



Department for  
Business, Energy  
& Industrial Strategy

# Energy-related Products

Summary of Responses

March 2021



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# Executive Summary

In June 2020, the Government published a Call for Evidence for energy-related products ('ErP')<sup>1</sup>, inviting views on how the UK can maximise the benefits of ErP policy following the UK's exit from the European Union and the end of the transition period on 31 December 2020.

ErP policy aims to increase the uptake of the most energy and resource efficient energy-related products such as white goods and lighting products. ErP policy has historically consisted of minimum environmental performance standards and energy labels set through (formerly) EU Ecodesign and Energy Labelling regulations. Minimum standards help to remove the worst environmentally performing products from the market and energy labels communicate the energy efficiency of specific energy-related products at the point of sale.

The energy-related products Call for Evidence asked for views on:

1. whether there is scope to set better Ecodesign requirements for products that are already regulated [section 2.1];
2. whether additional products that have not yet been regulated at an EU level could be considered under the UK Ecodesign framework [section 2.2];
3. how energy labels can be made more useful for consumers [section 3];
4. how UK market surveillance activities can be made more effective in ensuring regulatory compliance [section 4];
5. whether additional policy levers could be considered to increase the energy, carbon and resource efficiency potential of energy-related products [section 5]

Respondents generally agreed that better measures could be introduced for the eight currently regulated products groups included in the Call for Evidence – cooking appliances, lighting, water pumps, boilers, heat pumps, electric motors, space cooling, and ventilation – although responses varied somewhat in how better regulation could be achieved.

For products groups such as cooking appliances, water pumps, and space cooling evidence was provided to demonstrate the technical potential for setting better minimum environmental standards. For lighting products, respondents felt it would be beneficial to also explore the savings potential at a systems level.

Respondents generally felt energy and carbon savings could be achieved for heating products such as boilers and heat pumps but not through minimum efficiency standards alone. Respondents were keen to highlight any new measures would

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<sup>1</sup> Energy-related Products Call for Evidence. Available at: <https://www.gov.uk/government/consultations/energy-related-products-call-for-evidence>

have to be considered alongside the need for system changes and consumer behaviour changes.

Across most products, respondents felt better resource efficiency measures could be introduced. Popular responses focused on introducing requirements for better availability of spare parts, the ability to use common tools for repair, and better access to repair and maintenance information, as well as better measures for recovery, re-use and recycling of critical raw materials.

For the three product groups not currently regulated - taps and showers, smart appliances, and heat distribution systems, hot water and heat storage – respondents generally felt these product groups represented high savings potential.

The common view of energy labels was that they are somewhat effective with room for improvement. Responses suggested including less information on energy labels would be simpler and easier to understand by consumers. Some respondents suggested any additional information which would help consumer choice should be moved online. The barrier most identified to the uptake of the most energy efficient products was their generally larger upfront cost. One potential solution mentioned by respondents would be to communicate lifetime running costs to consumers.

Respondents generally felt the effectiveness of market surveillance could be improved, flagging resource pressures as a potential barrier to effective enforcement of Ecodesign and Energy Labelling regulations.

Finally, respondents also suggested policy levers such as public procurement, fiscal incentives, and communications campaigns could help maximise the benefits of ErP policy and increase the uptake of the most energy efficient products.

## Next steps

This summary of responses updates stakeholders on the key themes which emerged from the responses to the Call for Evidence. The Call for Evidence covered a range of products and policy levers. This exercise garnered a range of submissions and the content of these and supporting evidence has made a substantial contribution to our evidence base and supports our ongoing policy development.

We are continuing to build the UK evidence base for energy-related products and to support this we have launched the UK Energy-related Products Policy Study<sup>2</sup> which will help to inform which products are high priority in terms of their overall environmental impact considering their contribution to carbon emissions, resource depletion and potential for improving their environmental performance.

As announced in the Prime Minister's Ten Point Plan for a Green Industrial Revolution, the Government intends to launch a **world class policy framework** for

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<sup>2</sup> UK Energy-related Products Policy Study. Available at: <https://erpproductspolicystudy.uk/>

energy-related products later this year where more detail will be set out on future policy and ambition.

Energy-related Products will also play a key role in decarbonising buildings. The Government will publish a **Heat and Buildings Strategy** in due course, which will set out the immediate actions we will take for reducing emissions from buildings. These actions include the deployment of energy efficiency measures and low-carbon heating, and an ambitious programme of work to enable key strategic decisions on how we achieve the mass transition to low-carbon heat and set us on a path to decarbonising all buildings.

The Department for the Environment, Food and Rural Affairs' (Defra) **Environment Bill** is currently making its passage through parliament. Powers are being sought in the Bill that will enable Government to set resource efficiency information requirements for products, including Energy-related Products, for example relating to their durability, repairability or recyclability. These powers will be complementary to the existing legislative framework for Energy-related Products as well as the Waste Electrical and Electronic Equipment Regulations, which are to be reviewed this year. Defra and BEIS will continue to work closely together on energy-related products policy.

# Contents

Executive Summary _____	3
Chapter 1: Introduction _____	7
Chapter 2.1: Better regulation for existing Ecodesign measures _____	9
Chapters 2.1.1 – 2.1.8 _____	12
Chapter 2.1.1: Cooking appliances _____	13
Chapter 2.1.2: Lighting _____	18
Chapter 2.1.3: Water Pumps _____	23
Chapter 2.1.4: Boilers _____	27
Chapter 2.1.5: Heat pumps _____	33
Chapter 2.1.6: Electric Motors _____	39
Chapter 2.1.7: Space Cooling _____	41
Chapter 2.1.8: Ventilation _____	44
Chapters 2.2.1 – 2.2.3 _____	47
Chapter 2.2.1: Taps and showers _____	48
Chapter 2.2.2: Smart Appliances _____	53
Chapter 2.2.3: Heat distribution systems, hot water and heat storage _____	57
Chapter 3: Making energy labels more useful for consumers _____	59
Chapter 3.1: Improving the UK energy label _____	62
Chapter 4 – Market Surveillance _____	71
Chapter 5 – Exploring other policy levers _____	77
Annex A: List of Respondents _____	81
Annex B: Catalogue of questions _____	84

# Chapter 1: Introduction

In 2019, the UK Government passed legislation committing to end the UK's contribution to climate change by reducing greenhouse gas emissions to net zero by 2050. Ecodesign and Energy Labelling, as key elements of 'Energy-Related Products Policy', have played an important role in contributing to reducing UK emissions and will continue to support the UK's net zero target. In 2021 alone, it is estimated that Ecodesign measures will save **8 MtCO<sub>2</sub>e and £75 on annual energy bills** for the average dual-fuel household in the UK. In addition, these policies are expected to save 11% and 1% for the average commercial business user's electricity and gas bill respectively, and 3% saving for the average industrial user's electricity bill.

## Energy-related Products ('ErP') policy

ErP policy aims to increase the uptake of the most energy efficient and resource efficient energy-related products. Traditional policy levers include setting mandatory minimum energy performance standards (MEPS) and resource efficiency requirements for energy-related products which are placed on the market as well as energy labels which encourage the purchase of the most energy efficient energy-related products at the point of sale. ErP policy can also include other policy levers explored in the Call for Evidence.

**Energy-related products** are products which have an impact on energy consumption during use. This includes products which require energy when in use and/or in standby mode, such as washing machines, lighting products and televisions, as well as products that have an indirect impact on energy consumption such as water-using products.

**Ecodesign** sets MEPS for energy-related products, gradually removing the least energy efficient products off the market. Ecodesign requirements can also facilitate progress towards a more circular economy through setting requirements with regards to resource efficiency. This includes material consumption, emissions, pollution and waste generation, durability, reparability, recyclability and ease of material recovery.

**Energy labels** aim to communicate in clear and understandable ways the energy efficiency of energy-related products. By encouraging the uptake of the most energy efficient products, energy labels aim to support informed purchasing decisions, promote competition amongst manufacturers, and reduce energy use and consumer bills.

# Call for Evidence for Energy-related Products

Historically, Ecodesign and Energy Labelling Regulations have been agreed and introduced at EU level, taking direct effect in Member States. However, following the UK's exit from the European Union and the end of the transition period on 31 December 2020, the UK regained the ability to set its own regulatory standards and policies to limit the environmental impacts of energy-related products in the UK.

In June 2020, the Government published a Call for Evidence for energy-related products, inviting views on how the UK can maximise the benefits of ErP policy following the end of the transition period.

The responses to the Call for Evidence will be used to build an evidence base to inform UK policies for energy-related products which can contribute greater carbon, energy, resource, and bills savings.

## Summary of responses

This document provides a summary of the responses received to the Call for Evidence. Each chapter begins with a short introduction to the policy area and an outline of the questions asked, followed by a summary of responses received.

Responses that did not directly address the questions asked have been summarised under the most relevant question instead.

## Outline of respondents

The Call for Evidence was open for 12 weeks from 12 June 2020 to 04 September 2020. We received a total of 74 responses via Citizenspace and email. The groups who responded to the Call for Evidence included 19 manufacturers, 15 trade associations, 12 members of the public, 4 businesses, 4 charities, 3 energy companies, 2 consultancies, 2 consumer groups, 2 independent researchers, 2 NGOs, 2 water suppliers, a research group, retailer, local Government authority, and 3 other organisations.



# Chapter 2.1: Better regulation for existing Ecodesign measures

Currently, there are 24 product categories covered by GB Ecodesign regulations<sup>3</sup>. This chapter explored whether other products should be brought within scope of ecodesign measures and, for some of those existing 24 product categories, whether better ecodesign measures could be introduced. This latter part is dealt with in sections 2.1.1 – 2.1.8.

Question one asked if there were any energy-related products, other than those which are currently regulated, that could save additional energy and resources if regulated under ecodesign.

## Question 1

Apart from the products listed in Table 2 and in sections 2.1.1 – 2.1.8 [of the Energy-related Products Call for Evidence], are there other energy-related products that could save additional energy and resources through better minimum energy performance standards and/or resource efficiency requirements?

We received 42 responses from a range of stakeholders including manufacturers, consumers, NGOs, and trade associations. **Out of the 42 responses, 64% said there were other energy-related products that could save additional energy and resources.** From the 19% who explicitly stated no additional products could save additional energy and resources, one said the UK should wait for the outcome of the EU Ecodesign Working Plan 2020-24. The remaining respondents did not explicitly say yes or no in response to the question. The most popular product categories have been outlined below:

### **Waste water heat recovery systems (seven responses)**

Seven respondents including manufacturers, a trade association, wholesaler and building developers suggested waste water heat recovery systems could save additional energy and resources. The view of one respondent was that domestic hot water will become an increasingly important component of the energy mix in homes, but not all respondents gave a reasoning behind their answer.

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<sup>3</sup> EU Ecodesign regulations which were retained in domestic law on 31 December 2020

## **Laptops, tablets and smartphones (four responses)**

Four respondents, including NGOs and trade associations suggested electronic devices such as laptops, tablets and smartphones could save additional energy and resources through ecodesign measures. One reason given by a stakeholder was that these products are being replaced at an increasing rate, meaning as more are made, more waste and emissions are produced. One respondent cited research that has found mobile phones should last 25 years and laptops 20-44 years which is much longer than the current average lifetime of these products<sup>4</sup>. It was suggested that the UK government should consider criteria such as durability, repairability and component reuse. One stakeholder said computers should be required to use higher quality capacitors and other components designed to last a long time.

## **Alignment with EU as a minimum (seven responses)**

Seven respondents said Ecodesign measures for energy-related products should keep in line with the EU, with two of these saying this should be done as a minimum. Reasons provided were that divergence would complicate manufacturing lines to serve different markets and introduce unnecessary costs for UK consumers. Another respondent said the UK should keep pace with EU standards to ensure the British consumers are not viewed as providing a default market for out-of-date products. These responses came from a diverse group of stakeholders including NGOs, a consultancy, research centre, manufacturer, trade association and consumer group.

## **Other responses**

There was a long list of other products also suggested by respondents, these are listed below with the number of responses in brackets:

### Consumer electronics

- Loudspeakers and headphones (1)

### Commercial/Industrial products

- Flue gas heat recovery (4)
- Air compressors and dryers (1)
- Hand dryers (1)

### Generation, conversion, supply, and storage products

- Solar panels (2)
- Generators (1)

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<sup>4</sup> EEB. 2019. Coolproducts don't cost the Earth. <https://eeb.org/library/coolproducts-report/>.

## Heating, ventilation, and cooling products

- Central heating control systems (2)
- Heat interface units (2)
- Outdoor patio heaters (1)
- Building automated control systems (1)

## Materials

- Glazing (2)

## Motor driven products

- Booster sets (1)
- Borehole pumps (1)
- Lifts (1)

## Small appliances

- Hair dryers (2), hair straighteners (1)
- High pressure cleaners (1)
- Humidifiers/dehumidifiers (1)
- Ironing products (1)

## Horizontal measures

- Software products and micro-chips (1)

## Other

- Electric vehicles<sup>5</sup> and their charging stations (1)
- Laboratory refrigeration (1)
- Refrigerated containers (1)

Some responses mentioned products which are already regulated under Ecodesign or are listed in the Call for Evidence. Other responses related more to ways of improving existing policy as opposed to identifying products. These have been captured in the summaries of the relevant sections of this document.

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<sup>5</sup> Electric vehicles are not within scope of Energy-Related Products Policy and are the responsibility of the Office for Zero Emission Vehicles

# Chapters 2.1.1 – 2.1.8

In the Call for Evidence, sections 3.1.1 to 3.1.8 explored specific energy-related products currently subject to ecodesign requirements and whether these requirements could be improved.

These energy-related products are:

Chapter 2.1.1: Cooking appliances

Chapter 2.1.2: Lighting

Chapter 2.1.3: Water Pumps

Chapter 2.1.4: Boilers

Chapter 2.1.5: Heat Pumps

Chapter 2.1.6: Electric Motors

Chapter 2.1.7: Space Cooling

Chapter 2.1.8: Ventilation

Some questions asked respondents to indicate a suitable timeframe for implementing new requirements after 1 January 2021, giving a multiple choice of 6-12 months, 12-24 months, 2-3 years, 3-5 years or more than 5 years. For the purposes of this summary of responses, reproductions of the questions asked in the Call for Evidence have been shortened to remove these follow ups, however the responses received have been summarised.

# Chapter 2.1.1: Cooking appliances

Domestic ovens, hobs, and range hoods are currently subject to Ecodesign regulation<sup>6</sup>. Questions two to four asked respondents to provide evidence regarding the feasibility of setting better energy and resource efficiency requirements for cooking appliances, and the timeframes in which better requirements could be set. Respondents were also asked about energy efficiency in the catering sector.

## Question 2

Could better minimum energy performance standards, than those which currently apply, be set for cooking appliances to save more energy in the UK and facilitate a transition towards net zero?

We received 16 responses from a range of stakeholders including members of the public, businesses, trade associations, consultants, researchers, local authorities, NGOs, and consumer groups. **14 responded yes, two responded no.**

Respondents suggested ways to improve current requirements as well as how the scope of current requirements could be broadened. Others noted the different fuel types used for cooking and the potential to transition away from gas cooking.

Four respondents also highlighted the ongoing EU preparatory study for cooking appliances which will review current MEPS, the feasibility of introducing resource efficiency requirements, and potential for broadening the scope of the regulations. The respondents suggested that the UK could participate in the study, align with the EU's new regulations, or go further where in the UK's interests.

### **Improve current MEPS, energy labels, and testing standards (six responses)**

A respondent cited a report<sup>7</sup> which demonstrated that technology exists which would enable ovens to be more efficient and achieve higher MEPS if these were set; areas for improvement included substitution of cavity materials, new gel coatings, heating system upgrades, and improving the efficiency of secondary cavities. However, a trade association argued that GB specific MEPS would hinder trade and potentially delay the roll out of new features such as smart functionality.

To aid manufacturers and consumers with any increase in MEPS, two respondents suggested that a tiered approach should be taken, i.e. gradually phasing in more

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<sup>6</sup> Commission Regulation (EU) No 66/2014. Available at: <https://www.legislation.gov.uk/eur/2014/66>

<sup>7</sup> Final report, Highly Efficient Oven project. Available at: <http://www.highefficientoven.eu/wp-content/uploads/2016/02/HEO-Final-Report-Public.pdf>

stringent MEPS through staggered step changes over a period of time to give manufacturers time to prepare and allow ovens of different price points to penetrate the market.

Two respondents stated that 70% of ovens on the EU market are A-rated<sup>8</sup>. They argued that rescaling energy labels (so that products in each energy class are rescaled to lower classes and the top classes left empty) would more accurately reflect the relative energy efficiency of products on the market while also incentivising innovation among oven manufacturers looking to get their products back into the highest energy classes. Others felt that the top energy efficiency level for ovens is 'unachievable', and already sparsely populated.

Introducing energy labels for hobs was mentioned by two respondents. It was also suggested that energy labels on ovens could identify which products include energy efficient features such as built-in steamers. However, the point was raised by some respondents that an energy label would only be useful if there was significant difference in energy savings between the most and least efficient products.

As well as raising MEPS, a respondent did suggest that the methodology for calculating the efficiency rating of ovens could be improved to reflect real world usage more accurately by taking into account the various cooking modes.

### **Broaden the scope of regulations (six responses)**

Six respondents felt that the scope of current ecodesign and energy labelling regulations could be broadened beyond domestic ovens and hobs. Suggestions for new product categories included professional cooking appliances, kettles, small burners, mini ovens, and gas barbeques and grills. However, a trade association did give the view that exemptions for heat storage ovens should be maintained.

Several respondents singled out kettles as a candidate for ecodesign requirements so that they do not overboil water. It was suggested that any regulations should encourage lower minimum fill levels and faster switch-off times.

While some respondents suggested that microwaves could be included in the scope of the regulations, others argued that microwaves are generally energy efficient and only used for short periods of time, so any savings would be marginal.

### **Transition to other technologies and fuel types (four responses)**

It was suggested by four respondents that use of gas for cooking could be phased out in time; a consumer group said their product testing showed electric hobs (induction and ceramic) are more efficient than gas hobs. It was also noted,

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<sup>8</sup> European Commission, Review Eco-design/Energy Labelling Cooking appliances, 1st technical working group-interactive webinar, March 2020

however, that while some studies have found that electric hobs and ovens are more efficient than gas ones, they tend to be more expensive.

Respondents were keen to emphasize that any transition away from gas for cooking would be dependent on consumer acceptance, costs, and safety. It was also noted that if a transition away from gas cooking was undertaken too quickly, the market for hydrogen fuelled cooking appliances could be affected.

### **Other opinions**

The long lifetime of ovens was noted by two respondents. An NGO suggested that by replacing the stock of 4.5 million older ovens (for example by encouraging consumers to upgrade to more efficient ovens through communication campaigns or financial incentives), an estimated 360GWh of energy could be saved per year. Another respondent suggested that a longer warranty period for performance of, say, five-years should be required to account for longer product lifetimes.

### **Timeframes for implementing better MEPS**

12 stakeholders offered views on the timeframe within which better resource efficiency requirements could be set. Responses ranged from 6 to 24 months to more than 5 years, with most responses recommending between 6 months and 2 years. It was suggested that rescaling energy labels and providing additional efficiency information about different cooking modes could take 12-24 months. Several respondents felt it would take anywhere from 2-5 years to develop new Ecodesign and testing standards where none currently exist (for example for commercial cooking appliances).

**Table 1: Suggested timeframes for implementing better MEPS for cooking appliances**

<b>Timeframe</b>	<b>Number of responses</b>
6-24 months	6
2-3 years	2
3-5 years	2
More than 5 years	2

## Question 3

### Could better resource efficiency measures be set under Ecodesign regulations for cooking appliances in the UK?

We received 11 responses from a range of stakeholders including trade associations, businesses, members of the public, NGOs, and consumer groups.

**Nine responded yes, two responded no.**

Of those who provided reasons for why better resource efficiency requirements could be set for cooking appliances, only three respondents, a Trade Association, NGO, and consumer group, offered more detailed responses to evidence their response.

Two respondents suggested that resource efficiency standards developed by the European standards agencies (CEN and CENELEC) could be used as a model to underpin future resource efficiency requirements. The consumer group suggested that resource efficiency measures recently introduced for other energy-related products (requirements such as better availability of spare parts, ability to use common tools for repair, and access to repair and maintenance information) could be introduced and built upon for cooking appliances.

A point was also made that cooking appliances have long lifetimes, thereby reducing the need for measures which enhance durability and reparability. A particular risk was raised that policies which enabled products to last longer could result in less efficient products remaining in circulation.

The consumer group drew on their own research to highlight two products which would benefit from resource efficiency measures: free standing and range cookers. Their research suggested that these products are more likely to develop faults than other major appliances and that faults happen sooner in the product's lifetime.

#### **Timeframes for implementing better resource efficiency measures**

Nine stakeholders offered views on the timeframe within which better resource efficiency requirements could be set:

**Table 2: Suggested timeframes for implementing better resource efficiency requirements for cooking appliances**

<b>Timeframe</b>	<b>Number of responses</b>
6-12 months	3
12-24 months	1
2-3 years	1
3-5 years	1



Timeframe	Number of responses
More than 5 years	3

Reasons for the suggested timeframes ranged from the technology already being available (6-12 months) to the time required to develop standards (3-5 years), which could explain why responses were quite polarised.

## Question 4

To what extent are energy efficient products and practices taken up in the catering sector?

We received four responses, however only two directly addressed the question.

A trade association highlighted that purchasing habits within the catering sector are driven by costs and so cheaper, less efficient products are favoured. A particular issue raised was that there is a lack of information available on the efficiency of professional cooking appliances and this absence of knowledge in the supply chain could be rectified by objective and comparable data on lifetime costs.

The trade association did note that the supply chain for professional foodservice equipment agrees, to varying degrees, that it needs to supply more efficient equipment.

An NGO cited guidance published by the Carbon Trust<sup>9</sup> on practices and products enabling energy savings in the catering sector. This respondent also suggested that bringing commercial cooking appliances into scope of ecodesign regulations would reduce energy consumption, and that other policy levers such as green public procurement, information campaigns, or voluntary initiatives could also be effective.

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<sup>9</sup> Contract Catering Sector – Industrial Energy Efficiency – Report. Available at: <https://www.carbontrust.com/resources/contract-catering-sector-industrial-energy-efficiency>

## Chapter 2.1.2: Lighting

Lighting products are currently subject to Ecodesign regulations<sup>10</sup>, with new MEPS and resource efficiency requirements due to apply in the EU from September 2021. BEIS has consulted on implementing these requirements in the UK in 2021<sup>11</sup> and the Government response to this consultation will be published in due course.

Questions five to seven asked respondents to provide evidence regarding the feasibility of setting better energy and resource efficiency requirements for lighting products, and the timeframes in which better requirements could be set. Respondents were also asked about lighting-related service businesses in the UK.

### Question 5

Could better minimum energy performance standards, than those due to take effect from September 2021 in the EU, be set for lighting products to save more energy in the UK and enable a transition towards net zero?

We received 17 responses to this question from a range of stakeholders including trade associations, businesses, charities, NGOs, academics and members of the public. **11 responded yes, five responded no.** One did not answer yes or no but did provide responses to later parts of the question.

There were two main themes emerging from responses. Many respondents felt that interventions other than MEPS were available and could improve energy efficiency, whereas another group were keen to highlight the impact of lighting on health and wellbeing, and therefore the importance of considering this in future lighting policy.

#### **Interventions other than MEPS (eight responses)**

While question five asked for views on whether better MEPS could be set for lighting products, eight respondents offered views on how greater energy savings could be made during a product's life cycle such as how products are manufactured, used, and sold. Responses came from a wide range of stakeholders including

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<sup>10</sup> Commission Regulation (EC) No 244/2009. Available at: <https://www.legislation.gov.uk/eur/2009/244>

Commission Regulation (EC) No 245/2009. Available at: <https://www.legislation.gov.uk/eur/2009/245>

Commission Regulation (EU) No 1194/2012. Available at: <https://www.legislation.gov.uk/eur/2012/1194>

<sup>11</sup> Consultation on draft Ecodesign for Energy-related Products and Energy Information (Lighting Products) Regulations 2021. Available at: <https://www.gov.uk/government/consultations/draft-ecodesign-and-energy-labelling-regulations-lighting-sources-2021>. This consultation proposes that, in 2021, Great Britain adopts the ecodesign and energy labelling requirements for lighting products to reflect what the UK voted for as an EU Member State in 2018/19. EU ecodesign and energy labelling regulations will continue to apply in Northern Ireland in accordance with the Northern Ireland Protocol.

manufacturers, trade associations, businesses, charities, NGOs, academics and members of the public.

The primary focus of five of these eight responses was on energy savings in the use-phase of lighting products, which, traditionally, have been achieved by raising MEPS. A trade association suggested that the market is already moving towards more efficient lighting products and provided comparisons to suggest that it would be more effective to look for energy savings at the systems level rather than continuing to increase MEPS. Systems level interventions could save energy by reducing operating hours, for example by mandating lights to auto-switch off when rooms are vacated. This view was echoed by one other respondent.

Three respondents felt that the brightness levels of most lights are unnecessary for the task at hand, leading to wasteful use of energy. It was suggested that the brightness levels of lights should be set at minimum sufficient levels.

Aside from lighting systems management, several other views were offered on ways to save energy which were outside of MEPS, including: using other policy levers such as taxation on the worst performing products or reducing VAT for better ones; improving market surveillance to ensure compliance; and Government subsidies on replacing older lights in public buildings like schools.

Two responses suggested that consumer choice and information around energy efficiency could be improved. Suggestions offered included not permitting the use of marketing terms such as “energy saver” or “eco lamp” where this could be misleading, (for example, for the lowest performing models), as well as communicating the expected lifetime and long-term performance of a product.

Only two responses commented directly on MEPS. A trade association and independent researcher argued that focusing solely on increasing MEPS for lighting products could limit the quality and functionality of lighting products on the market.

### **Health-related considerations (six responses)**

Six respondents raised concerns about the potential negative effects to health caused by lighting products. BEIS will continue to work closely with Public Health England to understand and address these concerns.

Four respondents (three members of the public and a charity), concerns centred around the potential adverse health effects of flicker, colour temperature, and glare from LEDs. They argued flicker can cause migraines and other symptoms in susceptible individuals; certain colour temperature levels can cause sleep disturbance; and bright glare can be disabling for some individuals.

The charity asked that any GB Regulations for lighting products maintain the exemptions designed to protect people with light sensitivity which are built into the

upcoming EU regulations. These exemptions allow light sensitive people to access certain lighting technologies which would otherwise be unavailable because they do not conform to ecodesign requirements.

Two responses highlighted some other potential biological impacts from certain lighting and the validity of commercial solutions, such as human-centric lighting, which claims to enhance wellbeing.

### Other opinions

A trade association argued the UK should remain aligned with the EU and another argued against regulating lamps integrated in other products, maintaining this would result in a form of double regulation.

### Timeframes for introducing better MEPS

11 respondents offered views on the timeframe in which better MEPS could be set:

**Table 3: Suggested timeframes for implementing better MEPS for lighting products**

Timeframe	Number of responses
6-12 months	4
12-24 months	1
2-3 years	2
3-5 years	1
More than 5 years	3

Generally, respondents felt that changes such as revised energy labels could be implemented quicker (within 6-12 months) whereas larger changes such as new ecodesign requirements which would require manufacturers to improve product designs would require a longer timeframe (more than 3 years).

## Question 6

Could better resource efficiency measures be set under Ecodesign regulations for lighting products in the UK?

We received 17 responses to this question from a range of stakeholders including members of the public, manufactures, businesses, trade associations, NGOs and consumer groups. **16 responded yes and one responded no.**

The majority of respondents highlighted the need to be able to repair and recycle lighting products more easily, so that the products and their materials remain in use

for as long as possible. This included improving the recovery and re-use of critical raw materials. Suggestions included deposit schemes for old lamps, take back schemes, and encouragement of Lighting as a Service models (where lights are rented not owned). A particular point about improving durability testing so that non-compliant products are identified earlier and do not enter the market was raised.

One respondent suggested that it should be possible to replace lights housed within containing products (for example luminaires) without damaging the product. However, a manufacturer noted that luminaires used outdoors must be resistant to weather and so require the use of permanent seals. Other respondents, including a manufacturer and trade association, argued that manufacturers currently design lighting products to be cost efficient and that this also requires them to be resource efficient.

A consumer group mentioned that better and more accurate information about the properties of lighting products (such as brightness and colour rendition) at the point of sale could be beneficial to ensure that consumers buy the right product for their needs. This would mean fewer products end up being made redundant in people's homes.

### **Timeframes for implementing better resource efficiency measures**

15 stakeholders offered views on the timeframe within which better resource efficiency requirements could be set.

**Table 4: Suggested timeframes for implementing better resource efficiency requirements for lighting products**

<b>Timeframe</b>	<b>Number of responses</b>
6-12 months	6
12-24 months	1
2-3 years	4
3-5 years	1
More than 5 years	3

Respondents selected a timeframe of 6-12 months most often but did not elaborate further. Other respondents felt that measures to enhance recyclability and non-destructive disassembly of lighting products would take 2-5 years.

## Question 7

Which lighting-related service businesses exist in the UK? Please provide data on service types, volume and any other relevant market information where possible.

We received five responses to question seven.

A list of active UK companies offering lighting as a service was provided. The growth rate of the field was estimated to be 40% between 2018-2025<sup>12</sup> and the size of the market estimated to be worth over \$600 million (£470 million<sup>13</sup>) by 2021<sup>14</sup>. A trade association, however, suggested that this field is not yet highly developed.

The fields in which lighting-related businesses exist were listed as design, commissioning, assembly, maintenance, and recycling however data or further information about the relative size of these market sectors was not provided.

A manufacturer did state that the UK lighting industry is limited by off-shore manufacturing of luminaires.

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12 Global Lighting as a Service Market: Focus on Applications, Leading Players Ranking, and Competitive Landscape - Analysis and Forecast (2018-2025). Available at:

<https://www.researchandmarkets.com/research/93rc5b/global?w=4>

<sup>13</sup> 0.7797 \$/£ 12-month-average exchange rate based on Bank of England daily spot rates.

<https://www.bankofengland.co.uk/statistics/exchange-rates>

14 Lighting as a Service Market by End-User (Commercial, Municipal, and Industrial), Installation (Indoor, and Outdoor), Component (Luminaires, Software & Communication Systems, and Maintenance Services), and Region - Global Forecast to 2021. Available at: <https://www.marketsandmarkets.com/Market-Reports/lighting-as-a-service-market-117526361.html>

## Chapter 2.1.3: Water Pumps

Water pumps are currently subject to Ecodesign regulations<sup>15</sup>. Questions eight to 11 asked respondents to provide evidence regarding the feasibility of setting better energy and resource efficiency requirements for water pumps, and the timeframes in which better requirements could be set. Respondents were also asked about water pumps services in the UK and whether there is scope for introducing systems-level ecodesign regulations for water pumps.

### Question 8

Could better minimum energy performance standards, than those which currently apply, be set for water pumps to save more energy in the UK and facilitate a transition towards net zero?

We received ten responses from a range of stakeholders including members of the public, a manufacturer, research centres, a trade association, and an NGO. **Seven responded yes, three responded no.** No particular themes emerged from responses, the summaries below have been sorted between yes and no.

#### Yes (seven responses)

Those who agreed that better MEPS could be set were manufacturers, members of the public, a research centre, trade association and an NGO.

The NGO said the current ecodesign requirements are unambitious given the technological improvements over the last eight years. They suggested applying new requirements in two phases with a first tier applying from 2021, with stricter requirements applying from 2023.

The NGO was also supportive of an energy efficiency index for the whole pump unit in addition to minimum efficiency levels for component parts. They suggested the government should also consider removing the exemptions for certain pump sizes and fluid types in the existing EU regulations. Furthermore, they said extending the scope of ecodesign regulations in terms of energy and resource efficiency to include horizontal multistage pumps and booster sets would be beneficial in addition to self-priming, swimming pool and wastewater pumps.

A trade association highlighted that the current regulations for water pumps and domestic circulators are under revision at EU level and that manufacturers would manufacture to these revised requirements.

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<sup>15</sup> Commission Regulation (EU) No 547/2012. Available at: <https://www.legislation.gov.uk/eur/2012/547>

### No (three responses)

Those who said better MEPS could not be set included a trade association, manufacturer, and members of the public.

One trade association said water pumps are already subject to regulations through product-specific regulations and they do not want any forms of double regulations. They felt regulation at the product level (the level of an appliance that contains a pump – a washing machine, for example) can cover the specific needs more effectively. A manufacturer who also disagreed supported this position. The others who disagreed gave no further comments.

### Timeframes for implementing better MEPS

Seven stakeholders offered views on the timeframe within which MEPS could be set:

**Table 5: Suggested timeframe for implementing better MEPS for water pumps**

Timeframe	Number of responses
6-12 months	2
12-24 months	1
2-3 years	3
3-5 years	0
More than 5 years	1

The respondent who said 12-24 months explained it was based on the time it would take to complete an ecodesign preparatory study and subsequent adoption of regulations. A trade association who said 2-3 years said this would coincide with the revision of the EUs domestic circulators regulation.

## Question 9

Could better resource efficiency measures be set under Ecodesign regulations for water pumps?

We received seven responses from a range of stakeholders including members of the public, manufacturers, trade associations and an NGO. **Four responded yes, three responded no.** No popular themes emerged from responses, the summaries below have been sorted between yes and no.

### Yes (four responses)

Those who said better resource efficiency measures could be set were members of the public, a manufacturer and NGO.



An NGO said the UK should consider adopting more ambitious resource efficiency measures and as a minimum should reflect new EU requirements for products such as dishwashers (such as the availability and access to spare parts, and the dismantling for material recovery). To go further they suggested to ensure continued supply of spare parts for at least 10 years after a product has ceased to be sold to maximise the ease of repair.

The NGO also suggested introducing an information requirement on the presence of rare earth materials and considering requirements for how these magnets can be integrated into the motor to facilitate reuse and recovery.

### **No (three responses)**

The three who disagreed were trade associations and a member of the public.

A trade association said the majority of their members are internationally owned and are active in meeting other resource efficiency requirements. They argued that the introduction of new schemes for the UK market would incur unnecessary costs. Another trade association argued against any forms of double regulation for water pumps integrated in household appliances.

### **Timeframes for implementing better resource efficiency measures**

Four stakeholders offered views on the timeframe within which better resource efficiency requirements could be set:

**Table 6: Suggested timeframe for implementing better resource efficiency requirements for water pumps**

<b>Timeframe</b>	<b>Number of responses</b>
6-12 months	1
12-24 months	0
2-3 years	2
3-5 years	0
More than 5 years	1

The NGO said it would take 12-24 months for provision of information requirements for rare earth and 2-3 years for other measures. The others gave no reason for their given timeframe.

## Question 10

Does the UK provide any water pumps services (including research & development, repair and/or design etc.)?

We received one response which was from a trade association. They said many companies offer repair and service for their own and competitors' products but did not elaborate further. They also commented that there are now only a few manufacturers in the UK, so research tends to be conducted in other countries as fewer UK universities, when compared to 20 years ago, have the relevant experience.

## Question 11

Is there scope for introducing systems-level Ecodesign regulations for water pumps in the UK?

We received three responses which were from a member of the public, a trade association, and an NGO.

The NGO said a systems level extended product approach would be of value as it would help facilitate the introduction of energy labels and account for energy losses beyond the pump but individual regulations on particular component parts should remain in place so the extended product approach is in addition to these. They suggested introducing MEPS for the pump, the motor, and the converter as well as MEPS for the pump system as a whole.

The trade association mentioned the Extended Product Approach for energy efficiency reduces the speed of the pump and thus reduces power. They said if the UK government mandated systems energy audits for the installed base of water pumps, "huge" energy savings could be made.

## Chapter 2.1.4: Boilers

Boilers are subject to Ecodesign requirements which set a minimum ErP efficiency standard of 86%<sup>16</sup>. In addition to Ecodesign, England's Boiler Plus Standards mandate all new boilers installed must have a minimum ErP efficiency of 92%<sup>17</sup> and require an additional energy efficiency measure to be installed alongside combination gas boilers. BEIS is currently undertaking a review into the impacts of the Boiler Plus Standards introduced in 2018.

Questions 12 to 17 asked respondents for evidence which would allow BEIS to understand how to maximise the energy savings potential of boilers and alternative heating systems and enable a transition towards net zero.

Respondents were asked for evidence on the potential benefits and technical barriers of low carbon heating systems, the feasibility and impacts of raising minimum energy efficiency standards, and how regulatory product standards could improve boiler performance.

### Question 12

For the different heating systems discussed [Heat Pumps, Hybrid heating systems and Zero Carbon Fuels in Chapter 2.1.4 of the Energy-related Products Call for Evidence], what are the potential benefits, technical barriers, costs and impacts on UK businesses and consumers?

We received 18 responses from a range of stakeholders including manufacturers, trade associations, academics, and local authorities.

Respondents highlighted that a significant proportion of UK emissions are derived from heating our homes and noted a range of benefits and barriers to the low carbon heating options detailed in the Call for Evidence. Some respondents highlighted the potential for a range of low carbon heating technologies to contribute to decarbonising heat, including heat pumps, hybrid heat pumps, and the use of low carbon gas such as hydrogen.

Respondents noted barriers to adoption of low carbon technologies include the current gas focused market, and low consumer awareness of the contribution of heating to their carbon footprint and of low carbon alternatives.

Respondents highlighted behavioural adaptations are needed to move to low carbon heating, especially as key technologies such as heat pumps mostly operate at low

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<sup>16</sup> Commission Regulation (EU) No 813/2013. Available at: <https://www.legislation.gov.uk/eur/2013/813>

<sup>17</sup> <https://www.gov.uk/government/groups/heat-in-buildings>

flow temperatures. One stakeholder highlighted that policy should ensure all heating systems run at low temperatures to ensure they are as efficient as possible, especially with the cost of electricity being significantly higher than gas and the need to protect vulnerable consumers.

A trade association and manufacturer highlighted the potential for significant economies of scale to be delivered for heat pumps and hybrids once an increased number of units have been installed in the UK. They noted when the UK has developed a significant market for heat pumps, manufacturers will be more willing and able to adapt products to UK specific requirements.

## Question 13

Could tighter minimum energy efficiency levels above the existing 92% (for example 120%, 130%, 140% etc.) help bring to market low-carbon heating technologies?

IF YES, what exemptions may be required for certain applications?; IF NO, why not?

We received 20 responses overall from a range of stakeholders including trade associations, energy companies, manufacturers, local authorities, and from academia. **14 responded yes, 6 responded no.**

While 14 responded yes, responses from both yes/no respondents highlighted similar views regarding the barriers or difficulties to achieving the mass deployment of low carbon technology via increasing energy efficiency levels alone.

The responses centred on four main themes:

- that this was not a matter for energy efficiency standards alone;
- that current testing procedures are over simplified;
- that there are deployment barriers to any device over 98%;
- concerns around affordability to end users;

### **This is not a matter of energy efficiency standards alone (five responses)**

Some respondents argued that the current purpose of the minimum ErP energy efficiency has not been to bring about technology change for heating products and argued raising ErP efficiency alone would not be the most effective path to bringing low-carbon heating products to market. They felt that due to multiple variables (for example the energy use, control mechanism and consumer use of controls), the

relative merits of low carbon heating options cannot be adequately expressed through a single measure of minimum efficiency.

Similarly, other respondents felt that minimum efficiency standards do not address other barriers to installing appropriate systems for low carbon heating. The respondents highlighting these issues were diverse, including local authorities, think tanks, trade associations, and manufacturers. However, one manufacturer did feel increasing minimum efficiency would drive innovation in the sector.

### **Current testing procedures are over simplified (two responses)**

Respondents flagged current testing procedures are necessarily simplified to be practical in a laboratory setting but are not suitable, or representative of the dynamic nature of real-world heating. Other respondents argued that it would be more beneficial to judge the efficiency of the overall heating system, rather than the efficiency of the individual product alone.

### **Deployment barriers and affordability for end users (five responses)**

Respondents also pointed out a move to an ErP energy efficiency target of over 100% would likely signal a move away from a gas boiler. This, they felt, would be due to technical implications such as the addition of a heat pump element to bring an ErP energy efficiency standard to over 100%. A consultancy highlighted that, currently, this would increase capital cost significantly, raising consumer, infrastructure, and housing stock barriers. Other areas of concern included the significant work and incentives required to help consumers to adapt to these changes. Other respondents, from consumer rights groups, echoed this concern, highlighting affordability issues.

## **Question 14**

**To what extent could raising the minimum energy efficiency of boilers drive improvements in emissions savings in heating and enable a transition towards net zero?**

We received 21 responses from a range of stakeholders, including think tanks, consumer rights groups, and trade associations. Some responses suggested that the minimum energy efficiency of products could be raised to achieve greater emissions savings but decarbonising the heat source would make a greater contribution to transitioning towards net zero in the longer term. Some respondents also highlighted there was a limit to raising the efficiency standards in boilers, while one respondent noted the savings benefits of boilers with higher efficiency - over the standard 92% ErP for a domestic gas boiler - have been previously under-estimated.

### **Low carbon primary fuels will have a more substantial impact (ten responses)**

Respondents felt that raising the minimum energy efficiency of boilers would have an impact on reducing emissions but in general, argued significant opportunity lies in decarbonising the fuel input. They argued it will be necessary to decarbonise the fuel to have a more substantial impact in transitioning towards net zero. Three other respondents highlighted the role other fuel sources - such as bio-liquid - could have in contributing to the energy transition.

### **Limits to raising the energy efficiency in boilers (five responses)**

Some respondents felt we have reached the limit of boiler efficiency, considering the current testing and product standard regime. Respondents also pointed out additional measures would be required alongside the boiler, to raise the overall packaged energy efficiency of the heating system overall.

### **Other opinions**

In contrast, respondents, including an energy service company and two manufacturers, highlighted boiler cycling must be reduced and removed as much as possible. Additional respondents, representing consumer interests, highlighted care should be taken to ensure further improvements deliver cost effective emissions reductions for consumers.

## **Question 15**

**What role do you think minimum energy performance standards should play in driving a transition to zero-carbon heat? Are there alternatives, or complementary measures, that might work better?**

16 responses were received from a range of industry stakeholders, including think tanks, manufacturers, and trade associations. Respondents recognised the importance of energy performance standards. However, the majority were clear the transition to zero-carbon heat should not and could not be delivered through minimum energy performance standards alone, without addressing issues in heating systems overall. Others felt that these standards should be modified over time.

### **Delivering zero-carbon heat through minimum energy performance standards (12 responses)**

Some respondents, including three manufacturers and three trade associations, reiterated previous answers. They highlighted the transition to zero-carbon requires a more structured implementation, with measures that take into account building fabric, consumer needs and geographic location. Others highlighted that in order to drive energy demand reduction, all factors influencing the performance of the heating

system as a whole must be robustly included in the minimum energy performance standards. Respondents also reiterated improved training for installers would lead to immediate efficiency improvements, as well as making the transition to low carbon heat more practical.

### **Standards should be modified over time (three responses)**

Other respondents felt minimum efficiency standards should be modified over time, and only mandated when measures are cost effective and affordable. Some referenced the phasing in of condensing boilers over time until they were mandated in 2005. This option was suggested by two trade associations, and a manufacturer.

### **Other Opinions**

One respondent suggested a complimentary measure to minimum efficiency standards would be using waste water heat recovery systems alongside boilers. They noted their long lifetimes would mean they would be effective in use with condensing boilers and low carbon replacements.

## **Question 16**

**What regulatory product standard changes could be put in place to reduce cycling and improve the performance of boiler installations?**

We received 16 responses, focusing on supporting product improvement; highlighting issues with enforcement; and suggesting reducing cycling was unnecessary.

### **Supporting Product Improvement (five responses)**

Respondents flagged cycling is commonly caused by the minimum output of the boiler being above the heating load. To mitigate against this, respondents recommended system design and implementation aspects which are known to cause cycling should be included in product standard conditions.

A number of respondents felt more could be done to ensure real life boiler performance was optimised, including potentially strengthening standards for installation practices and commissioning through Building Regulations.

### **Concerns about enforcement (four responses)**

Respondents, including two manufacturers, raised concerns about how to enforce potential standards. They highlighted this would be a barrier, with no clear reporting mechanism in place, citing concerns about current installer awareness of the 2018 Boiler Plus Standards, potentially resulting in missed carbon saving opportunities. One respondent noted there should be an annual inspection regime where time-to-time random volumes of installations are checked.

## **Questioning the necessity for regulation (four responses)**

In contrast, another group of respondents felt additional standards were unnecessary, their view being that modern condensing boilers modulate effectively, delivering emission and cost savings compared to lower efficiency, and non-modulating boilers.

A respondent highlighted the effective operation of boilers is further helped by smart thermostats, with weather and load compensation capability. This was echoed by a respondent who noted a boiler with correct commissioning, setting of diagnostic codes, hydraulic balancing, range rating, and weather or load compensation should lead to the minimum amount of cycling.

## **Question 17**

**Would wider modulation boilers address the performance issues in combination boilers?**

We received 13 responses, from a range of stakeholders, including several trade associations. Responses highlighted that wider modulation would be dependent on other factors, should be mandated for liquid fuelled combination burners or would be unnecessary.

### **Wider modulation is dependent on other factors, standards, and testing processes (six responses)**

The majority of respondents, including three manufacturers and two think tanks, highlighted that while wider modulation boilers would be helpful, correctly sized wider modulation boilers would need to be complementary to other products which increase system efficiency. They highlighted compensating controls, correctly sized radiators, and correct commissioning would all impact on performance issues.

### **Liquid fuelled combination boilers (four responses)**

Two trade associations, and a manufacturer felt modulating burners should be mandated in liquid fuelled combination boilers, to enable the domestic hot water and heating demands to be matched appropriately.

### **Wider modulation would be unnecessary (two responses)**

Other respondents from industry felt current boiler designs incorporate high levels of modulation already and data and information around modulation ratios are already used in device comparisons and marketing.



## Chapter 2.1.5: Heat pumps

Heat pumps are currently subject to Ecodesign regulations<sup>18</sup>. Questions 18 to 21 asked respondents to provide evidence regarding the feasibility of setting better energy and resource efficiency requirements for heat pumps, and the timeframes in which better requirements could be set. Respondents were also asked if better measures could be set to improve product design and whether different product standards are required for heat pumps treating hard-to-treat homes.

### Question 18

Could better minimum energy performance standards, than those which currently apply, be set for heat pumps to save more energy in the UK and enable a transition towards net zero?

We received 20 responses from a range of stakeholders including trade associations, energy companies, manufacturers, green groups, academics, and members of the public. **14 responded yes, six responded no.**

Respondents generally agreed that better MEPS could be set for heat pumps and were keen to highlight the importance of addressing systems issues and testing standards also. Others were keen to remain aligned with EU standards.

#### **Better MEPS could be set (five responses)**

Five respondents, including manufacturers and trade associations, felt heat pumps on the market are more efficient than current Ecodesign requirements, specifically for air source heat pumps. A manufacturer suggested that setting MEPS based on the heat pump technology type should be considered, with more ambitious targets set for the most efficient heat pump technology.

#### **System issues more important than products standards (five responses)**

Three respondents felt an increase in MEPS would be possible and effective but felt system issues such as grid capacity and local network resilience would need to be considered. One energy supplier suggested that better MEPS would be possible through the integration of waste water heat recovery systems. However, two manufacturers argued the UK heat pump market is not mature enough to demand raising MEPS as there is limited evidence that this is currently needed. They suggested more focus should be on the heating system such as, quality of installation and type of fabric efficiency of the property, that has the biggest influence on how heat pumps perform. Additionally, they argued the need for stricter industry

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<sup>18</sup> Commission Regulation (EU) No 813/2013. Available at: <https://www.legislation.gov.uk/eur/2013/813>

marketing guidelines as some manufacturers are declaring coefficient of performance based on non-UK installation.

### **Real world testing (six responses)**

Six respondents suggested that improvements could be made in testing procedures to more accurately reflect real world usage and the efficiency of the system as a whole. Two respondents pointed to recent EU review studies which show that the efficiency of heat pumps is up to 15% higher in tests situations compared to real world use in existing dwellings<sup>19</sup>. These respondents suggested user behaviour and building specifications should be reflected in the testing regime. It was also recommended that compulsory post installation monitoring and verification to determine whether systems are performing acceptably while in use should be implemented. The respondents highlighting the issue of real-world testing were diverse, including think tanks, independent researchers, trade associations, and manufacturers.

### **Possible impact of divergence (five responses)**

Trade associations and manufacturers argued that it would be counterproductive for the Government to amend minimum standards and deviate from EU requirements, as the majority of manufacturers import from the EU. These respondents thought an increase in MEPS could result in fewer heat pumps available on the UK market or could potentially lead to companies overclaiming performance standards to meet the new targets. Instead, respondents preferred the consideration of other policy measures such as better enforcement of current regulations, wider policy coordination and driving wider uptake of heat pumps.

### **Suggested timeframe for improving MEPS**

Of those who thought better MEPS could be set, 12 respondents offered views on the timeframe for better implementation:

**Table 7: Suggested timeframe for implementing better MEPS for heat pumps**

<b>Timeframe</b>	<b>Number of responses</b>
6-12 months	2
12-24 months	4
2-3 years	2
3-5 years	0
More than 5 years	4

<sup>19</sup> Space and combination heaters Ecodesign and Energy Labelling Review Study, Task 6 Final Report. Available at: <https://www.ecoboiler-review.eu/Boilers2017-2019/downloads/Boilers%20Task%206%20final%20report%20July%202019.pdf>

Half of the respondents felt a timeframe of between 12 months and 3 years would be sufficient to allow better testing standards to be developed and for businesses to adjust to new requirements. Others, however, felt it would take more than 5 years for the heat pumps market to mature enough to warrant setting better MEPS, and for other factors associated with improving the efficiency of low carbon heating systems to be addressed.

## Question 19

### Could better resource efficiency measures be set under Ecodesign regulations for heat pumps?

We received a total of 16 responses from a range of stakeholders including trade associations, energy companies, manufacturers, green groups, local authorities, and members of the public. **13 responded yes, three responded no.**

One of the strongest messages to come from the 'yes' respondents was building an end-of-life infrastructure. Some felt that these measures should be aligned with EU regulations and standards to enable consistency.

#### **Yes (13 responses)**

One trade association and a local authority both claimed that whilst the focus of regulations for heat pumps have been on energy efficiency, heat pump parts such as refrigerants, non-ferrous metals, and rare earth elements in inverter products should be encouraged to be reclaimed and/or refurbished. Another respondent also suggested the introduction of end-of-life waste-management to prevent leakage of high global warming potential greenhouse gases.

Respondents argued existing standards already exist and heat pumps are, in most cases, nearly 100% recyclable. Trade associations and manufacturers recommended future resource efficiency measures should be aligned with EU requirements.

#### **No (three responses)**

Three respondents believed there was no need for better resource efficiency measures for heat pumps. They argued introducing resource efficiency measures for heat pumps would be premature as there is already work in the UK on measures to promote a more circular economy.

One of the respondents recommended BEIS should work with other government departments to ensure measures are coordinated to avoid duplication. The other respondent added that a starting point should first be established to understand where measures would have the most impact. They suggested encouraging extending use by promoting servicing, maintenance, and repair.

## Suggested timeframe for improving resource efficiency requirements

Of those that thought better resource efficiency measures could be set, ten respondents offered their views on the timeframe for implementation. The views of respondents about how long it would take to introduce better resource efficiency requirements were mixed, with respondent suggesting it would take anywhere from 12-24 months, to more than 5 years for manufacturers to prepare for requirements.

**Table 8: Suggested timeframe for implementing better resource efficiency requirements for heat pumps**

Timeframe	Number of responses
6-12 months	3
12-24 months	2
2-3 years	2
3-5 years	0
More than 5 years	3

## Question 20

Could better measures be delivered under Ecodesign regulations to improve product design, such as better integration with smart systems?

We received a total of 19 responses from a range of stakeholders including trade associations, energy companies, manufacturers, green groups, local authorities, and members of the public. **18 responded yes, one responded no.**

Respondents felt that greater integration with smart systems would be beneficial but were keen to note that standards would need to be defined first.

### Define 'smart' and standards (six responses)

Six respondents, including manufacturers and trade associations, believed the idea of smart integration has the potential to benefit end users and address inefficiencies in the grid. However, these respondents advised the term 'smart' should be defined clearly. In addition, one trade association also advised, to make a success of the smart system integration, the UK government should legislate for electricity Distribution Network Operators (DNOs) to agree a common standard for Demand Side Management (DSM) with which heat pumps manufacturers can integrate.

### Interoperability, standards, and cyber security (six responses)

Six respondents expressed the benefits related to DSM, whereby heat pumps can be remotely asked to switch off to reduce demand in times of either limited supply or high local demand. The respondents believed better measures could help optimise

control settings and provide more immediate and intuitive feedback on performance, enabling households to learn more appropriate control habits.

It was suggested by one respondent that heat pump manufacturers should provide open access to their controls to enable the optimisation of devices via third parties, such as aggregators. However, another respondent was keen to highlight that appropriate cyber security measures should be factored into any requirements.

A particular risk of standards inadvertently forcing system designers and users to follow sub-optimal design and operation by focusing on a single metric was raised by a respondent. Another respondent suggested this could be overcome in regulations by allowing system manufacturers or installers to demonstrate reduced energy use even if achieved via a non-standard solution.

### **Other Opinions**

A trade association argued that the EU's preparatory study on smart appliances was comprehensive and concluded that it was too early to regulate under Ecodesign.

### **Suggested timeframe for better measures to improve product design**

13 respondents offered their views on the timeframe in which better measures could be delivered under Ecodesign regulations to improve product design.

The majority of respondents felt it would take at least 2-3 years for better measures to be introduced. While it was noted by some respondents that there are heat pumps on the market which can integrate with smart systems, several respondents cited the time required to develop standards and better define the term "smart".

**Table 9: Suggested timeframe for delivering better measures under Ecodesign to improve heat pump design**

<b>Timeframe</b>	<b>Number of responses</b>
6-12 months	3
12-24 months	1
2-3 years	4
3-5 years	1
More than 5 years	4

## Question 21

Should different product standards apply to higher temperature heat pumps which may be required for hard-to-treat homes?

We received a total of 17 responses from a range of stakeholders including trade associations, energy companies, manufacturers, and local authorities.

Out of 17 responses, just one respondent agreed that different standards should apply for higher temperature heat pumps, whilst the rest disagreed.

Most respondents highlighted the importance maintaining a level playing field for all types of heat pumps. Respondents said there is no need to introduce different standards for heat pumps and some respondents felt hybrids combinations of heat pump and fossil fuelled heating could be converted to hydrogen to support hard-to-treat homes. Additionally, respondents also suggested hard-to-treat homes should be clearly defined and identified as this may mitigate misdirection and confusion to the heat pump industry.

## Chapter 2.1.6: Electric Motors

Electric motors are currently subject to Ecodesign regulations<sup>20</sup>, with new MEPS and resource efficiency requirements due to apply in the EU from July 2021. Following the outcome of a recent public consultation<sup>21</sup> these requirements will also be implemented in UK in 2021.

Questions 22 to 23 asked respondents to provide evidence regarding the feasibility of setting better energy and resource efficiency requirements for electric motors, and the timeframes in which better requirements could be set.

### Question 22

Could better minimum energy performance standards, than those which currently apply, be set for electric motors to save more energy in the UK and facilitate a transition towards net zero?

We received six responses to this question from stakeholders including manufacturers and trade associations. **Three responded yes, two responded no, one gave no indication.**

Little evidence was provided in response to this question. A trade association felt that it would be difficult to reach different conclusions from research supporting the new Ecodesign regulations for electric motors which are due to apply in the EU from July 2021. A manufacturer highlighted the importance of variable speed drives in providing efficiency and felt that the control design needed to be factored into any energy saving measures.

#### Timeframes for introducing better MEPS

Three stakeholders offered views on the timeframe within which better MEPS could be set although further reasons were not provided:

**Table 10: Suggested timeframes for implementing better MEPS for electric motors**

Timeframe	Number of responses
6-12 months	1

<sup>20</sup> Commission Regulation (EC) No 640/2009. Available at: <https://www.legislation.gov.uk/eur/2009/640>

<sup>21</sup> Consultation on draft Ecodesign for Energy-related Products and Energy Information Regulations 2021. Available at: <https://www.gov.uk/government/consultations/draft-ecodesign-and-energy-labelling-regulations-2021>. This consultation proposed that, in 2021, Great Britain adopts the ecodesign and energy labelling requirements for electric motors to reflect what the UK voted for as an EU Member State in 2018/19. EU ecodesign and energy labelling regulations will continue to apply in Northern Ireland in accordance with the Northern Ireland Protocol.

12-24 months	0
2-3 years	1
3-5 years	0
More than 5 years	1

## Question 23

Could better resource efficiency measures be set under Ecodesign regulations for electric motors?

We received five responses from a range of stakeholders, including, a manufacturer, an NGO, and members of the public. **Four responded yes, one responded no.**

One NGO suggested that priority be given to recovery of rare earth magnets in some motors, noting that these materials and products can be challenging to identify without expert knowledge and significant testing and dismantling. They recommended a mandatory and standardised marking of products containing rare earth magnets above a certain minimum weight.

### **Timeframes for implementing better resource efficiency measures**

Four stakeholders offered views on the timeframe within which better resource efficiency requirements could be set:

**Table 11: Suggested timeframes for implementing better resource efficiency requirements for electric motors**

<b>Timeframe</b>	<b>Number of responses</b>
6-12 months	1
12-24 months	0
2-3 years	2
3-5 years	0
More than 5 years	1

The NGO felt that provisions for recovering rare earth magnets could take up to 3 years to implement, others gave no reasons for the timeframes selected.



## Chapter 2.1.7: Space Cooling

Space cooling products are currently regulated under Ecodesign regulations<sup>22</sup>. Questions 24 and 25 asked respondents to provide evidence regarding the feasibility of setting better energy and resource efficiency requirements for space cooling products, and the timeframes in which better requirements could be set.

### Question 24

Could better minimum energy performance standards, than those which currently apply, be set for space cooling to save more energy in the UK and facilitate a transition towards net zero?

We received 11 responses from a range of stakeholders, including a trade association, a manufacturer, a research organisation, an NGO, and members of the public. **Nine responded yes, two responded no.** No popular themes emerged from responses, the summaries below have been sorted between yes and no.

#### **Yes (nine responses)**

A member of the public and the NGO suggested that the UK's exit from the EU presented an opportunity to introduce more ambitious MEPS. The NGO felt that higher standards could be set for lower cost products such as portable air conditioners and comfort fans as they suggest they tend to be less efficient. The same respondent also suggested that the UK should adopt some of the measures currently being considered in the review of the EU Air-conditioning and Comfort Fan Regulation. A manufacturer suggested that the use of flammable refrigerants in space cooling products alongside new and improved safety measures and/or components could help to improve energy efficiency.

#### **No (two responses)**

One trade association and an independent researcher did not feel that better MEPS could be set. The trade association thought the sector has successfully improved performance over the last 10 years and that, as most of these products were imported, it could reduce the number of units available on the market.

#### **Timeframes for introducing better MEPS**

Six stakeholders offered views on the timeframe within which better MEPS could be set:

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<sup>22</sup> Commission Regulation (EU) No 206/2012. Available at: <https://www.legislation.gov.uk/eur/2012/206>

**Table 12: Suggested timeframes for implementing better MEPS for space cooling**

Timeframe	Number of responses
6-12 months	1
12-24 months	1
2-3 years	1
3-5 years	2
More than 5 years	1

A research centre felt that it would take 12-24 months to complete a review study, others gave no reasons for the timeframes selected.

## Question 25

Could better resource efficiency measures be set under Ecodesign regulations for space cooling?

We received seven responses from a range of stakeholders, including trade associations, a manufacturer, a research organisation, an NGO, and members of the public. **Six responded yes, one responded no.**

One trade association suggested that a resource efficiency related standard already exists in the form of the PAS 2050. The other trade association provided examples of products that were reclaimed and recycled (such as refrigerants, non-ferrous metals, and rare earth). The NGO suggested that similar resource efficiency requirements to those that due to apply for appliances such as washing machines and dishwashers (such as the availability and access to spare parts, and the dismantling for material recovery) should be introduced for this product.

### **Timeframes for implementing better resource efficiency measures**

Four stakeholders offered views on the timeframe within which better resource efficiency requirements could be set:

**Table 13: Suggested timeframes for implementing better resource efficiency requirements for space cooling**

Timeframe	Number of responses
6-12 months	1
12-24 months	0
2-3 years	1
3-5 years	0

More than 5 years	2
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A trade association felt that it would take more than 5 years to develop standards, stating that ground source heat pumps are usually nearly 100% recyclable. Others gave no reasons for the timeframes selected.

## Chapter 2.1.8: Ventilation

Ventilation products are currently regulated under Ecodesign regulations<sup>23</sup>. Questions 26 and 27 asked respondents to provide evidence regarding the feasibility of setting better energy and resource efficiency requirements for ventilation units, and the timeframes in which better requirements could be set.

### Question 26

Could better minimum energy performance standards, than those which currently apply, be set for ventilation units to save more energy in the UK and facilitate a transition towards net zero?

We received nine responses from a range of stakeholders including a manufacturer, research centres, trade association, an NGO and a member of the public. **Seven responded yes, one responded no**, and one neither agreed nor disagreed. No popular themes emerged from responses, the summaries below have been sorted between yes and no responses.

#### **Yes (seven responses)**

Those who said better minimum energy performance standards could be set included a member of the public, manufacturer, research centre and NGO.

One respondent said energy efficient ventilation units are available on the market however they can often not be substituted as a change in wiring is required. Further, they said those with a working system may have no incentive to change it unless it fails.

The NGO gave a range of proposed regulations since the UK will soon be able to go further than the EU. For example, regulating ventilation units with an electric power input of less than 30W per air stream, improving heat recovery requirements, and introducing an energy label for non-residential ventilation units.

#### **No (one response)**

The stakeholder who disagreed was a trade association. They thought the technical analysis from the ongoing EU review of current regulations should be considered as a source of evidence and also suggested that the UK should invest in a similar analysis. Furthermore, they said to be careful of setting product standards for ventilation units in isolation from installation requirements. They argued energy consumption from ventilation units is low so the drive towards net zero should focus

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<sup>23</sup> Commission Regulation (EU) No 1253/2014. Available at: <https://www.legislation.gov.uk/eur/2014/1253>

on reducing heat loss from ventilation. They suggested focusing on the enforcement of current regulations may be better in the short-term.

The stakeholder who neither agreed nor disagreed said rapid heating infrared panel heaters would make requiring ventilation less relevant.

### Timeframes for introducing better MEPS

Six stakeholders offered views on the timeframe within which better MEPS could be set:

**Table 14: Suggested timeframes for implementing better MEPS for ventilation units**

Timeframe	Number of responses
6-12 months	1
12-24 months	2
2-3 years	2
3-5 years	0
More than 5 years	1

Those who said 2-3 years gave explanations which were based on the time taken for completion of an ecodesign preparatory study and adoption of regulations. The NGO suggested it would take 12 months to 5 years to implement the requirements they suggested above.

## Question 27

Could better resource efficiency measures be set under Ecodesign regulations for ventilation units?

We received five responses from a range of stakeholders including members of the public, a manufacturer, trade association and independent organisation. **Four responded yes, one responded no.**

An NGO said resource efficiency requirements should be introduced such as facilitating recyclability and suggested design evolutions should be assessed such as the increased use of plastics that may complicate current recycling practices.

The stakeholder who disagreed was a trade association who said implementing better resource efficiency measures would be premature, arguing it should be vital to avoid duplication of requirements and that we cannot yet be sure of the impact of potential new EU proposals on resource efficiency. They encouraged BEIS to work with other departments to ensure measures on circular economy are coordinated.

## **Timeframes for implementing better resource efficiency measures**

Three stakeholders offered views on the timeframe within which better resource efficiency requirements could be set, however, no reasons for their choices were provided:

**Table 15: Suggested timeframes for implementing better resource efficiency requirements for ventilation units**

<b>Timeframe</b>	<b>Number of responses</b>
6-12 months	1
12-24 months	0
2-3 years	1
3-5 years	0
More than 5 years	1

# Chapters 2.2.1 – 2.2.3

In the Call for Evidence, sections 3.2.1 to 3.2.3 explored the energy and carbon saving potential of specific energy-related products which are not currently subject to ecodesign and energy labelling requirements.

These energy-related products are:

Chapter 2.2.1: Taps and Showers

Chapter 2.2.2: Smart Appliances

Chapter 2.2.3: Heat distribution systems, hot water and heat storage

## Chapter 2.2.1: Taps and showers

Taps and showers are not currently subject to ecodesign or energy labelling regulation, however existing evidence suggests that there is scope for energy savings and greater water efficiency to be achieved by taps and showers. In 2019, Defra published a consultation which explored various measures that could be taken to reduce personal water use<sup>24</sup>.

Questions 28 to 31 of the Energy-related Products Call for Evidence asked respondents for evidence which would allow BEIS to assess the feasibility and impact of potentially introducing measures to increase the energy and water efficiency of taps and showers.

Respondents were asked for evidence about the size of the UK taps and showers manufacturing sector, the measures in place to encourage energy and water savings in taps and showers, how the resource efficiency of taps and showers could be enhanced, and the maximum amount of energy and water savings which could be achieved based on existing technologies.

The evidence gathered through the Call for Evidence will contribute to BEIS and Defra's work to explore whether water and/or energy efficiency information should be displayed on water using products as well as the role minimum standards could play in reducing the water and energy consumption of these products. The Government's ambition on water efficiency will be set out in Defra's response to the consultation on Measures to Reduce Personal Water Consumption, which is due to be published shortly.

### Question 28

**What is the size of UK manufacturing for taps, shower valves and shower heads in the domestic and non-domestic sectors?**

We received eight responses from stakeholders including manufacturers, trade association, NGOs and a consultancy, however, these respondents were unable to provide much information on taps and showers manufacturing in the UK due to a lack of available data. Some respondents said there is some manufacturing in the UK, although most products on the market are imported from China and Italy.

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<sup>24</sup> Consultation on measures to reduce personal water use. Available at: <https://www.gov.uk/government/consultations/water-conservation-measures-to-reduce-personal-water-use>



Nonetheless, three respondents were able to provide useful data on the structure of the UK taps and showers market, providing the market split for taps and showers, as well as data on the refurbishment market.

## Question 29

Are there any existing measures in place which encourage energy and water savings in these products?

IF YES, how can they be made more effective?; IF NO, should some be introduced (e.g. restriction of flow rates, mandatory or voluntary labelling)?

We received responses from 18 stakeholders including NGOs, water utility companies, manufacturers, consultancies, and a trade association. **16 responded yes, two responded no.**

The majority of responses focussed on potential water savings and suggested policy measures which emerged from responses centred around minimum flow rates, energy labelling and user behaviour.

### **Minimum flow rate (11 responses)**

Flow rate was mentioned in the responses of 11 stakeholders including NGOs, manufacturers, water utilities, a trade association, and a water labelling company. Many gave examples of how regulating the flow of showers – by, say, pushing the market to reduce flow rates from 12 litres per minute to as low as seven litres per minute - could deliver both water and energy savings.

However, some respondents highlighted a potential downside of restricting flow could be that consumers use taps and showers for longer periods to compensate. Respondents also pointed out that consumers may not accept lower flow showers as it would impact negatively on their shower experience. Further, a trade association suggested that if the flow rate of a tap or shower was too low there may not be enough water passing through to fully activate certain combination boilers.

Another trade association stated that any restriction of flow rates in showers would have to take account of the National House Building Council standard which requires a design flow rate for non-electric showers of 12 litres per minute with a minimum of six litres per minute being achieved if multiple outlets are opened at once.

### **Water and energy label (11 responses)**

Water and energy labelling for taps and showers was mentioned by 11 respondents.

Three of the respondents suggested that a mandatory label linked to minimum standards would be the most effective measure for reducing both energy and water use from taps and showers. One NGO commissioned a study for this Call for Evidence assessing the potential water and energy savings that voluntary and mandatory labels on taps and showers could deliver over a 25 year period<sup>25</sup>. Their study showed that the savings would be significantly higher in a scenario where a mandatory label with minimum fitting standards was implemented. One respondent did, however, cite a Keele University study which suggested that there would be little advantage in a mandatory labelling scheme.

Although labelling appeared to be the most commonly-cited measure, most respondents did not express a preference as to whether it should be mandatory or voluntary labelling. Nonetheless, many drew attention to best practice in this sphere ranging from the industry led voluntary European Water label /Unified Water Label (UWL) scheme to Australia's Water Efficiency Labelling and Standards scheme.

Six respondents drew attention to the existing industry led voluntary European/UWL water efficiency labelling scheme. One respondent stated that their research showed that the UWL could be more effective if it had more retail penetration. Another respondent suggested that the effectiveness of the UWL could be improved by incorporating it within Government Procurement Practices.

An NGO felt that it was difficult to explain the energy used to heat water from taps to consumers, however they felt consumers could be influenced when using showers. The NGO felt that if more consumer information was introduced such as, displaying energy usage on the label, it could influence decisions more than if only water savings were displayed. They also suggested that information covering energy use related to water consumption in buildings might have a stronger influence on consumers in making purchase/installation decisions. A water utility company suggested that the Government should take a coordinated approach to labelling and minimum efficiency standards for household appliances and fittings (both energy label and a water label) and thought that water labelling should cover a wide range of domestic water using fittings and appliances.

### **Other existing measures for reducing energy and water use (seven responses)**

Five respondents raised Part G of the Building Regulations which has a water use calculator and sets out water efficiency requirements for new buildings as an existing measure for restricting personal water use in homes.

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<sup>25</sup> Water Labelling: Taps and Showers Only Comparison – EST (2020), available at: <https://www.waterwise.org.uk/knowledge-base/water-labelling-taps-and-showers-only-comparison-est-2020/>

Two respondents mentioned waste water heat recovery, a system that uses heat from the residual waste shower water to preheat the incoming cold feed that refills the system, which means that less energy is used to heat water to the required temperature.

A number of measures highlighted by another respondent included: (a) the Waterwise Marque which is awarded annually to products which reduce water wastage or raise the awareness of water efficiency in the U.K.; and (b) incentives used by Water Utilities companies such as partly reimbursing consumers for installing certain water efficiency and reuse measures.

### **Other measures which could be introduced to reduce energy and water use (two responses)**

One NGO felt that the efficiency and performance of electric showers could be improved as the current ecodesign and energy labelling regulations do not provide information on the performance and comfort of the shower. It also suggested that there were large differences in the energy and water efficiency between different electric showers.

## **Question 30**

**What more could be done to enhance the resource efficiency of taps, shower valves and shower heads?**

We received eight responses to this question from stakeholders including manufacturers, a local authority, a consultancy, a trade association, and a water labelling organisation.

Some respondents highlighted the difficulty of recycling some materials used in taps and showers, with the example of chrome plated plastic posing a particular problem to recycling processes. The respondent further suggested that a ban on galvanic coating in the plastic parts could improve the rate of recycling in the taps and showers sector. A trade association highlighted the fact that impurities can increase the more materials go through the recycling stream.

Another response felt that introducing similar resource efficiency requirements to the ecodesign regulations recently introduced for washing machines and refrigerators (such as the availability and access to spare parts, and the dismantling for material recovery) would be possible.

## Question 31

Based on existing technologies, what is the maximum amount of energy and water that could be saved from taps and showers in the following timeframes after 1 January 2021?:

6-12 months; 12-24 months; 2-3 years; 3-5 years; More than 5 years

We received two responses to this question from NGOs. Other responses to this question have been summarised within question 29.

An NGO suggested that fitting a flow regulator to a showerhead could result in significant water and energy savings. However, they noted that these savings would be lost if the user felt obliged to spend a few more minutes showering because of the low flow.

A study commissioned by an NGO assessing water and energy savings was highlighted by some respondents. The study<sup>25</sup> was based on existing technologies, under a mandatory labelling scenario with minimum standards. The study projected that up 21,000 MWh/year in energy and 705,000 Mlitres/year of water could be saved within 10 years.

## Chapter 2.2.2: Smart Appliances

Smart appliances are not currently subject to Ecodesign regulations. The European Commission's preparatory studies have demonstrated that specifying smart functionalities in Ecodesign regulations could save significant energy and carbon. However, it has also indicated that the case for regulation would need further consideration.

In December 2020, the Government published the Energy White Paper<sup>26</sup>, which committed to publish a new Smart Systems Plan in Spring 2021. The white paper also restated our commitment to take powers to regulate smart appliances based on principles including interoperability, data privacy and cyber security, legislating when Parliamentary time allows<sup>27</sup>.

In tandem, we are developing new technical standards with the British Standards Institution (BSI) to support the uptake of domestic Energy Smart Appliances and to facilitate the provision of Demand Side Response (DSR) services to small-scale consumers<sup>28</sup>. Publicly Available Specifications (PAS) 1878 and 1879 will be published in 2021.

Questions 32 to 34 asked respondents for their opinions on the potential environmental and economic benefits of smart appliances, and the potential impacts of the UK taking the lead on regulation in this area.

### Question 32

What quantifiable environmental benefits do you see as being potentially available if the UK became international leaders on the regulation of smart appliances?

We received 20 responses from a range of stakeholders including trade associations, energy suppliers, manufacturers, think tanks, independent advice services on energy and efficiency, not-for-profit professional organisations, and consumer support organisations.

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<sup>26</sup> <https://www.gov.uk/government/publications/energy-white-paper-powering-our-net-zero-future>

<sup>27</sup> <https://www.gov.uk/government/consultations/proposals-regarding-setting-standards-for-smart-appliances>

<sup>28</sup> <https://www.bsigroup.com/en-GB/about-bsi/uk-national-standards-body/about-standards/Innovation/energy-smart-appliances-programme/>

The answers focussed on four main themes: consumer attitudes and engagement, maximising DSR potential, the impact of regulation on innovation and deployment, and other relevant government interventions.

### **Consumer Attitudes (four responses)**

Some respondents felt that environmental benefits will depend on consumer uptake rather than regulation, with some echoing that benefits will only be realised if smart appliances are deployed on a large scale. Other respondents argued that regulation and standards on products destined for the GB market would increase cost for consumers and slow down deployment, and therefore government intervention should be targeted on deployment first. One response made the point that higher environmental benefits may be unlocked if smart appliances prioritise grid carbon intensity.

### **Maximising DSR Potential (eight responses)**

Several respondents including trade associations, energy suppliers and independent advice services, felt that the environmental benefits could be realised through domestic DSR at scale, which could make an important contribution to grid flexibility and will help support the integration of low carbon energy sources and electric vehicles in the electricity system. Another respondent went further to suggest that regulating smart appliances will accelerate the transition to net zero, however concerns were raised that regulation should be proportionate to protect consumers and support innovation.

### **Impact on innovation and deployment (four responses)**

There were four respondents, from trade associations to manufacturers, who commented that regulation at this point was not appropriate given the current low level market penetration of smart appliances. Others went further to say that regulation would stifle innovation and would add costs and complexity for consumers. Some respondents stated that regulation should focus on rewarding the application of smart appliances for energy efficiency, and the primary concern should be to align standards internationally. A further response suggested that government interventions should focus on incentivising the deployment of smart appliances.

### **Coordinated regulation with other government initiatives (eight responses)**

Four of the responses, including from trade associations, consumer advice and suppliers also referenced the on-going development of the British Standards Institution's technical standards for smart appliances (PAS1878 and PAS1879)<sup>29</sup>. One respondent felt that regulation of appliances should wait until the

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<sup>29</sup> <https://www.bsigroup.com/en-GB/about-bsti/uk-national-standards-body/about-standards/Innovation/energy-smart-appliances-programme/>

standardisation work is complete, as the standards will present a more coherent perspective for the smart appliances sector. Another respondent noted that alignment with international standards should be viewed as an important objective.

Finally, another respondent commented that the focus of regulation should also consider resource efficiency and that more gains could be made by adopting minimum standards through the lifecycle of the appliances, including durability, component reuse and critical raw material content.

## Question 33

**Are there any technical barriers in achieving these benefits?**

We received 12 responses from a range of stakeholders including trade associations, manufacturers, consumer advice services on energy and efficiency, and researchers.

The dominant theme and barrier that stakeholders referred to was interoperability.

A number of responses highlighted the barriers to enabling smart appliances of different types, and from different manufacturers, to interact with each other. Another mentioned that to reduce any burden and thereby increase market penetration of energy-smart appliances, the requirements must be as simple as possible. Another consideration that was raised was how different smart appliances interact with the energy grid.

A respondent also referred to other barriers alongside interoperability, including network congestion issues, potential issues with grid stability caused by cyber security and errors in appliance functionality.

A different respondent added that there is a balance to be struck between the benefits of more intelligent appliances and the need for appropriate data and privacy protections.

## Question 34

Would leading in the regulation of smart appliances allow the UK to develop economic benefits from DSR?

IF YES, would these economic benefits be exploitable in an export market?; IF NO, why not?

We received 16 responses from a range of stakeholders including manufacturers, energy services and suppliers, and trade associations within the energy sector. **11 responded yes, five responded no.**

One respondent highlighted the potential savings generated by residential flexibility, and that the export of smart systems equipment could also create many jobs. However, the respondent added that any standards that are put in place should be flexible enough to apply internationally, which would maximise export opportunities, and that the Government should draw on the work of BSI standards.

A trade association suggested there would be a significant export market for ground source heat pump technology that includes DSR. However, the respondent went further to comment that heat pump technology would need to be more widely accepted for a manufacturing presence in the UK to develop.

A risk was highlighted by one respondent that it would be more appropriate to complete the standardisation process before introducing regulation. In their view, any economic benefits would be limited by developing a system that is not aligned internationally.

There were five responses that answered negatively to question 34. The respondents emphasised that there are benefits to leading in DSR, however, regulation should come after a period of growth which has not been fully developed. The respondent emphasised that the technology is changing rapidly, meaning that regulation at this time could potentially hinder the development of DSR-ready devices. Another respondent also mentioned that it was important to complete the work on the standardisation of energy smart appliances before deciding on the right approach to regulation.

One response also mentioned administrative burdens placed on aggregators of domestic DSR assets, which could act as a disincentive for participation in ancillary services.



## Chapter 2.2.3: Heat distribution systems, hot water and heat storage

Heat emitters, hot water and heat storage products are a key enabler in the transition to low carbon heating. While hot water storage products are subject to Ecodesign regulations, heat emitters and heat storage products are not. Question 35 asked respondents for their opinions on how to maximise the energy savings achieved for these products in the UK.

### Question 35

Do heat emitters, hot water and heat storage products have a high energy savings potential, either directly or as an enabler for the adoption of lower-temperature heating, in the following timeframes after 1 January 2021?

6-12 months; 12-24 months; 2-3 years; 3-5 years; More than 5 years

We received 16 responses from a range of stakeholders including manufacturers, trade associations, think tanks and energy suppliers.

Respondents were broadly supportive of the high energy savings potential of heat emitters and heat and hot water storage across the timeframes mentioned. The majority of respondents who followed up with a written response focused on heat emitters.

Respondents highlighted how they view heat emitters as critical to the performance of heating appliances in practice. One manufacturer was clear low temperature heat emitters are essential to the application of heat pumps but would also improve the efficiency of condensing boilers and hybrid systems. Others highlighted heat emitter systems should be sized at a maximum flow temperature such as 50°C or 55°C, in order to provide energy savings. Amendments to Building Regulations part L were suggested as a way of achieving this.

A trade association felt greater deployment of underfloor heating, as a high efficiency emitter, would have a far greater impact on the UKs overall energy performance than creating minimum energy performance standards.

A number of respondents, including two trade associations, felt heat emitters were already subject to well-established European Standards frameworks (EN442), and pointed to the development of low temperature heating qualifications for installers.

Another respondent highlighted the relative difference between radiators, and factors other than the emitter itself, as a reason to not develop labelling for radiators.

A trade association highlighted the increase in commercialised products which directly offer and enable low carbon heating. They referred to new approaches to solid heat storage, smart technology storage heaters, and optimised water thermal storage. An energy supplier highlighted the use of smart cylinders to empower users to choose the volumes of water heaters. They suggested schemes such as the Energy Company Obligation (ECO) should be widened to include water heating. They also suggested smart hot water cylinders should be considered in surveys to assess heat pump installation viability.

### **Timeframes discussed by respondents**

Alongside their response, respondents were asked to select a timeframe under which they felt heat emitters, hot water and heat storage products demonstrated a high energy savings potential.

A 6-12 month timeframe was most commonly cited, as respondents felt lower flow temperatures could reduce energy use while the underlying heating load remains the same. For the 12-24 month period, a think tank suggested reducing the fundamental heating load from a building through insulation, while acknowledging this could be a costly option for the homeowner. This was echoed by a manufacturer, who felt a fabric first principle to ensure properties are adequately insulated should be taken, in advance of any changes to heat emitters. The majority of respondents did not use timeframes as a measure of implementation.

**Table 16: Timeframes within which heat emitters, hot water and heat storage products energy savings potential was discussed.**

<b>Timeframe</b>	<b>Number of responses</b>
6-12 months	3
12-24 months	1
2-3 years	0
3-5 years	1
More than 5 years	2
No timeframe suggested	9

# Chapter 3: Making energy labels more useful for consumers

Energy labels provide information to consumers on the relative energy efficiency of an energy-related product. Question 36 asked whether any energy-related products, other than those which are currently regulated, would benefit from energy labelling requirements.

## Question 36

Apart from the products listed in Table 3 [of the Energy-related Products Call for Evidence], are there other energy-related products that could be subject to energy labelling requirements to help increase the uptake of the most energy and resource efficient products?

We received 22 responses from a range of stakeholders including trade associations and manufacturers. **12 respondents suggested there are other products that could be subject to energy labelling requirements, seven suggested there are not, and three gave no indication of their opinion.**

Although energy labels are generally targeted towards the consumer, there was a lack of consumer representation among responses to this question. One respondent (an energy supplier) said all energy-related products should have energy labels.

The answers focussed on three main product groups which could benefit from energy labels: small appliances, electric and panel heaters, and package burners. There were also a number of respondents who said that no additional products should be subject to energy labelling requirements.

### **Small appliances (two responses)**

Two respondents felt small appliances such as kettles, toasters, microwaves, and hair dryers should be subject to energy labelling requirements. These stakeholders consisted of a retailer and consumer group. The arguments made in favour of an energy label for kettles and microwaves were also made by respondents in response to question 2 of Chapter 2.1.1: Cooking appliances. These arguments included the large number of these appliances in homes and their frequent use leading to high energy saving potential.

### **Electric Heaters and Panel Heaters (two responses)**

Two respondents suggested panel heaters should be considered as they expect the market for them to expand as they are the most cost-effective solution for heating small homes.

One stakeholder said 18 million<sup>30</sup> electric heaters are expected to be sold in 2020. Data provided by one respondent suggested that out of the energy savings expected for local space heaters in 2030, two thirds are expected to come from electric heaters. It was suggested introducing energy labels for electric heaters would improve consumer awareness since, although they have a low purchase price, energy costs tend to be high making electric heaters less affordable than they seem.

### **Package burners (two responses)**

Two respondents, a manufacturer and consultancy, said package burners should be subject to energy labelling requirements. One reason given was that they have proven energy saving features, although no further evidence was provided, and that installers are often pushed to the cheapest options by end users in order to secure work. With an energy label, it was argued, an additional factor to purchase price would be considered by end users.

### **No additional products would benefit from an energy label (three responses)**

Two trade associations and a manufacturer felt no additional products should be subject to energy labelling requirements. One respondent felt that there needs to be a measurable benefit from any regulation and suggested that energy labels offer diminishing returns for consumers when most products on the market are rated in the highest efficiency ratings, arguing the difference in savings are negligible.

### **Other Opinions:**

One respondent said heat pumps should have their own labelling category and another said energy labels should be considered where there is enough choice in the market to allow for informed decisions from the consumer. Other responses to this question suggested a range of other products that should be subject to energy labelling are displayed in table 17.

**Table 17 – Other energy-related products which respondents felt would benefit from an energy label**

<b>Product Type</b>	<b>Number of responses</b>
Data centres	1

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<sup>30</sup> ECOS. 2019. Stricter Regulations are needed for Electric Heaters.

Laboratory refrigeration	1
Air compressors/dryers	1
Showers	1
Foodservice equipment	1
Ovens, barbecues, and grills	1
Business to business products	1
Windows	1
Smartphones	1

# Chapter 3.1: Improving the UK energy label

Energy labels aim to communicate in clear and understandable ways the energy efficiency of energy-related products. By encouraging the uptake of the most energy efficient products, energy labels aim to support informed purchasing decisions, promote competition amongst manufacturers, and reduce energy use and consumer bills.

Questions 37 to 40 asked respondents for their opinions on the effectiveness of energy labelling and how labels could be improved to better serve consumer choice.

## Question 37

Are existing energy labels effective in encouraging the purchase of the most energy efficient products?

Very; Somewhat; Not very

We received 35 responses from a range of stakeholders including trade associations, manufacturers and consumers. **Of these responses, 54% stated energy labels are somewhat effective in encouraging the purchase of the most efficient products, but only 9% stated they are very effective and 37% not very effective.**

Respondents felt the barriers to the effectiveness of energy labels included labels not being understood by consumers and the high purchase costs of more efficient products. Others were keen to stress that they felt energy labels are not relevant to the hot water and heating sector.

### **Labels are not understood by consumers (five responses)**

Five respondents ranging from manufacturers and trade associations to retailers thought labels were not currently effective as they felt they are not understood by consumers, however no evidence was provided to support this. It was argued that if labels were clearer to consumers, they could have a bigger impact on purchase decisions.

Respondents went on to explain that some labels use symbols which consumers can struggle to understand and that lessons can be learned from the energy-star program in the United States. One respondent thought current energy labels are not user friendly and informative to the consumer but did emphasise that energy labels

are one of the biggest influences on consumer purchase for washing machines. The trade association said providing more information digitally would ensure additional resources not necessarily needed on the energy label would be available for those interested.

One stakeholder noted that rescaling of existing energy labels, so that products in each energy class are rescaled to lower classes and the top classes left empty, should further improve consumer understanding by more accurately displaying relative range of efficiency levels in the product market.

### **High purchase cost of more efficient products is off-putting for consumers (three responses)**

Three respondents including two consumers and a trade association suggested consumers are dissuaded from purchasing the most energy efficient products if they have a higher upfront cost. They felt that while energy labels provide a useful indication of which products use energy more efficiently, consumers do not know if the bill savings from better energy efficiency would balance higher upfront costs.

The trade association indicated that there is research<sup>31</sup> which suggests UK consumers are more price sensitive compared to consumers in the EU.

### **Energy labels are not suitable for all energy-related products (eight responses)**

Seven respondents comprising of trade associations and manufacturers either stated or implied energy labels are not relevant to hot water and heating systems since installers are usually the decision maker. These installers take on a 'dealer' role where the main factors considered are price, manufacturer warranty, and installer brand preference. This largely contrasts with the purchasing process of other labelled goods. A consultancy said in terms of boilers, the most appropriate option for the consumer may not be the most efficient.

Further, a trade association felt energy labels do not capture sophistication. They said a heat pump's efficiency, for example, depends on the flow temperature into the heat emitters and the effectiveness of controls and use by the consumer which cannot be captured in an energy label.

### **Other Opinions**

Respondents offered a range of other views on the effectiveness of energy labels, these are listed below with the number of responses in brackets:

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<sup>31</sup> EU Product policy and consumer purchasing decisions – empirical evidence from eight EU member states. Available at: [https://www.eceee.org/library/conference\\_proceedings/eceee\\_Summer\\_Studies/2017/7-appliances-products-lighting-and-ict/eu-product-policy-and-consumer-purchase-decisions-empirical-evidence-from-eight-eu-member-states/](https://www.eceee.org/library/conference_proceedings/eceee_Summer_Studies/2017/7-appliances-products-lighting-and-ict/eu-product-policy-and-consumer-purchase-decisions-empirical-evidence-from-eight-eu-member-states/)

Some views demonstrating the effectiveness of labels included:

- Appliances have become more efficient due to the competition and innovation created by energy labels (1)
- When consumers are offered financial incentives to upgrade, they will switch to more energy efficient products (1)
- Energy labels provide a good indication of running costs (1)

Other views from respondents on why energy labels are not as effective as they could be included:

- Energy labels should be paperless (3)
- Energy Labels are not easily visible on merchant's websites (2)
- Products are not as efficient at home compared to when tested in the laboratory (2)
- Energy labels are not a driver of sales otherwise marketing teams would promote them more (1)
- Energy labels are an inconvenience to consumers who do not take notice of them and do not like them being stuck on the products they purchase (1)
- Energy labels have little function post-purchase where they are disposed of and cannot be recycled (1)

## Question 38

Can energy labels be used to promote more energy efficient in-use practices by consumers?

We received 23 responses to this question from a range of stakeholders including trade associations, research organisations and manufacturers.

Popular responses suggested that consumers may be uninformed about the most energy efficient in-use practices and that displaying the average lifetime cost of a product or including information about smart controls could improve in-use practices. However, respondents were also keen to note that varying consumer habits would represent a barrier.

### **Difficulties associated with consumer habits (eleven responses)**

Eleven respondents from a diverse group including a members of the public, trade associations, manufacturers, a research centre, local authority, and an NGO suggested consumer habits would be a barrier to energy labels effectively promoting energy efficient in-use practices. The consumer habits highlighted included:



- consumers having their own frequency of product use;
- the misuse of equipment; and
- consumers not always understanding the most efficient use of some appliances (for example, for washing machines and dishwashers where a longer cycle can be more energy efficient, contrary to consumer beliefs).

One respondent suggested including information on efficient use on the packaging of a product to guide the purchase and in a user manual to guide the usage. They said energy labels do not have capacity to capture all relevant information.

Three explained their reasoning was with regards to heating and hot water systems due to the wider installation system and energy labels for heating having little meaning for consumers. One trade association said the supply chain for business to business is one where installers tend not to offer choices based on energy labels due to other factors that need to be considered. A manufacturer, however, did suggest installers should be provided with support in the form of educational tools on energy labelling to be able to influence the consumer.

### **Information on average lifetime cost and efficient use (eight responses)**

Eight respondents (member of the public, manufacturer, two trade associations, energy supplier, local authority and an NGO) mentioned that the addition of average lifetime cost information could promote more energy efficient in-use practice. This would allow consumers to see if a product with a higher upfront cost would be good value for money, taking into consideration how much it will save them on energy bills over its life. However, two respondents expressed concerns with the accuracy this information would hold as energy labels may not be able to account for different consumer usage patterns; this information could only ever serve as a guide.

### **Smart Controls (three responses):**

Three stakeholders, an R&D group, a manufacturer and trade association, suggested that energy labels could promote more energy efficient in-use practice with the addition of smart controls such as guided cooking, which would result in consumers only using the amount of energy required. This was suggested to be delivered on an additional sticker or label to avoid overloading the energy label.

## Question 39

What impact would expanding the scope of energy labels, to include information about resource efficiency, have on consumer purchasing decisions?

We received 27 responses to this question, primarily from trade associations, manufacturers and NGOs.

There were mixed views on the impact of expanding the scope of energy labels. Positive views expressed that consumers would be able to make a more informed decision whereas others were concerned there would be no impact, with too much information on the energy label for consumers.

### **Consumers would be able to make a more informed decision (five responses)**

Three respondents, a manufacturer, retailer, and an NGO, thought expanding the scope of energy labels would enable consumers to make a more informed decision in their purchases. Two of the three stakeholders did not elaborate on this. The other referred to the Eurobarometer survey conducted in 2014<sup>32</sup> which showed that 77% of EU consumers would rather repair their goods than buy a new one. This, they felt, suggested information on resource efficiency would be welcomed by consumers. Additionally, they referenced that the 2020 Eurobarometer survey found that 80% of consumers think manufacturers should be required to make it easier to repair or replace parts of products.

A further two respondents said the UK should follow the approach taken by France who adopted their own repairability score for products which allows consumers to compare products repairability. The score is on a rating from one to ten which is calculated by factoring the availability and pricing of spare parts and the ease of disassembly.

### **There would be too much information for consumers (five responses)**

Three respondents said including information about resource efficiency on energy labels would present too much information for consumers. One opinion was that more information would compromise the legibility of information on the labels, reducing their effectiveness. Another stakeholder highlighted that consumers actively avoid an overload of information and simple, visual information provided online can outperform traditional labels. Another respondent suggested that there is a trade-off

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<sup>32</sup> The Eurobarometer survey is a public opinion survey conducted on behalf of the European Commission. <https://www.europarl.europa.eu/at-your-service/en/be-heard/eurobarometer>

between making information easy to understand and providing too much information such that consumers are dissuaded from reading it.

Two stakeholders suggested if information about resource efficiency was to be provided, it should be done so digitally rather than on the energy label itself, for example via a QR code.

### **There would be no impact (five responses)**

Five respondents including manufacturers, a trade association and consultancy suggested there would be no impact of including information about resource efficiency on consumer purchasing decisions. It was explained this was because it would not provide any information on the availability of repair services. Instead, it was suggested a repairability score should be combined with a rating of the available service network offered by the manufacturer. This would give consumers full information about the likelihood of repair of a certain appliance.

The consultancy said there would be no impact as consumers need to first be competent in understanding resource efficiency. This ties with comments raised by stakeholders above arguing that including resource efficiency information on energy labels would be overwhelming for consumers.

Two negative responses referenced only heat pumps and gave no indication of their thoughts on other energy-related products. A further three respondents said resource efficiency is not relevant to the heating and hot water sector because there tends to be no consumer engagement.

### **Other Opinions:**

Two respondents said it was too early to say as policies for resource efficiency are still largely under development.

It was also suggested that more evidence and consideration is needed before changes are made and a report by WRAP<sup>33</sup> which demonstrated the difficulty of portraying information about resource efficiency on labels was highlighted.

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<sup>33</sup> The Effectiveness of Providing Labels and other Pre-Purchase Factual Information in encouraging more Environmentally Sustainable Product Purchase Decisions: Expert Interviews and a Rapid Evidence Assessment. Available at: [www.wrap.org.uk/sites/files/wrap/Env%20Sust%20Product%20Purchase%20Decisions\\_0.pdf](http://www.wrap.org.uk/sites/files/wrap/Env%20Sust%20Product%20Purchase%20Decisions_0.pdf)

## Question 40

How can energy labels be made more useful for UK consumers (e.g. by including a product's average lifetime energy costs, by using more/less text or imagery etc.)?

We received 29 responses from a range of stakeholders including trade associations, manufacturers and energy suppliers.

There were a wide range of responses with a few common themes emerging around: including lifetime costs or costs per year; displaying additional information online; and the opinion that less information is more effective than more.

### **Include (average) lifetime costs or cost per year (eight responses)**

Eight stakeholders were of the opinion energy labels should include information about the lifetime costs or cost per year of using an energy-related product. These opinions came from energy suppliers, trade associations, a consultancy, local authority, NGO and consumer body.

It was felt this information would be more likely to influence consumers to purchase the product with the lowest lifetime cost, emphasise the difference in savings and mitigate the negative impact higher upfront costs can have on consumer choice. One respondent highlighted the importance of this since energy usage of products varies even if they have the same efficiency rating. This was across A+ rated fridges. Another stakeholder suggested cost per use rather than lifetime cost would be more appropriate since usage varies from consumer to consumer.

Similar points were also raised in response to question 38, where eight respondents said average lifetime cost could promote more energy efficiency for products in-use. However, a particular risk that information about lifetime costs are not reliable was raised by four stakeholders. These stakeholders included a manufacturer and trade associations.

A response suggested an attempt to quantify the lifetime energy costs of a product could dissuade a consumer from choosing the most energy efficient product. This they felt was because the difference in energy efficiency between the energy classes have been getting smaller. Without a significant difference between lifetime costs consumers may be pushed to consider products with a lower upfront cost which could be less efficient as the potential for lifetime savings from more efficient products would be small.

### **Display additional information online (three responses)**

Three respondents thought energy labels could be made more useful for consumers by providing additional information online. One stakeholder suggested this could be

done by developing an app that consumers can use to compare different models of an appliance and calculate the running cost, or by adding a QR code to the energy label as has been done through an EU funded app.

### **Less is more (three responses)**

Three stakeholders including a research centre, trade association and consumer group believed including less information on energy labels would make them more effective. Their view was that too much information can result in important information being crowded out.

The trade association said keeping the message simple is key whilst the research centre said too much information can confuse consumers and possibly stop them from using the label.

The research centre also said additional information for consumers should be displayed online, echoing previous comments about this.

### **Other Opinions:**

There were many other suggestions on how energy labels could be made more useful for consumers, with some suggestions echoing or contradicting suggestions outlined above. Other views are listed below with the number of responses in brackets:

Additional imagery/information:

- Include material efficiency, repairability, and disposal information (4)
- Include imagery such as a pictogram on the energy label (2). Suggestions included to indicate the type of refrigerant, or to indicate additional features.
- Use a traffic light system similar to that of nutritional labels for energy use through a product's whole life-cycle (1)
- Indicate smart functionality (1)
- Implement a best-in-class mark (1)

Product specific responses:

- Energy labels are not relevant in the heating sector (4). Respondents felt the price per kWh of the primary energy source and the carbon intensity of primary fuel needs to also be considered.
- Put boilers and heat pumps on the same efficiency scale (1)

Other responses:

- Ensure consumer understanding (2)
- Make use of consumer incentives (1)
- Only introduce 'A' rated products into the market (1)
- Make the scale comparable between different types of products (1)
- Grey out classes where no products of that type belong to the class (1)
- Energy labels are currently non-recyclable so a new approach should be considered such as making more use of technology (for example e-labelling would also allow labels to be updated more periodically) (1)

# Chapter 4 – Market Surveillance

Market surveillance authorities (MSAs) ensure energy-related products are compliant with relevant ecodesign and energy labelling requirements so that the energy savings and consumer benefits which result from the uptake of the most energy and resource efficient products are realised.

The Office for Product Safety and Standards (OPSS) enforces ecodesign and energy labelling requirements placed on manufacturers and importers across the UK. Trading Standards and the Department for the Economy (NI) enforce energy labelling requirements placed on retailers in Great Britain and Northern Ireland respectively. The Advertising Standards Authority (ASA) is responsible for ensuring marketers' advertising of energy labelling across various forms of media is in accordance with UK advertising codes.

Questions 41 to 44 invited respondents to provide evidence on the effectiveness of UK market surveillance and views on how to improve both reporting and levels of compliance. Stakeholders' responses to this Call for Evidence on market surveillance will feed into the forthcoming Post Implementation Reviews of the Ecodesign for Energy-Related Products Regulations 2010 and the Energy Information Regulations 2011 which establish the compliance and enforcement regimes for Ecodesign and Energy Labelling Regulations.

In addition to summarising the responses received, where responses indicated that respondents were possibly not fully aware of all existing enforcement activities additional text in italics and footnotes have been included in this chapter to provide further context around existing activities.

## Question 41

*Question 41 asked respondents about how effective existing UK market surveillance activities are for Ecodesign and Energy Labelling. Existing activities carried out by OPSS include checking technical documentation, testing products, engaging directly with stakeholders including manufacturers and Trade Bodies on matters of compliance. Some tools and guides available online including specific dedicated webpages for ecodesign<sup>34</sup> and energy information<sup>35</sup> and OPSS also publish an*

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<sup>34</sup> Ecodesign Regulations guidance. Available at: <https://www.gov.uk/guidance/placing-energy-related-products-on-the-uk-market>

<sup>35</sup> Energy Information guidance. Available at: <https://www.gov.uk/guidance/the-energy-labelling-of-products>

*annual delivery report*<sup>36</sup> as well as *public sanctions*<sup>37</sup>. OPSS work with Local Authority Trading Standards in a number of areas including supporting Primary Authority and Better Business for all.

How effective are existing UK market surveillance activities for Eco-design and Energy Labelling? Please choose one of the below options and provide evidence and/or data:

Very; Somewhat; Not very

We received 28 responses from a range of stakeholders including manufacturers, trade associations, independent researchers, and members of the public. **Eleven of these respondents considered the UK's MSA activities to be 'somewhat effective' and 17 thought them to be 'not very' effective.** Responses below have been sorted by these choices.

### **Somewhat effective (11 responses)**

Eleven respondents, including consultancy, member of the public, three manufacturers, three trade associations, a research group, retailer, and NGO viewed OPSS as having a clear communication and engagement strategy that has led to adequate testing across several products groups.

### **Not very effective (17 responses)**

Respondents highlighted products such as heat pumps, compressors and fans as examples of imported products that do not meet UK requirements. Respondents were keen to emphasise that this issue, if left unchallenged, could harm domestic manufacturers. An EU study<sup>38</sup> that claimed 10% of potential energy savings from EU Ecodesign and Energy Labelling Regulations had been lost due to a lack of market surveillance across the EU was referenced. Another three respondents claimed they have not seen effective policing of products including space heaters, water heaters, ventilation units, refrigerators, and transformers.<sup>39</sup> Groups raising these points included manufacturers, energy consultants, trade associations, and NGOs.

Six respondents believed that the reason MSA activities have not been effective was due to a lack of resourcing, resulting in a low number of products being tested.

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<sup>36</sup> OPSS delivery report. Available at: <https://www.gov.uk/government/publications/office-for-product-safety-and-standards-delivery-report>

<sup>37</sup> OPSS statutory enforcement actions. Available at: <https://www.gov.uk/government/publications/statutory-enforcement-actions>

<sup>38</sup> Ecofys Final technical report Evaluation of the Energy Labelling Directive and specific aspects of the Ecodesign Directive. Available at: [https://ec.europa.eu/energy/sites/ener/files/documents/Final\\_technical\\_report-Evaluation\\_ELD\\_ED\\_June\\_2014.pdf](https://ec.europa.eu/energy/sites/ener/files/documents/Final_technical_report-Evaluation_ELD_ED_June_2014.pdf)

<sup>39</sup> OPSS and predecessor MSAs have undertaken or contributed towards market surveillance projects focusing on a broad range of product types; including many of those identified by the respondents. Activities include documentation inspections, test purchases, and independent compliance testing.



Respondents who raised this issue included manufactures, trade associations, energy consultants, and NGOs.

### **Suggested areas for improvement (3 responses)**

Three respondents, consisting of a consumer group, a trade association and an independent researcher provided the following recommendations to improve the effectiveness of market surveillance in the UK:

- Improve transparency by publishing details of enforcement actions for ecodesign and energy label regulations and a forward programme of the market surveillance planned for the year ahead.
- Introduce a communications plan to educate stakeholders about compliance.
- Publish an annual budget for energy-related products.
- Improve co-ordination between different MSA activities and UK agencies.
- Increase random inspections.

The NGO also recommended that OPSS should be transitioned into an arms' length, independent and consumer-focused regulator with the appropriate powers, resources, and expertise.

## **Question 42**

*Question 42 asked respondents for their views on the effectiveness of market surveillance activities for products purchased online. The Energy Labelling Regulations has three appointed MSA's. OPSS is responsible for ensuring an accurate label is provided by the producer and has recently introduced a team dedicated towards online market surveillance. Trading Standards Authorities are responsible for the display of labels in respect of dealers (retailers). The ASA is responsible for ensuring marketers' advertising of energy labelling across various forms of media, including online, is in accordance with UK advertising codes.*

How effective are existing UK market surveillance activities for products that are purchased online? Please choose one of the below options and provide evidence and/or data:

Very; Somewhat; Not very

We received a total of 28 responses from range of stakeholders including trade associations, manufacturers, and energy suppliers.

Respondents generally noted that market surveillance for products purchased online is less effective than for those which are purchased physically. **The majority of respondents, 22, felt existing UK market surveillance for online products was ‘not very’ effective compared to 6 respondents who felt it was ‘somewhat’ effective.** Response below have been organised by these choices.

### **Not very effective (22 responses)**

Eight respondents felt that online MSA activities have not been very effective without further information. 14 respondents stressed lack of market surveillance for online marketplaces. One NGO and one independent researcher both highlighted MarketWatch<sup>40</sup>, an EU study that claims under 50% of products checked on online retailing sites were labelled correctly, compared to higher compliance rates of over 70% in physical stores. However, one respondent highlighted a lack of market studies makes determining the exact level of compliance in online retail in the UK difficult. Eight respondents mentioned that they have not witnessed any sort of evidence of market surveillance for online stores which, in their view, has resulted in websites not engaging with Ecodesign and Energy Labelling requirements.<sup>41</sup>

Four respondents felt that some suppliers with no UK bases of operation have less incentive to comply. Furthermore, an independent researcher also claimed online products are removed only to reappear under different brands, making it more challenging for the MSA to control<sup>42</sup>.

These issues were echoed by a diverse pool of respondents including trade associations, manufacturers, energy consultants and independent researchers.

### **Somewhat effective (six responses)**

Four respondents including a consumer, three trade associations and a manufacturer believed online MSA activities are proportionate to the market but were also keen to emphasise they could be improved without further information.

### **Concerns about lack of resource (ten responses)**

Respondents reiterated concerns about adequate resourcing raised in question 41. A total of ten respondents felt a lack of resource was a driver in less effective online market surveillance although the majority of these responses did not explain further.

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<sup>40</sup> MarketWatch Project (2013-2016). Available at: [MarketWatch final report - Involvement of civil society in market surveillance of Ecodesign and Energy Labelling](#)

<sup>41</sup> OPSS has a programme of Market Surveillance activity that covers many sectors and includes shops, online platforms and retailers. Recent work has seen a number of items removed from online market places.

<sup>42</sup> The Energy labelling regulations has two appointed MSA's. OPSS is responsible for ensuring an accurate label is provided by the producer and has recently introduced a team dedicated towards online market surveillance. Trading Standards Authorities are responsible for the display of labels in respect of dealers (retailers).

## Question 43

*Question 43 asked respondents about improving the process of reporting non-compliant business and/or products. Currently reports can be made via an online enquiry portal<sup>43</sup>. Further methods of communication can be found at OPSS's webpage<sup>44</sup>.*

*OPSS's publicly available service and standards<sup>45</sup> along with the enforcement policy<sup>46</sup> both set out expectations, along with the possible consequences of non-compliance.*

How can the process of reporting non-compliant businesses and/or products to UK market surveillance authorities be improved?

We received 23 responses from a range of stakeholders including manufacturers, trade associations and independent researchers.

Respondents stressed the importance of two-way communication between the MSA and UK's stakeholders. It was recommended that the MSA should have a clear online dedicated procedure for reporting non-compliant businesses and products. This should also include the possible consequences of non-compliance and providing guidelines for meeting requirements.

Respondents also suggested MSAs should improve their levels of communication with retailers and to continue holding them accountable for ensuring energy labels are displayed correctly. These issues were raised by trade associations, manufacturers, and energy suppliers.

A particular example, the Japanese Top Runner scheme, was raised by two respondents. This is a scheme which names manufacturers who violate standards and, according to the respondent, has resulted in very high rates of compliance in Japan.

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<sup>43</sup> OPSS enquiry form. Available at: <https://www.rohs.bis.gov.uk/enquiry/>

<sup>44</sup> OPSS webpage. Available at: <https://www.gov.uk/government/organisations/office-for-product-safety-and-standards>

<sup>45</sup> OPSS service standards guidance. Available at: <https://www.gov.uk/government/publications/safety-and-standards-enforcement-service-standards>

<sup>46</sup> OPSS enforcement policy. Available at: <https://www.gov.uk/government/publications/safety-and-standards-enforcement-enforcement-policy>

## Question 44

Would the provision of UK Ecodesign and Energy Labelling regulations and guidance in languages other than English help improve levels of compliance?

We received a total of 19 responses from a range of stakeholder including manufacturers, trade associations, independent researchers, and members of the public. In some cases, respondents interpreted the question as asking solely about including other languages on the energy label rather than providing translations of the legislation and accompanying guidance in other languages.

Three respondents believed one other language, if introduced would help with the level of compliance. However, two of these respondents interpreted the question as asking about adding other languages on the energy labels. One respondent suggested that those languages from the countries the UK imports substantial quantities of products from, such as Turkey and China, should be prioritised for translations of UK legislation and guidance.

Four respondents said that the provision of languages other than English on energy labels themselves would be helpful but did not mention the regulations and guidance. Another three respondents did not give an indication if their response was either about labels or regulations but thought adding another language other than English would be useful.

Eight respondents thought there was no need to introduce another language other than English. Two of these respondents interpreted the question as asking about energy labels rather than the regulations and guidance whilst another two of these respondents did not give an indication if they were referring to the labels, regulations or guidance.

# Chapter 5 – Exploring other policy levers

Ecodesign and energy labelling policies have been effective in making energy-related products more efficient, thereby reducing carbon emissions and consumer bills. However, there are also other policy levers which could help the uptake of more energy efficient products in the UK and contribute to the UK's net zero target.

Questions 45 and 46 asked what other policy levers would be most effective in making energy-related products more energy and resource efficient in the UK.

## Question 45

Which of the policy levers listed in Table 5 [of the Energy-related Products Call for Evidence] would be the most effective in making energy-related products more energy and resource efficient in the UK?

We received 30 responses from a range of stakeholder including manufactures, trade associations, independent researchers, and members of the public.

Respondents favoured the following policy levers: public procurement, fiscal incentives, communication campaigns, obligation schemes, and technology deployment and diffusion. Many of the respondents who favoured fiscal incentives also favoured public procurement and communication campaigns and vice-versa.

### **Public Procurement (15 responses)**

A total of 15 respondents supported this policy lever, with three respondents, including one trade association, and two manufacturers emphasising that, ahead of the COP26, the UK should lead by example by introducing a minimum public procurement standard that could see the government purchase the most energy efficient products as an example to others. They also suggested the UK could learn from Australia's NABERS and Korea's GPP schemes that have driven up the market for the energy performance products with results being published annually.

### **Fiscal Incentives (15 responses)**

Eight respondents supported fiscal incentives without further information. Four respondents stressed the importance of fiscal incentives as they could be used to drive businesses to invest in energy efficient products, whereas another two respondents including an NGO supported fiscal incentives for consumers to encourage the uptake of heat pumps.

One energy supplier suggested the Government should explore fiscal incentives beyond the Green Homes Grant scheme, whilst others including a trade association and two NGOs pointed to examples of fiscal incentives like that of Germany's BAFA scheme that encourages the purchase of new energy efficient equipment and Sweden's VAT reduction system.

### **Communication Campaigns (12 responses)**

A total of 12 respondents supported this policy lever. Three respondents, including a trade association and two NGOs, were keen to emphasise programmes that would train retailers on ways to ensure their customers purchase the most energy efficient products. They noted that similar programmes have been conducted in South Africa and in the EU that both have shown positive evidence.

Additionally, two respondents believed national campaigns could be effective in educating consumers about energy efficient products, promote recycling, and explain which grants are available. They also recommended more consumer research is needed on the role comparison websites play in how retail products are listed on websites, as some do not list according to the products energy efficiency level.

### **Obligation schemes (Nine responses)**

An obligation schemes is a regulatory mechanism requiring obligated parties to meet quantifiable energy savings targets across their customer portfolio. Seven respondents supported obligation schemes without further information. However, two respondents suggested actions similar to the ban of gas boilers in new build homes, but were keen to suggest that new obligation schemes should ensure a level playing field by ensuring all suppliers are under the same scheme.

### **Technology deployment and diffusion (Six responses)**

Five respondents supported this policy lever without further information. However, one manufacturer believed training support and incentives would be key to support boiler installers to switch to more renewable technology.

### **Other Opinions**

A range of other policy levers were suggested by respondents, these included four respondents in support of award schemes, three in support market compliance, and one in support of advice in implementation.

## Question 46

Are there additional policy levers, which have not been listed in Table 5 [of the energy-related Products Call for Evidence], that could be effective in making energy-related products more energy and resource efficient in the UK?

We received 26 responses from a range of stakeholders including trade associations, manufacturers, and energy suppliers. Of these responses, the most popular policy levers mentioned were building regulations, scrappage/discount schemes and market compliance.

### **Building Regulations (Nine responses)**

Five respondents mentioned building regulations have in the past been very effective at driving change in the appliances market without providing further information. However, one manufacturer, emphasised the need to stop supplying spare parts for inefficient obsolete non-condensing boilers after the right to repair is void.

Additionally, two trade associations felt BEIS should ensure future measures include a clear linkage between Ecodesign requirements and Energy Labelling, Energy Performance Certificates (EPC) and Standard Assessment Procedures (SAP) calculations. They felt this would drive manufacturers to install energy efficient appliances and meet building regulation.

### **Scrappage/Discount/Incentives Schemes (Seven responses)**

Seven respondents thought discount and incentivising schemes were important due to the higher costs of more efficient products. Two respondents including a consumer and a trade association felt scrappage schemes were a way to help overcome the upfront cost barrier and support the population in buying more efficient products. Another proposed creating schemes that would provide discounts for the best-in-class products.

### **Other opinions**

Table 18 below shows the frequency of responses which suggested additional policy levers but without providing further evidence.

**Table 18: Other policy levers suggested by respondents**

<b>Policy Lever</b>	<b>Number of responses</b>
Improved compliance with existing policy and regulations	6
Reduced council tax for most energy efficient homes	2

Boilers should be purchased via energy labels not by recommendation	1
Big data could capture customer's behaviour	1
Introduce endorsement labels alongside mandatory labels	1



# Annex A: List of Respondents

1. 2DHeat Limited
2. AMDEA
3. Anglian Water
4. Astronomical Safaris
5. Bathroom Manufacturers Association (BMA)
6. Baxi heating
7. BEAMA Ltd
8. Bosch Thermotechnology Ltd
9. BPD Ltd
10. British Blind and Shutter Association
11. British Compressed Air Society
12. British Energy Efficiency Federation (BEEF)
13. British Pump Manufacturers Association Ltd
14. BSH Home Appliances Ltd/BSH Hausgeräte GmbH
15. Bulb
16. Canadian Scotobiology Group Inc.
17. CCW - Consumer Council for Water
18. Cenergist Ltd
19. Centre for Research into Energy Demand Solutions
20. Centrica
21. Citizens Advice
22. DixonsCarphone
23. Dunphy
24. EDF Energy
25. Energy and Utilities Alliance (EUA)

26. Energy Institute
27. Energy Saving Trust
28. EOGB Energy Products Ltd
29. Foodservice Equipment Association
30. Glen Dimplex Heating & Ventilation
31. Green Alliance
32. Ground Source Heat Pump Association
33. Groupe Atlantic
34. Heat Pump Association
35. Joulia SA
36. Jubilee Group
37. Kelda Showers
38. Kohler Mira Limited
39. Light Sense Matters
40. LightAware
41. Lighting Industry Association (LIA)
42. Mixergy
43. Neoperl
44. NIBE Energy Systems
45. Nottingham City Council
46. OFTEC
47. Oil Heating Consultancy Services Ltd
48. RD&T (Refrigeration Developments and Testing Ltd)
49. Recoup Energy Solutions Ltd
50. S2E4 Product Safety and Energy Consultants Limited
51. Samsung Electronics (UK) Ltd
52. Southern Water

53. Sustricity

54. techUK

55. The Association for Decentralised Energy (ADE)

56. The Institution of Engineering and Technology

57. The Restart Project

58. UKIFDA

59. Unified Water Label

60. Vaillant Group UK Ltd

61. Waterwise

62. Which?

12 private individuals also responded.

# Annex B: Catalogue of questions

## Better regulation for existing Ecodesign measures

1. Apart from the products listed in Table 2 and in sections 2.1.1 – 2.1.8 [of the Energy-related Products Call for Evidence], are there other energy-related products that could save additional energy and resources through better minimum energy performance standards and/or resource efficiency requirements? Please provide evidence and/or data.

## Cooking appliances

- **Could better minimum energy performance standards, than those which currently apply, be set for cooking appliances to save more energy in the UK and facilitate a transition towards net zero?**

>IF YES, please provide further evidence and/or data (e.g. energy savings potential; carbon savings potential; technical feasibility; facilitation of behavioural change etc.)

>IF YES, in what timeframe could these minimum energy performance requirements be implemented after 1 January 2021? Please choose one of the below options and provide evidence and/or data:

- 6-12 months
- 12-24 months
- 2-3 years
- 3-5 years
- More than 5 years

>IF NO, why not? Please provide evidence and/or data (e.g. lack of energy savings potential; technical unfeasibility etc.)

- **Could better resource efficiency measures (material consumption, emissions, pollution and waste generation, as well as durability, repairability, recyclability and ease of material recovery) be set under Ecodesign regulations for cooking appliances in the UK?**

>IF YES, in what timeframe could these resource efficiency requirements be implemented after 1 January 2021? Please choose one of the below options and provide evidence and/or data:

- 6-12 months
- 12-24 months

- 2-3 years
- 3-5 years
- More than 5 years

>IF NO, why not? Please provide evidence and/or data (e.g. barriers to production; costs etc.)

- To what extent are energy efficient products and practices taken up in the catering sector?

## Lighting

- **Could better minimum energy performance standards, than those due to take effect from September 2021 in the EU, be set for lighting products to save more energy in the UK and enable a transition towards net zero?**

>IF YES, please provide further evidence and/or data (e.g. energy savings potential; carbon savings potential; technical feasibility; facilitation of behavioural change etc.)

>IF YES, in what timeframe could these minimum energy performance requirements be implemented after 1 January 2021? Please choose one of the below options and provide evidence and/or data:

- 6-12 months
- 12-24 months
- 2-3 years
- 3-5 years
- More than 5 years

>IF NO, why not? Please provide evidence and/or data (e.g. lack of energy savings potential; technical unfeasibility etc.)

- **Could better resource efficiency measures (material consumption, emissions, pollution and waste generation, as well as durability, repairability, recyclability and ease of material recovery) be set under Ecodesign regulations for lighting products in the UK?**

>IF YES, in what timeframe could these resource efficiency requirements be implemented after 1 January 2021? Please choose one of the below options and provide evidence and/or data:

- 6-12 months
- 12-24 months

- 2-3 years
- 3-5 years
- More than 5 years

>IF NO, why not? Please provide evidence and/or data (e.g. barriers to production; costs etc.)

- **Which lighting-related service businesses exist in the UK? Please provide data on service types, volume and any other relevant market information where possible.**

## Water pumps

- **Could better minimum energy performance standards, than those which currently apply, be set for water pumps to save more energy in the UK and enable a transition towards net zero?**

>IF YES, please provide further evidence and/or data (e.g. energy savings potential; carbon savings potential; technical feasibility; facilitation of behavioural change etc.)

>IF YES, in what timeframe could these minimum energy performance requirements be implemented after 1 January 2021? Please choose one of the below options and provide evidence and/or data:

- 6-12 months
- 12-24 months
- 2-3 years
- 3-5 years
- More than 5 years

>IF NO, why not? Please provide evidence and/or data (e.g. lack of energy savings potential; technical unfeasibility etc.)

- **Could better resource efficiency measures (material consumption, emissions, pollution and waste generation, as well as durability, repairability, recyclability and ease of material recovery) be set under Ecodesign regulations water pumps in the UK?**

>IF YES, in what timeframe could these resource efficiency requirements be implemented after 1 January 2021? Please choose one of the below options and provide evidence and/or data:

- 6-12 months
- 12-24 months

- 2-3 years
- 3-5 years
- More than 5 years

>IF NO, why not? Please provide evidence and/or data (e.g. barriers to production; costs etc.)

- **Does the UK provide any water pumps services (including research & development, repair and/or design etc.)?**
- **Is there scope for introducing systems-level Ecodesign regulations for water pumps in the UK? Please provide evidence and/or data.**

## Boilers

- **For the different heating systems discussed [Heat Pumps, Hybrid heating systems and Zero Carbon Fuels in Chapter 2.1.4 of the Energy-related Products Call for Evidence], what are the potential benefits, technical barriers, costs and impacts on UK businesses and consumers? Please provide evidence and/or data.**
- **Could tighter minimum energy efficiency levels above the existing 92% (for example 120%, 130%, 140% etc.) help bring to market low-carbon heating technologies?**

>IF YES, what exemptions may be required for certain applications? Please provide evidence and/or data.

>IF NO, why not? Please provide evidence and/or data.

- **To what extent could raising the minimum energy efficiency of boilers drive improvements in emissions savings in heating and enable a transition towards net zero?**
- **What role do you think minimum energy performance standards should play in driving a transition to zero-carbon heat? Are there alternatives, or complementary measures, that might work better?**
- **What regulatory product standard changes could be put in place to reduce cycling and improve the performance of boiler installations?**
- **Would wider modulation boilers address the performance issues in combination boilers?**

## Heat pumps

- **Could better minimum energy performance standards, than those which currently apply, be set for heat pumps to save more energy in the UK and enable a transition towards net zero?**

**>IF YES, please provide further evidence and/or data (e.g. energy savings potential; carbon savings potential; technical feasibility; facilitation of behavioural change etc.)**

>IF YES, in what timeframe could these minimum energy performance requirements be implemented after 1 January 2021? Please choose one of the below options and provide evidence and/or data:

- 6-12 months
- 12-24 months
- 2-3 years
- 3-5 years
- More than 5 years

>IF NO, why not? Please provide evidence and/or data (e.g. lack of energy savings potential; technical unfeasibility etc.)

- **Could better resource efficiency measures (material consumption, emissions, pollution and waste generation, as well as durability, repairability, recyclability and ease of material recovery) be set under Ecodesign regulations for heat pumps in the UK?**

>IF YES, in what timeframe could these resource efficiency requirements be implemented after 1 January 2021? Please choose one of the below options and provide evidence and/or data:

- 6-12 months
- 12-24 months
- 2-3 years
- 3-5 years
- More than 5 years

>IF NO, why not? Please provide evidence and/or data (e.g. barriers to production; costs etc.)

- **Could better measures be delivered under Ecodesign regulations to improve product design, such as better integration with smart systems?**



>IF YES, in what timeframe could these requirements be implemented after 1 January 2021? Please choose one of the below options and provide evidence and/or data:

- 6-12 months
- 12-24 months
- 2-3 years
- 3-5 years
- More than 5 years

>IF NO, why not? Please provide evidence and/or data (e.g. barriers to production; costs etc.)

- **Should different product standards apply to higher temperature heat pumps which may be required for hard-to-treat homes?**

## Electric motors

- **Could better minimum energy performance standards, than those due to take effect from July 2021 in the EU, be set for electric motors to save more energy in the UK and enable a transition towards net zero?**

>IF YES, please provide further evidence and/or data (e.g. energy savings potential; carbon savings potential; technical feasibility; facilitation of behavioural change etc.)

>IF YES, in what timeframe could these minimum energy performance requirements be implemented after 1 January 2021? Please choose one of the below options and provide evidence and/or data:

- 6-12 months
- 12-24 months
- 2-3 years
- 3-5 years
- More than 5 years

>IF NO, why not? Please provide evidence and/or data (e.g. lack of energy savings potential; technical unfeasibility etc.)

- **Could better resource efficiency measures (material consumption, emissions, pollution and waste generation, as well as durability, repairability, recyclability and ease of material recovery) be set under Ecodesign regulations for electric motors in the UK?**

>IF YES, in what timeframe could these resource efficiency requirements be implemented after 1 January 2021? Please choose one of the below options and provide evidence and/or data:

- 6-12 months
- 12-24 months
- 2-3 years
- 3-5 years
- More than 5 years

>IF NO, why not? Please provide evidence and/or data (e.g. barriers to production; costs etc.)

## Space cooling

- **Could better minimum energy performance standards, than those which currently apply, be set for space cooling products to save more energy in the UK and enable a transition towards net zero?**

**>IF YES, please provide further evidence and/or data (e.g. energy savings potential; carbon savings potential; technical feasibility; facilitation of behavioural change etc.)**

>IF YES, in what timeframe could these minimum energy performance requirements be implemented after 1 January 2021? Please choose one of the below options and provide evidence and/or data:

- 6-12 months
- 12-24 months
- 2-3 years
- 3-5 years
- More than 5 years

>IF NO, why not? Please provide evidence and/or data (e.g. lack of energy savings potential; technical unfeasibility etc.)

- **Could better resource efficiency measures (material consumption, emissions, pollution and waste generation, as well as durability, reparability, recyclability and ease of material recovery) be set under Ecodesign regulations for space cooling products in the UK?**

>IF YES, in what timeframe could these resource efficiency requirements be implemented after 1 January 2021? Please choose one of the below options and provide evidence and/or data:

- 6-12 months
- 12-24 months
- 2-3 years
- 3-5 years
- More than 5 years

>IF NO, why not? Please provide evidence and/or data (e.g. barriers to production; costs etc.)

## Ventilation

- **Could better minimum energy performance standards, than those which currently apply, be set for ventilation units to save more energy in the UK and enable a transition towards net zero?**

**>IF YES, please provide further evidence and/or data (e.g. energy savings potential; carbon savings potential; technical feasibility; facilitation of behavioural change etc.)**

>IF YES, in what timeframe could these minimum energy performance requirements be implemented after 1 January 2021? Please choose one of the below options and provide evidence and/or data:

- 6-12 months
- 12-24 months
- 2-3 years
- 3-5 years
- More than 5 years

>IF NO, why not? Please provide evidence and/or data (e.g. lack of energy savings potential; technical unfeasibility etc.)

- **Could better resource efficiency measures (material consumption, emissions, pollution and waste generation, as well as durability, repairability, recyclability and ease of material recovery) be set under Ecodesign regulations for ventilation units in the UK?**

>IF YES, in what timeframe could these resource efficiency requirements be implemented after 1 January 2021? Please choose one of the below options and provide evidence and/or data:

- 6-12 months
- 12-24 months
- 2-3 years
- 3-5 years
- More than 5 years

>IF NO, why not? Please provide evidence and/or data (e.g. barriers to production; costs etc.)

## Taps and showers

- **What is the size of UK manufacturing for taps, shower valves and shower heads in the domestic and non-domestic sectors? Please provide evidence and/or data for each of these product categories separately (e.g. stock, annual sales, rate of replacement, water flow rate, annual water consumption, annual primary energy demand etc.)**
- **Are there any existing measures in place which encourage energy and water savings in these products?**

>IF YES, how can they be made more effective? Please provide evidence and/or data.

>IF NO, should some be introduced (e.g. restriction of flow rates, mandatory or voluntary labelling)? Please provide evidence and/or data.

- **What more could be done to enhance the resource efficiency (material consumption, emissions, pollution and waste generation, as well as durability, repairability, recyclability and ease of material recovery) of taps, shower valves and shower heads in the UK? Please provide evidence and/or data for each of these product categories separately**
- **Based on existing technologies, what is the maximum amount of energy and water that could be saved from taps and showers in the following timeframes after 1 January 2021? Please provide evidence and/or data:**
  - 6-12 months
  - 12-24 months
  - 2-3 years
  - 3-5 years

- More than 5 years

## Smart appliances

- **What quantifiable environmental benefits do you see as being potentially available if the UK became international leaders on the regulation of smart appliances?**
- **Are there any technical barriers in achieving these benefits? Please provide evidence and/or data.**
- **Would leading in the regulation of smart appliances allow the UK to develop economic benefits from DSR?**

>IF YES, would these economic benefits be exploitable in an export market? Please provide evidence and/or data.

>IF NO, why not? Please provide evidence and/or data.

## Heat distribution systems, hot water and heat storage

- **Do heat emitters, hot water and heat storage products have a high energy savings potential, either directly or as an enabler for the adoption of lower-temperature heating, in the following timeframes after 1 January 2021? Please provide evidence and/or data:**
- 6-12 months
- 12-24 months
- 2-3 years
- 3-5 years
- More than 5 years

## Making energy labels more useful for consumers

- **Apart from the products listed in Table 3, are there other energy-related products that could be subject to energy labelling requirements to help increase the uptake of the most energy and resource efficient products? Please provide evidence and/or data.**

## Improving the UK energy label

- **Are existing energy labels effective in encouraging the purchase of the most energy efficient products? Please choose one of the below and provide further evidence and/or data:**
  - Very
  - Somewhat
  - Not very
- Can energy labels be used to promote more energy efficient in-use practices by consumers? Please provide evidence and/or data.
- **What impact would expanding the scope of energy labels, to include information about resource efficiency, have on consumer purchasing decisions? Please provide evidence and/or data.**
- **How can energy labels be made more useful for UK consumers (e.g. by including a product's average lifetime energy costs, by using more/less text or imagery etc.)? Please provide evidence and/or data.**

## Strengthening UK market surveillance

- **How effective are existing UK market surveillance activities for Ecodesign and Energy Labelling? Please choose one of the below options and provide evidence and/or data:**
  - Very
  - Somewhat
  - Not very
- How effective are existing UK market surveillance activities for products that are purchased online? Please choose one of the below options and provide evidence and/or data:
  - Very
  - Somewhat
  - Not very
- How can the process of reporting non-compliant businesses and/or products to UK market surveillance authorities be improved?

- **Would the provision of UK Ecodesign and Energy Labelling regulations and guidance in languages other than English help improve levels of compliance?**

>IF YES, which language(s) should be prioritised? Please provide evidence and/or data.

>IF NO, why not? Please provide evidence and/or data.

## Exploring other policy levers

- **Which of the policy levers listed in Table 5 would be the most effective in making energy-related products more energy and resource efficient in the UK?**
- **Are there additional policy levers, which have not been listed in Table 5, that could be effective in market energy-related products more energy and resource efficient in the UK?**