Regulatory Policy Committee

Regulation of smart appliances

Department for Business, Energy and Industrial Strategy

RPC rating: fit for purpose

The impact assessment (IA) is now fit for purpose as a result of the Department's response to the RPC's initial review. As first submitted, the IA was not fit for purpose.

Description of proposal

For the purpose of this proposal and IA, the Department has defined smart appliances as appliances that are able to automatically respond to communication of command and control messages, e.g. price information, direct control signals, and/or local measurements of electricity supply, and where this response is a change of electricity consumption pattern. Smart devices, such as smart meters and thermostats, are not within the scope of the proposal.

Being able to respond in an automated fashion to real-time information and signals, smart appliances will be able to perform demand-side response (DSR) actions on behalf of consumers, e.g. to moderate, or shift, electricity use at peak times. DSR can provide cost-effective reductions in peak energy demand. The Department explains that the current uptake of smart appliances is failing to keep pace with increasing energy demand. To accelerate the uptake of smart appliances, the Department has considered the following policy options:

Option A: Voluntary industry standard, compliance with which is represented by a label, for all relevant appliances.

Option B: Mandatory standards and labelling for all relevant smart appliances.

Option C: Mandatory standards and labelling for all relevant appliances to be smart.

Option D: Combined option: transition from voluntary to mandatory standards for smart appliances in the 2020s.

Impacts of proposal

The proposals would affect businesses including appliance manufacturers, appliance service providers and retailers. The IA provides only a partial monetisation of impacts at this stage and will use consultation to gather further evidence. The present IA provides a detailed qualitative assessment of the costs to business.

Costs

Appliance manufacturers

A key impact is the cost to manufacturers of 'smartening' their appliances. Under options A and B, manufacturers would not be obligated to produce smart appliances, and hence no costs would be incurred. Under options C and D, all manufacturers will be required to produce smart appliances. There would be an ongoing cost to those manufacturers who would otherwise choose to continue to produce non-smart appliances. These manufacturers would also incur transition costs. These costs include changing processes to redesign appliances and integrate smart circuitry and displays.

Under all policy options, manufacturers would be required to label their smart appliances. The Department, however, considers additional costs would be unlikely to be significant because of the Ecodesign labelling standards already in place.

Appliance service providers and retailers

These businesses would need to train their workers to understand how to service and operate smart appliances. In the IA, the Department suggests that the training cost is likely to be small as smart appliances include a smart-fault detection function, which can support servicing and repairs of smart appliances. The Department states that the appliances are continuously evolving and that supply chain businesses are continually developing their practices. The Department requires more information from consultation to be able to monetise these costs.

Familiarisation

Familiarisation costs would depend on the business type. For manufacturing businesses, the Department expects that the additional familiarisation costs would be low because 1,100 registered stakeholders have already been consulted more than four times. Through further consultation, the Department will gather additional information that will help it to estimate the cost better.

Benefits

The Department expects that the uptake of smart appliances will bring different benefits to the business industry, consumers and wider society. For industry, the Department claims that the proposals would create opportunity for the UK to lead in software and smart components development in an emerging sector. For consumers, smart appliances are expected to lower energy bills when combined with smart tariffs and services. Furthermore, the Department anticipates that the proposals would reduce the production cost of smart appliances in the long term and that this benefit would be passed onto consumers. Smart appliances are also expected to lower electricity system costs for wider society. Society will be able to accommodate peak energy demand without allocating resources to increase energy capacity. Using the example of a dishwasher, the Department estimates that each smart appliance will bring £30.40 additional net present value to society.

Wider impacts

The proposals would have an impact on consumers. The Department expects that the proposals would increase the retail mark-up only marginally, as the additional component cost is under £5. In addition, the Department estimates that additional manufacturing costs would reduce by 15 percent for every doubling of market size, reaching £3.20 per appliance after 10 million units of smart appliances sold. Although smart appliances could help reduce peak energy demand, the Department states that they will not necessarily reduce the total energy consumption. The Department will assess the environmental impacts further in the final stage IA.

Quality of submission

As initially submitted for RPC scrutiny, the IA was not considered fit for purpose. In particular, the assessment of the cost to business and the small and micro business assessment were insufficient. Following the RPC's initial review, the department submitted a revised IA that responded to the points as follows:

Assessment of cost to business. The RPC's initial review noted that improvement was necessary in relation to the assessment of costs:

i) to manufacturers of non-smart appliances under options C and D;
ii) of transition and familiarisation; and
iii) of labelling requirements.

Overall, the Department has expanded significantly its description of impacts on businesses (e.g. section 9.1) and provided further indicative costs (section 14.1.1). More specifically, in response to i) the Department has explained that "…*it is thought that the UK no longer has any large multi-national domestic appliance manufacturing businesses*…" and that "…*these costs are largely incurred by foreign businesses*…" (page 41). In response to ii), the section on transition and familiarisation costs has been expanded and clarified (section 9.2). Finally, on iii) the IA now provides a clearer explanation as to why labelling costs are expected to be minimal (section 9.6). The IA is now sufficient on these points at this stage. The IA would be improved by confirming that none of the large foreign manufacturers has operations in the UK and by further assessment of the impact on niche manufacturers. For the transition and familiarisation costs, the Department will need to provide monetisation at the final stage. The new indicative partial EANDCB estimates at section 14.1.1 would benefit from setting out the calculations and the assumptions the Department has made regarding the direct or indirect nature of impacts. This assessment will need to be demonstrated as robust at the final stage.

Small and micro business assessment (SaMBA). The RPC's initial review noted that improvement was necessary in relation to the assessment of the number of small businesses affected. Further support was also required for the Department's assessment that the overall cost impact on these businesses would be negligible. In response, the SaMBA has been expanded significantly, with more description of the impacts and explanation for a lack of quantification at this stage. The detailed consideration of mitigation measures is particularly welcome. Overall, the SaMBA is sufficient at this stage but the Department will need to use consultation to provide quantified information at the final stage, or provide evidence as to why it would not be proportionate to do so.

The RPC's initial review identified a number of other areas for improvements. The Department has now sought to address all of these points in the present IA. In particular:

Clarified the counterfactual. The IA now provides a projection of smart appliance uptake in the UK under the business as usual scenario and under different options. The IA also assesses a number of potential uptake scenarios (section 8.2).

Options. The IA now explains (e.g. pages 3 and 15) the rationale for the preference for option D and why an option to transition from mandatory to self-regulation once the market imperfections listed has not been taken forward (page 21).

Clarity of estimates and appraisal period used. Section 8 of the IA now provides significantly improved explanation in these areas.

Wider economic benefits. Additional description of wider impacts, e.g. on the environment, has been added (section 8.4.5 and summary tables).

In addition to the areas indicated above, the IA would be improved further by strengthening the assessment in relation to:

The potential cost to consumers. Whether a more significant retail price mark-up might arise from possible high transition costs (e.g. those resulting from installing new production process and redesign of the appliance).

Evidence underpinning assumptions/estimates. The rationale for choosing a range of 10 per cent to 20 per cent increases in the uptake of smart appliances under option A. In addition, the rationale for choosing standards developed by BSI over other standards, which also allow appliances to communicate with the energy system (e.g. ETSI and SAREF).

Departmental assessment

Classification	To be determined
Equivalent annual net direct cost to business (EANDCB)	Not provided at this stage
Business net present value	Not provided at this stage
Overall net present value	£112 million

RPC assessment

Classification	To be determined once the framework rules for the current parliament are set
Small and micro business assessment	Sufficient
RPC rating (of initial submission)	Not fit for purpose

Anthony Browne, Chairman