

## Policy briefing

# Energy saving and smart appliances

Smart appliances are appliances which can connect to other devices and networks. If connected to power networks, they could adapt their energy consumption in response to external signals. This could help balance energy demand and supply, and help shave peaks in demand, in turn reducing network infrastructure and power generation costs and reducing greenhouse gas emissions.

There are three potential categories of appliances [1]:

- high flexibility with few comfort or performance impacts: dishwashers, washing machines, washer dryers, water heaters, radiators, boilers, heat pumps, air conditioners and battery storage systems.
- smaller potential for flexibility and/or larger comfort impacts: tumble dryers, refrigerators, freezers, extraction fans, heat recovery ventilation and chargers.
- only emergency flexibility potential: electrical hobs and ovens, hoods, vacuum cleaners and lighting.

The Energy Union Framework Strategy [2] sets out a chicken and egg situation, with the wish 'that flexible energy use is rewarded' but the recognition this will 'only work if market prices send the right signals'. The European Commission is considering aspects that affect the development of this market [1].

Citizens Advice has some concerns about the development of the market.

- the distributional impact on energy bills as some consumers will have less ability to understand or respond to price signals [3]
- consumers must be able to meet their basic needs. Young families and those with poor health will be particularly reliant on energy use during 'peak' hours.[4]
- the emergence of smart appliances may result in misleading (unclear and/or uncomparable) claims about potential energy saving cycles, and undermine the EU energy label. It is unclear how much credible information will be available to the consumer on running costs and benefits, and how easy it will be to compare tariffs if costs differ by location, time and supplier.
- the policy framework does not incorporate electric vehicles, which risks increasing local energy demand substantially but their battery storage could be used to reduce peak demand for power from the grid.

Nevertheless, we support the work by the European Commission. British consumers purchase and use products designed for the European market, and can benefit from the application of product standards.

Without standards, consumers can face higher costs, limited choice, and unsafe products. The standards necessary in this emerging market include:

- cross platform interoperability and interchangeability, with start, shift and stop signals as a minimum
- plug and play architecture, with a common language for the user interface
- clear and credible performance measures, that dovetail with the EU energy label
- adaptation of electrical end-product safety standards
- open standards that do not generate barriers to new market entrants through proprietary approaches

Whilst such standards provide a foundation for a market, Citizens Advice would expect market signals and additional consumer protections to be determined within Member States to reflect the individual markets.

Finally, Citizens Advice warns against a focus on the financial cost and savings from the uptake of smart appliances. There should be a financial benefit but there are also non-financial costs to handing over control of appliances, from perceived risk to a real hassle factor, and these are best countered with non-financial benefits [5].

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[1] Vito NV (2015) *Preparatory study on Smart Appliances*,  
<http://www.eco-smartappliances.eu/Pages/welcome.aspx>

[2] European Commission (2015) *Energy Union Package*,  
[http://ec.europa.eu/priorities/energy-union/docs/energyunion\\_en.pdf](http://ec.europa.eu/priorities/energy-union/docs/energyunion_en.pdf)

[3] Citizens Advice (2015) *Where next for the smart energy consumer?*  
<https://www.citizensadvice.org.uk/Global/CitizensAdvice/essential%20services%20publications/LCNFpolicypaper.pdf>

[4] Citizens Advice (2014) *Taking control*

[5] Consumer Focus (2012) *What's in it for me?*