October 2017

Joint Industry Expert Group Working Paper

Ecodesign preparatory study ENER Lot 33 (smart appliances)

Introduction

The Joint Industry Expert Group (JIEG) on Smart Appliances composed of EPEE, EHI and Eurovent welcomes the draft Task 7 report on Policy and Scenario Analysis. Our European associations have been working together to provide feedback on the policy initiatives that are needed for the development of smart appliances, and to draw attention to some aspects that are not addressed in the draft report.

The JIEG agrees that labelling is the preferred policy instrument to support the roll out of smart appliances but asks for specific aspects to be taken into consideration such as product combinations, product groups in scope, timing for the implementation of the measures.

The JIEG would like to emphasise that the development and market take up of smart appliances will require actions on both the supply and the demand side and is therefore strongly connected to the electricity market design.

1. How can policy support the roll out of smart appliances?

The JIEG agrees that labelling is the preferred policy instrument and supports the following conclusions:

- A clear, simple, distinguishing and self-explaining "energy smart" icon should be the preferred policy instrument (informed decision and fair competition) whilst a "non-energy smart" icon should be discarded.

- Additional information such as the energy consumption in an energy smart mode, or network protocols supported could be added to the label or the product fiche for appliances that are already covered by the Energy labelling Regulation, provided that the requirements are clear. However, the energy consumption of smart functions (example connectivity) should not have an influence on the products energy label or eco-design efficiency. Smart appliances need neither a bonus (e.g. a better energy efficiency class on the label) since this would be misinformation towards the consumer, nor a malus, i.e. having lower efficiency values compared with the same non-energy smart appliance, which may slow down the market of smart appliances.

- Mandatory ecodesign requirements should not be considered as an adequate policy option as analysis shows that the required level of flexibility for the system can be reached without a strong regulatory push. Products covered by the Ecodesign Directive but not by

the Energy labelling Regulation should have an energy smart icon attached if the product complies with the criteria of energy smart functionality and possible additional requirements, provided that such requirements are clear and based on a thorough assessment.

The JIEG raises the following additional points and asks for their consideration:

- **Combinations of components forming a smart appliance should qualify to be labelled as "energy smart"**
  The combination of non-energy smart individual parts may form an energy smart appliance as a system, space heaters (ENER Lot 1) and air conditioners (ENER Lot 10) for instance. In addition, many existing products currently in operation, in particular complex products, are upgradable (e.g. by adding components) and comply with the criteria for energy smart functionality. Therefore,

- **All appliances that have considerable potential for demand response should be included in the scope of Lot 33 and, – as a result – should qualify to be labelled as "energy smart"**
  According to the Ecodesign and Energy Labelling underlying principle of technical neutrality, a restriction of the scope of Lot 33 to only electric thermal appliances – as proposed by the consultants – is restrictive. For example, excluding hot water storage linked to non-electric appliances (gas or oil boiler, hybrid heat pump) would severely limit the potential of the heating sector to engage in demand response although it can make a major contribution in grid balancing, particularly by means of peak absorption (e.g. at midday when PV generations is at its highest point).

- **"Energy smart" labelling of products should not be allowed without a robust preparatory study**
  The definition of specific "smart" requirements for those products that are currently outside the scope of both the Ecodesign Directive and the Energy labelling Regulation needs to thoroughly assess in a preparatory study.

- **As markets and product development are progressing quickly, a fast implementation of the proposed policy options is required:**
  The JIEG emphasises that many products on the market today may comply with the criteria for energy smart functionality and become part of the flexibility stock when specific technologies are added (e.g. a new controller box or updated firmware). The proposed policy options should therefore address the energy smart potential of the installed appliance stock. For instance, new hot water storage tanks linked to non-electric appliances have a major potential but Lot 33 should also take into account the potential of retrofitting already installed hot water storage tanks (e.g. by adding an immersion heater to an existing hot water storage tank). The same is true for a number of other product groups such as for example air-conditioners or heat pumps. Retrofitting would largely increase the potential for demand response from the heating sector.

- **Interoperability should be defined in standardisation and not in legislation.**

Interoperability standards should be set both 'vertically' for product specific requirements and 'horizontally' for general requirements concerning all smart appliances.

Technology requirements for interoperability should be neutral and therefore allow for integration into different schemes. This implies that any new or existing protocol such as zigbee, Z-wave, KNX, echonet lite, etc. should be possible.

2. What features for smart appliances?

As a general statement, it is essential that smart appliances are easy to install and to use.

In relation to the settlement procedure (section 7.8.7), the JIEG considers that there should be no specific location for the power measuring device. External measuring equipment/device should be allowed as many protocols include optionality.

Clarification needed:
We would like to ask clarifications on the requirements of the "Application protocol" referred to in section 7.9.2.: are existing protocols being considered or is the objective to create a new protocol? Fixing an application protocol may be a proper way to improve interoperability, but its definition has to be carefully thought through to avoid deadlocks into specific technologies. We recommend a close cooperation with related experts from all involved industries to work on this crucial link.

3. What market design is needed to achieve the objectives?

The JIEG would like to emphasise that the development and market take up of smart appliances will require actions on both the supply and the demand side. The market success of smart appliances will very much depend on their affordability for end-users, which should benefit from significant operational savings and should be sufficiently economically rewarded for investing in these technologies.

While Lot 33 does not directly address the point about electricity market design, the business case for smart appliances greatly depends on variable electricity prices and financial incentives to reward the demand response/flexibility by consumers. With increased variability in electricity prices, the market uptake of smart appliances with an indirect flexibility interface would be quicker.

About EHI, the Association of the European Heating Industry

EHI represents 90% of the European market for heat and hot water generation, heating controls and heat emitters, 80% of biomass central heating, as well as more than 70% of the hydronic heat pump and solar thermal markets. Our Members are the market leaders in the production of energy efficient and renewable energy technologies to affordably heat buildings. In doing so, they employ directly more than 120.000 people in Europe and invest more than half a billion euro a year in research and innovation. For more information on our membership go to www.ehi.eu.

About EPEE: The European Partnership for Energy and the Environment (EPEE) represents the heating, cooling, refrigeration, air-conditioning and heat pump industry in Europe. Founded in the year 2000, EPEE's membership is composed of 40 member companies, national and international associations. EPEE member companies realise a turnover of over 30 billion Euros, employ more than 200,000 people in Europe and also create indirect employment through a vast network of small and medium-sized enterprises such as contractors who install, who service and maintain our equipment. EPEE members have manufacturing sites and research and development facilities across the EU, which innovate for the global market.

About Eurovent: Eurovent is Europe's Industry Association for Indoor Climate (HVAC), Process Cooling, and Food Cold Chain Technologies. Its members from throughout Europe, the Middle East and Africa represent more than 1.000 companies, the majority small and medium-sized manufacturers. Based on objective and verifiable data, these account for a combined annual turnover of more than 30bn EUR, employing around 150.000 people within the association's geographic area. This makes Eurovent one of the largest cross-regional industry committees of its kind. The organisation's activities are based on highly valued democratic decision-making principles, ensuring a level-playing field for the entire industry independent from organisation sizes or membership fees. Eurovent's roots date back to 1958. Over the years, the Brussels-based organisation has become a well-respected and known stakeholder that builds bridges between manufacturers it represents, associations, legislators and standardisation bodies on a national, regional and international level. While Eurovent strongly supports energy-efficient and sustainable technologies, it advocates a holistic approach that also integrates health, life and work quality as well as safety aspects. Eurovent holds in-depth relations with partner associations around the globe. It is a founding member of the ICARHMA network, supporter of REHVA, and contributor to various EU and UN initiatives. Website: https://eurovent.eu/