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**COMMISSION STAFF WORKING DOCUMENT**  
**EXECUTIVE SUMMARY OF THE IMPACT ASSESSMENT**

*Accompanying the document*

**Commission Regulation**

**laying down ecodesign requirements for servers and data storage products pursuant to Directive 2009/125/EC of the European Parliament and of the Council and amending Commission Regulation (EU) N°617/2013**

{C(2019) 1955 final} - {SEC(2019) 149 final} - {SWD(2019) 106 final}

## Executive Summary Sheet

*Impact assessment on the Proposal for a Commission Regulation laying down ecodesign requirements for servers and data storage products pursuant to Directive 2009/125/EC of the European Parliament and of the Council and amending Commission Regulation (EU) N° 617/2013*

### A. Need for action

#### **Why? What is the problem being addressed? Maximum 11 lines**

Today, slightly more than 50% of the electricity consumption related to data centres is due to direct energy consumption of IT equipment, such as servers and data storage products. Typically, purchasers of servers and data storage products do not prioritise the energy consumption and energy efficiency among the purchasing preferences, but they rather focus on aspects such as reliability or affordability. This is due to lack of information on functional aspects of the products (such as performance, energy efficiency, reliability at high operating temperatures), lack of tools for assessing the Total Cost of Ownership, user habits including e.g. traditions for selecting specific brands and specific solutions, organisational aspects (division between budgets for purchasing, typically a specific IT budget, and running costs, typically part of an administrative budget). This resulted in limited market penetration of cost-effective energy-saving technologies, and this situation persists despite the availability of energy efficient and reliable technologies. In terms of material efficiency, the market failure lies in several aspects, which hinder a high rate of reuse and recycling: difficulty in disassembly and separation of products, lack of information of embedded critical raw materials, lack of standardised data deletion method and unavailability of firmware updates.

#### **What is this initiative expected to achieve? Maximum 8 lines**

The general objectives of the initiative are to contribute to the 2030 EU climate and energy targets and to the circular economy objectives (in light of the Circular Economy Action Plan), whilst ensuring the functioning of the internal market. More specifically, this initiative is intended to raise awareness of energy efficiency and environmental performance of servers and data storage products and to facilitate a comparison between corresponding products among users, to complement/integrate the provisions of the EU Energy Star program, and to gradually remove the worst-performing products from the EU market. As such, this will reduce energy consumption, greenhouse gas emissions, and increase the circularity of the concerned products.

#### **What is the value added of action at the EU level? Maximum 7 lines**

Servers and data storage products concern a global market, and, at EU level, a few very large global manufacturers are covering more than three quarters of the EU market, therefore an EU action would be more cost-effective. In fact, the technology for these products is very complex, hence it would be highly difficult for Member States to develop national schemes and regulations, while an EU action would eliminate additional costs needed in each Member State to regulate a technology that does not vary from country to country. Manufacturers expressed views that national schemes and regulations would create more obstacles and administrative burden for entering each national market, and would prefer to comply with an EU wide legislation.

### B. Solutions

#### **What legislative and non-legislative policy options have been considered? Is there a preferred choice or not? Why? Maximum 14 lines**

Self-regulation and energy labelling policy options have been discarded as industry has not proposed any kind of self-regulation, and as servers and data storage products are mostly B2B products. Apart from the business as usual option (where EU takes no action), the following options were considered:

Option 3.1 Ecodesign regulation, 2 tiers less stringent Power Supply Unit (PSU) requirements, information on power consumption and server efficiency.

Option 3.2 Ecodesign regulation, 3 tier PSU requirements, information on operating condition class, power consumption and server efficiency<sup>1</sup>, maximum idle power limit, and material efficiency requirements.

Option 3.3 Ecodesign regulation, most stringent PSU requirements, compulsory requirement on operating

<sup>1</sup> In the Ecodesign Regulation on servers voted by the EU Member States on 17/09/2018 following the 'Regulatory with scrutiny' procedure, it was agreed to impose quantitative requirements on the active state efficiency of servers (values: 9 for 1-socket servers, 9,5 for 2-socket servers and 8 for blade or multi-node servers). It is estimated that these quantitative requirements will have the same effect as the information requirements, as the passrate in the case of servers manufactured in 2016-17 is already very high (>90%), so that it can be expected that the passrate of servers sold in 2020 will be at least equal, if not even higher.

condition class and server efficiency, information on power consumption, material efficiency requirements. Option 5 Compulsory ENERGY STAR requirements, 1 tier PSU requirements, information on power consumption, server efficiency and operating condition class, maximum idle power limit. The preferred option is 3.2, because it yields high environmental savings without imposing significant economic burden to the industry and end-users. Although Option 3.3 yields the highest energy savings in the long term (i.e. as of 2030, onwards), it imposes a large burden for industry and end-users in the immediate years after the regulation enters into force and so the cumulative cost saving for all EU end-users remains negative until 2027.

**Who supports which option? Maximum 7 lines**

Environmental and consumer NGOs, as well as repairers' organisations, welcomed the Commission work on potential ecodesign requirements for servers and data storage products. The EU Member States cautiously welcomed the Commission work, with specific concerns on the enforceability. Standardisation organisations were supportive throughout the process. Major industrial players would mainly support requirements on the energy efficiency in active state, while they expressed doubts on the quantitative requirements on idle power and on the material efficiency requirements. SMEs flagged the importance of not increasing the costs of the products as an effect of regulatory solutions.

**C. Impacts of the preferred option**

**What are the benefits of the preferred option (if any, otherwise main ones)? Maximum 12 lines**

The Impact Assessment shows that a potential servers and data storage products regulation along the option 3.2 can achieve in 2030 electricity savings of up to 9 TWh/y (approximately the yearly electricity consumption of Estonia in 2014) and greenhouse gas emission reductions of up to 3 Mton CO<sub>2</sub>eq/yr. In this scenario, material efficiency requirements reduce additionally 7% of CO<sub>2</sub>eq/yr. The outcome is also positive in terms of affordability: end-users of servers and data storage products also benefit of the proposed measure through annual monetary savings amounting to €2 billion in 2030. Other positive effects would include the improved comparability of products on the market in terms of their environmental impacts (such as the energy efficiency of servers) and higher revenues and profits for independent companies (such as SMEs) working in the field of repairation and refurbishment of products.

**What are the costs of the preferred option (if any, otherwise main ones)? Maximum 12 lines**

For the preferred option 3.2, there will be an improvement cost associated with achieving higher PSU efficiency, which is expected to cost €10 per PSU unit to improve from 80 PLUS class Silver to Gold, and €17 from Gold to Platinum and € 23 to achieve Titanium. Cost associated with improving operating temperature is assumed to be € 150 per sale unit, which is approx. the price of a high-performance fan kit. Idle power improvement would cost an additional 0.2% to 0.35% of the server price for improving CPU efficiency. It is estimated that material efficiency requirements approximately impose an extra € 8 per server or storage product. The total increase to product purchase costs due to these improvements is about € 41 million in 2030 for the EU. The testing costs associated with the measurement of server efficiency would be approx. €21,000 per company with 15 server models. For large companies, it is estimated that the compliance testing cost would be approx. €30,000 per company with 25 server models. The testing costs associated with the operating temperature are estimated in the range of €1,000 per unit.

**How will businesses, SMEs and micro-enterprises be affected? Maximum 8 lines**

The proposed regulation is fully applicable to micro and SMEs that are manufacturing and executing final assembly of servers and data storage products (estimated to be approx. 20% of the total SMEs involved in this industry, according to expert estimates). These SMEs would be affected through increased testing costs and improvement costs. However part of these costs is transferred to the end-users. It is also estimated that one third of the SMEs in the sector are involved in repair activities, and they would highly benefit from the material efficiency requirements.

**Will there be significant impacts on national budgets and administrations? Maximum 4 lines**

The form of the legislation is a Regulation directly applicable in all Member States. This ensures that there would be no costs for national administrations linked to transposition. Market surveillance activities would entail testing and personnel costs.

**Will there be other significant impacts? Max 6 lines**

No negative impacts are expected on functionality, health and safety.

**D. Follow up**

**When will the policy be reviewed? Maximum 4 lines**

The potential servers and data storage products regulation is to be reviewed no later than 4 years after entry into force of the first regulation in the light of achievements, experience gained in implementation, international developments and technological progress.