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EXECUTIVE SUMMARY OF THE IMPACT ASSESSMENT REPORT

Accompanying the document

COMMISSION REGULATION (EU) …/…

laying down ecodesign requirements for external power supplies, wireless chargers, wireless charging pads, battery chargers for portable batteries of general use and USB Type-C cables, pursuant to Directive 2009/125/EC of the European Parliament and of the Council and repealing Commission Regulation (EU) 2019/1782

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Impact assessment on a Regulation laying down ecodesign requirements for external power supplies (EPS) and repealing Regulation (EU) 2019/1782

A. Need for action

Why? What is the problem being addressed?

Each year over 400 million EPS are sold in the EU. They supply electricity to electronic and electric end-devices such as laptops, smartphones, wireless routers and electric toothbrushes. Their energy efficiency is regulated under Regulation (EU) 2019/1782 setting ecodesign requirements. The regulation contains a requirement for it to be reviewed in the light of technological progress. The review clause identifies a number of specific requirements to be addressed relating in particular to energy efficiency at 10% load, the scope and aspects relating to the circular economy in particular interoperability.

The regulation has been evaluated and found to have been effective in reducing EPS energy consumption. It is also found to remain relevant, but the changing market for powered products and evolving semiconductor technologies were identified as offering unexploited potential for further energy, environmental and consumer benefits.

Separately, through an amendment of the Radio Equipment Directive 2014/53/EU, the EU has made a first step towards a common charging solution for electronic devices. This mandated a common connector and charging protocol for a range of electronic devices in particular smartphones, laptops and tablets. It was recognised at the time of the adoption that a parallel need existed to regulate EPS used to power these and similar devices.

The intervention aims to identify the optimal ecodesign requirements for EPS to contribute to the EU's energy efficiency and environmental goals, support a more circular economy and avoid barriers to EPS in the single market. The requirements of the Ecodesign Directive mean that the stringency of the energy efficiency requirements should be set at the level to achieve the lowest lifecycle cost for consumers, delivering cost savings while contributing to the overall EU goals.

At present the energy consumption of the roughly 2 billion EPS in the EU amounts to about 11.6 TWh which is about 0.5% of EU final electricity consumption. Energy and pollutant emissions also occur during their manufacture. The greenhouse gas emissions from their production and use are estimated to be about 2 Mt CO_{2eq} annually.

What is this initiative expected to achieve?

The initiative is expected to result in more efficient EPS that will use less electricity to power the end-devices and thus save consumers money on their electricity bill. It will also result in lower pollutant and greenhouse gas emissions from the electricity generation.

Through the interoperability requirements, the initiative will reduce consumers need to purchase new EPS with every powered product and lower their expenditure. Through the lower purchases of EPS there will be a reduced need for materials and lower energy and pollutant emissions form manufacture.

Taken together these energy efficiency and interoperability requirements contribute to the EU's energy, climate and environmental objectives.

The interoperability requirements are expected to substantially increase consumer convenience by ensuring that EPS are reusable with different devices and can readily be substituted by another in case of failure or loss.

What is the value added of action at the EU level?

The Ecodesign Directive, which provides the framework for regulating the performance of EPS and other energy-related products, was adopted to ensure EU added value. It empowers the Commission to regulate the environmental performance of these products while ensuring that the requirements are the same across the single market thus avoiding any barriers to the free movement of products.

By establishing ecodesign requirements at EU level, more environmentally friendly, energy efficient products are made available throughout the EU, in all Member States. This market is many times larger than that in a single member state and thus creates a far greater incentive for industry to innovate and develop products that satisfy the requirements in the most cost-effective manner.

There is therefore clear added value in establishing ecodesign requirements at EU-level. Without harmonised EU level requirements, Member States could be incentivised to lay down national product-specific minimum requirements in the framework of their national environmental and energy policies creating barriers to trade. This was the case for many products before ecodesign measures were established at EU level.

B. Solutions

What legislative and non-legislative policy options have been considered? Is there a preferred choice or not? Why?

A wide range of possible measures have been explored through dialogue with stakeholders in the Ecodesign and Energy Labelling Consultation Forum and bilateral meetings as well as through written comments. Those explored measures have addressed energy efficiency, interoperability and durability of EPS.

A voluntary agreement was considered but the product is characterised by a very large number of manufacturers and so for such an agreement to be established covering a large market share is implausible. Industry has not expressed interest in such an agreement and so this option has been discarded.

Various other measures were discarded after a preliminary analysis including:

- Repairability requirements.
- Harmonisation and active efficiency limits for wireless charging.
- EU Energy Label.
- Mandatory unbundling of the EPS from the powered product.
- Scope extension to EPS for lighting equipment and e-bikes.
- Information requirements on efficiency.
- USB requirements for EPS powering certain product categories, including wet-use applications, vacuum cleaners, toys and audio devices.

Policy options packaging different measures to explore a range of energy efficiency levels and circular economy angles were assessed. A preferred option was selected that ranked best when scored on its energy efficiency to achieve the lowest life cycle consumer cost, its effectiveness at reducing energy use and emissions, its cost efficiency and its coherence with other EU policy. The preferred option combines the following measures:

- Extension of the scope to wireless chargers, single-cell battery charging devices, active PoE injectors and standalone USB EPS.
- Interoperability requirements for EPS with an output power below 240W, powering end-devices such as: IT and telecom equipment (e.g. wireless routers), consumer and office electronics (e.g. computer monitors, set-top boxes, gaming consoles), single-cell battery charging devices, wireless charging pads.
- Information requirements on interoperability including a Common Charger EU logo.
- Minimum efficiency requirement at 10% load operation for EPS > 10W.
- More stringent active average and no-load energy efficiency requirements.
- Standby power consumption limit for wireless charging pads.
- Externalisation of power supply circuitry for wireless chargers and single-cell battery chargers.
- Durability requirements, in particular detachable output cables.

The preferred option will lead to around an additional 35 to 40% of the EU EPS market becoming interoperable on top of the approximately 50% that is expected to be as a result of the Radio Equipment Directive requirements.

Who supports which option?

Stakeholders and experts from national authorities, industrial associations, environmental NGOs and consumer groups were consulted extensively during the review process. An initial set of options were presented to the Ecodesign and Energy Labelling Consultation Forum in February 2023. A second Consultation Forum Meeting was held in November 2023. The preliminary analysis, the evaluation and all relevant documents were made available to participants online, including minutes, presentations, and stakeholder's position papers. Bilateral meetings were also held with industrial associations and technical experts.

Environmental and consumer NGOs were strongly in favour of more stringent efficiency and the introduction of interoperability and durability requirements. Member State positions were more nuanced, with some favouring stricter efficiency requirements and others sceptical of durability requirements. Business and industry tended to be more sceptical in relation to the efficiency requirements at 10% load and the interoperability and durability aspects.

The majority of reactions were received in response to the interoperability measures. In particular some Member States and industry associations raised potential safety issues for EPS operating in wet environments (e.g. bathrooms), or requiring specific electrostatic discharge protection (e.g. vacuum cleaners). Concerns were raised also regarding lighting applications. Clarity was requested regarding the requirements for battery charging devices. Arguments were presented in favour of an applicability threshold for the new 10% load requirements. Environmental NGOs requested stringent efficiency requirements, also for wireless charging and additional durability requirements for cables.

C. Impacts of the preferred option

What are the benefits and costs of the preferred option (if any, otherwise main ones)?

The main benefits that are expected from the preferred option are lower energy use, both during use and in manufacture, and associated with that, lower greenhouse gas and pollutant emissions. Less material will be used both in the manufacture of EPS, as a result of greater EPS reuse, and from combustion of fuel to generate electricity.

In quantitative terms, the preferred option is expected to save each year by 2035 around 3% EPS lifecycle energy consumption, 9% of related GHG emissions and around 13% of related pollutant emissions, all compared to BAU. These benefits will come at a reduction in consumer expenditure of around €100m per year by 2035. Societal lifecycle cost savings are estimated to be somewhat higher at around €130m per year.

The interoperability requirements will lead to a considerable increase in consumer convenience that, if monetised, is estimated to deliver additional benefits to consumers of a comparable order of magnitude.

Will there be significant impacts on national budgets and administrations?

There are no additional impacts on national budgets or administrations. For manufacturers, the envisaged measures would lead to an extremely limited additional administrative burden, due only to requirements to print specific additional information. These additional costs for integrating the Common Charger logo on the EPS nameplate and its packaging are estimated to be in the sub-cent range up to am maximum of €0.001 per unit sold, amounting to a maximum of around €400k per year for all EPS placed on the EU market.

Will there be other significant impacts?

This revision is expected to support innovation, as a result of setting minimum technical requirements and leaving competition in how to satisfy them. It supports ongoing market trends towards higher energy efficiency. The following requirements are novel and are expected to be followed in other markets and jurisdictions:

- Energy efficiency requirements at 10% load.
- Interoperability requirements ensuring compatibility of EPS to power a wide range of equipment.
- Durability requirements increasing the overall quality and lifetime of EPS sold in the EU.

D. Follow up

When will the policy be reviewed?

A review is envisaged 5 years after adoption of the revised Regulation. At that point an evaluation of the Regulation would be performed based on market data and other information.