smart appliances is appropriate as we must appreciate the different market applications for appliances.** As we raised in our last letter, and see in the final Task 7 report, all appliances in scope of existing Eco-design and Energy Labelling regulation have very different requirements in the current market (e.g. Lot 2 for Water Heaters), and there may be requirements for varying criteria to be set against any labelling scheme. Although it will be possible to maintain some key horizontal principles to the functionality applied. We interpret the task 7 report to support this type of approach.
4. **Interoperability should be determined through the standardization process:** Any single data model and application protocol should be driven by industry through the standardisation process. BEAMA members already feed into work within CEN CENELEC which seems to address the functional requirements outlined in the proposals, namely TC 205 WG18. The commission need to understand what work is already ongoing before deciding whether a mandate for an interoperability standard is indeed required.

Furthermore, due regard to the individual products in scope when developing this standard needs to be made. This is a complex area of standardisation and cannot easily be achieved horizontally for all products in scope.

Overall BEAMA members want a good, open standard with appropriate certification round it that will grow the market. The question now for Industry, and the Commission, is how do we reach this. Overall BEAMA members support the move towards a single data model and application protocol and there are many companies working to achieve this in the European market today. There are however still a number of uncertainties in the market and this relates to market design, and the available Demand Response options in the market, especially for large portfolios of distributed devices. There could be circumstances whereby a single model/ application protocol could close off market options and services. This would be very damaging for the industry, and the overall ambition of the Commission to support a market for flexibility services.

For example, National Grid currently mandates that frequency must be measured at each individual site providing a frequency response service.  They are exploring options to move to regional frequency measurement, i.e. where frequency is measured at one point and then applied to all devices in that region.  This would reduce hardware costs in the appliance / CEM / HEM significantly and so support wider uptake of energy smart appliances.  Should a standard data model and application protocol be developed that locked in National Grid’s current service requirements, we would lock out this future option.  The direct interface supported by the task 7 report wouldn’t necessarily be covered by the idea of regional measurement, but UK industry can see a time when this would be a viable option and would significantly aid the smart appliance market.

Regarding the development of a standard data model and application protocol, a number of other specific issues need to be considered to ensure market services and applications are not locked out of the market. These are conversations to perhaps be taken forward by Industry in the work ongoing in standards organizations currently (TC 205). They include:

* 1. **Timing and latency.** The task 7 report doesn’t seem to address this. It is not enough for a device to simply turn power up or down, in many cases it must do this within a defined time limit, at a known (and preferably controllable) rate of change. These would all need to be built into the protocol at some level, maybe not as minimum requirements but certainly as optional ones so that manufactures know to consider them in their appliances design.
  2. Fault containment. This is a service not currently being procured at scale in the energy market, but is the basis for a number of trials and academic discussion on what could benefit the future energy system. There are potential considerations behind future market services like this that won’t yet be captured in application protocols until real market trials are complete. For example the task 7 report states that a user can always override a system DSR control to their appliance. But in a fault-containment scenario, that might not be the best action: if too many users override, then it could cause a blackout and the override becomes meaningless. This is an extreme example, but it helps illustrate the complexity of work that would need to be undertaken to understand how appliances should be standardised.

To summarise, we strongly support the need for industry to lead the standardisation work and for this to be informed by real world trials. The standardisation process also needs to be agile and lightweight, allowing adaptation as learning and market developments come forward. This work will take time but it is vital industry are given the opportunity to get this right.

1. In the report it was stated that ‘to speed up the uptake of demand response from the energy smart appliances and avoid possible barriers related to the roll-out of smart meters, and CEM/HEM, the recommendation is that individual appliances should be able to participate in demand response services without the presence of a CEM/ HEM or a smart meter’. It is hard to fully understand what is being recommended from this section of the report. For BEAMA members the role of the HEM and CEM (in the UK this can be defined as the CAD) is vital, especially for longer term use cases for connected homes that will enable full integration of energy services in the home. Therefore any standardisation work to determine a common data model should include the interoperability with CEM and HEM systems. While appliances should be enabled to provide a response without the CEM and HEM, the use of these should not be prohibited by the development of conflicting standards.
2. The report highlights the challenge in some appliance sectors that are delivered as system components (e.g. HVAC, storage). It is not clear from the report how this could be handled and needs further discussion.

We hope this feedback is helpful and we look forward to further discussion at the stakeholder meeting on the 14th. If you have any questions please do not hesitate to contact me and I will happy to help.

Kind regards

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