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EXPLANATORY MEMORANDUM

COMMISSION REGULATION (EU) …/…

of XXX

implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for servers and data storage products

EXPLANATORY MEMORANDUM

1. CONTEXT OF THE PROPOSAL

Grounds for and objectives of the proposal

The Ecodesign Directive 2009/125/EC establishes a framework for laying down requirements for energy-related products. It is a key instrument of the European Union (EU) policy to improve the energy efficiency as well as other aspects of the environmental performance of products in the internal market. As part of the Ecodesign Working Plan 2012-14[1], servers and data storage products are under analysis for potential legislative proposals, among which an Ecodesign regulation, concerning their environmental impact.

Servers and data storage products are very large energy consumers and the energy consumption of these devices is increasing, because more services with increasing levels of sophistication and data and computing requirements are being created and subsequently demanded in increasing volumes by end-users in all sectors and by automated systems (such as video surveillance, financial systems, transportation etc.). The scope of the proposed Regulation includes the following types of products:

Servers (with up to 4 processor sockets)

Data storage products

The products covered by the proposed Regulation were analysed in the preparatory study for Lot9[2], together with the networking equipment[3]. Typically, slightly more than 50% of the electricity consumption related to data centres is due to direct energy consumption of the ICT equipment: (servers, data storage products and networking equipment), while the rest is mainly due to cooling needs and the UPS (uninterruptible power supply) demand.

For the products covered by the proposed Regulation, the preparatory study has shown that:

The quantities of servers and data storage products placed on the internal market are significant enough for EU action

Energy consumption in the use phase constitutes about 90% of the total environmental impact of servers and data storage products

Considerable saving potential exists for servers and data storage products and could be achieved with cost-effective solutions

Room for improvements in material efficiency exists for servers and data storage products.

The improved energy efficiency of servers and data storage products will be in the framework of the initiatives which contribute to reduce the energy consumption at EU level by at least 30 % by the

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1 SWD(2012) 434 final

2 Ecodesign preparatory study on enterprise servers and data equipment Lot9, available at http://bookshop.europa.eu/en/ecodesign-preparatory-study-on-enterprise-servers-and-data-equipment-pbET0415685/;pgid=GSPefJMEtXBSR0dT6jbGakZD0000pzPbSA2k;sid=DrBWSbchLItWTODDM2LI7tUECWNQmrDyCGM=?CatalogCategoryID=CXoKABst5TsAAAEjepEY4e5L

3 The preparatory study concluded that the complexity of network equipment made it unfeasible to be studied together with already complex product groups such as servers and storage, and it was therefore decided not to include network equipment in the scope of this proposed Regulation

year 2030[4]. Moreover, the proposed ecodesign requirements on material efficiency will contribute to the objectives set out in the Circular Economy Action Plan[5]. More specifically, this initiative is intended to raise awareness on the environmental performance of servers and data storage products, to facilitate a comparison between products among users and to gradually remove the worst-performing products from the EU market.

General context

On the basis of the data presented in the preparatory study and in the impact assessment report, it has been estimated that the total electricity consumption of servers and data storage products amounted to 53TWh in 2015, corresponding to 2% of the total electricity consumption in the EU. The total energy consumption including infrastructure (i.e. due to the cooling demand) amounts to 96TWh in 2015, which is equivalent to 38Mt of CO_2 emissions. If no specific measures are taken, the annual energy consumption including infrastructure is predicted to be 121 TWh in 2030.

The use of servers and data storage products has been increasing rapidly in the EU. In 2010, the EU stock of servers amounted to nearly 20 million units, and the annual sales peaked around in 2010 with approx. 3.6 million units, and then gradually declined in the years after until 2015, mainly due to the trend of virtualisation[6]. From 2016 onwards, a further increase in sales (even if at a slower pace than in the past) has been assumed. The stock for data storage products amounted to 2.7 million units in 2010 and annual sales also peaked around 2010 with some 530000 units. As an effect of the increase in the capacity of each data storage product, the demand for data storage products declined until 2015; from 2016 onwards, it is estimated that the sales will increase again, due to the fact that the demand for storage will surpass the improvement in capacity per product.

The effect of the ecodesign requirements set out in the proposed Ecodesign Regulation is estimated to result by 2030 in annual energy savings of approximately 9 TWh. More in detail, the effect of the ecodesign requirements for servers set out in this Regulation is estimated to result by 2030 in direct annual energy savings of approximately 2.4 TWh and indirect (i.e. related to infrastructure) annual energy savings of 3.7 TWh, summing up to a total saving of 6.1 TWh, corresponding to a total of 2.1 Mt of CO2 equivalent. The effect of the ecodesign requirements for data storage products set out in this Regulation is estimated to result by 2030 in direct annual energy savings of approximately 0.8 TWh and indirect (i.e. related to infrastructure) annual energy savings of 2 TWh, summing up to a total saving of 2.8 TWh, corresponding to 0.9 Mt of CO2 equivalent.

Consistency with other policies of the Union

– The following legislative measures are relevant to the energy and environmental aspects of servers and data storage products placed on the EU market:

Commission Regulation (EU) No 617/2013 of 26 June 2013 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for computers and computer servers (the 'computer regulation'). Servers are partly covered by this regulation, which, however, only regulates the efficiency of their power supply unit (PSU) in quantitative terms. There are no requirements on Minimum Energy Performance Standards (MEPS) or information requirements for the idle mode power, the server efficiency or the server operating temperature, the latter having a large impact on the energy consumption at infrastructure level (i.e. data centre or server room). In addition, in the current computer regulation there is no material efficiency

[4] As from Article 1 of the 'Proposal for a Directive of the European Parliament and of the Council amending Directive 2012/27/EU on energy efficiency' available at http://eur-lex.europa.eu/resource.html?uri=cellar:efad95f3-b7f5-11e6-9e3c-01aa75ed71a1.0009.02/DOC_1&format=PDF

[5] COM(2015) 614 final.

[6] i.e. by having many virtualised servers running on one hardware server

requirement. The current computer regulation has also an exemption for blade server systems and components, which means that ca. 800,000 blade servers a year, equivalent to approx. 18% of the total server market, are excluded. Other product groups are also exempted: server appliances, multi-nodes servers and computer servers with more than four processor sockets (these are still exempted in the proposed regulation due to their specificities and their small market share).

The EU Code of Conduct (CoC) on Data Centre Energy Efficiency[7] targets companies owning or operating data centres to support reduction of energy consumption by applying best practices for energy efficiency and cost savings, which e.g. includes purchasing products not less efficient than specified in the Energy Star specifications. However, its impact at product level, i.e. on server design efficiency is considered very limited.

The Energy Star programme sets a range of energy efficiency specifications for enterprise servers and data centre storage. In the EU, the Energy Star programme is currently compulsory only in the case of certain public procurement, as public procurers have to purchase equipment with Energy Star label or equivalent (within some limits defined in the Energy Efficiency Directive[8]). Still in 2016[9], the penetration of the Energy Star rules for servers and data storage products was much lower than other products covered by this programme. It has also to be noted that the basis for the EU Energy Star program, i.e. the 'Agreement between the Government of the United States of America and the European Union on the coordination of energy-efficiency labelling programs for office equipment'[10] remains in force until February 20th 2018.

2. CONSULTATION OF INTERESTED PARTIES AND IMPACT ASSESSMENT

Consultation of interested parties

Consultation methods, main sectors targeted and general profile of respondents

An inclusive and articulated stakeholder consultation process[11] took place in the context of the present initiative, with the aim to gather feedback from a very wide audience.

• during the preparatory study[2], three stakeholder meetings were organised. The main participants have been from relevant industry actors, standardising organisations and environmental organisations

• during the technical assistance study[12], two stakeholder meetings were organised. The main participants have been relevant industry actors and standardising organisations

• a SME (small and medium enterprises) consultation through the Enterprise Europe Network took place the first half of 2016, with the aim to gather specific information on SMEs' role and importance on the market of servers and data storage products, and to acquire in-depth knowledge on how the aspects related to the environmental impacts of these products are seen/considered by SMEs.

• an Inception Impact Assessement was published on 20 June 2017, with the possibility for stakeholders to issue comments until 18 July 2017; no feedback was received.

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7 http://iet.jrc.ec.europa.eu/energyefficiency/ict-codes-conduct/data-centres-energy-efficiency

8 Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC

9 Q1-Q2 2016: Survey of the Market Penetration of Energy Efficient Office Equipment under the EU ENERGY STAR Programme, and Project Conclusions v1.1, http://www.eu-energystar.org/downloads/reports/EU-ENERGYSTAR_Report4_Q1-Q2_2016v1-1.pdf

10 (OJ L 63, 6.3.2013, p. 1)

11 http://ec.europa.eu/docsroom/documents/27728

12 'Ecodesign technical assistance study on standards for lot 9 enterprise servers and enterprise data storage', available at https://publications.europa.eu/en/publication-detail/-/publication/ae6dc1cc-c748-11e6-a6db-01aa75ed71a1

• a meeting of the Ecodesign Consultation Forum (as required by Article 18 of the Ecodesign Directive) has been convened on 17/02/2017.

• dedicated consultation activities on material efficiency requirements were organised.

• an online public consultation took place from 10 July 2017 to 23 October 2017, with the aim to collect stakeholders' views on issues such as the expected effect of potential legislative measures on businesses and on energy consumption trends.

The chart below shows the level of involvement of the identified stakeholder categories in the various consultations/meetings in the framework of this initiative.

√: the party has significantly contributed to the specific consultation √: the party has contributed in a limited way to the specific consultation	**Member States**	**Industry associations**	**SMEs**	**Environmental and consumer NGOs**	**Standardisation organisations**	**Data center operators**	**Others**
Meetings – prep. study	√	√		√	√	√	
Meetings – technical assistance study	√	√		√	√	√	
SME consultation			√				
Open public consultation		√	√	√		√	√
Consultation Forum	√	√	√	√	√	√	

Summary of responses and how they have been taken into account

The stakeholders' opinions, with regard to potential regulatory measures on the environmental impact of servers and data storage products, can be summarised as follows:

- the EU Member States cautiously welcomed the Commission work on potential ecodesign requirements for servers and data storage products; some concerns on the enforceability of the proposed material efficiency requirements were raised.

- standardisation organisations were supportive throughout the process, in particular with the development of a testing standard for the energy efficiency of servers in active state.

- industry main players, i.e, the most relevant stakeholders among manufacturers, were proactive and participative during the process. They highly supported, and actively contributed to, the work on a metric for the energy efficiency of server in active state. However, they expressed strong doubts on various other aspects, such as the quantitative requirements on idle power and the material efficiency requirements (in particular the one on the compulsory presence of a data deletion software).

- SMEs, mainly working in the field of installation, repair and IT services, judged as important most of the identified energy efficiency and material efficiency requirements; they also raised concerns over the risk of increased costs of the products

- repairers' and recyclers' organisations, as well as environmental and consumer NGO (non-governmental organisations), highly welcomed the Commission work on potential ecodesign requirements for servers and data storage products.

Following the consultation activities, a number of comments and remarks on detailed aspects have been carefully examined and duly taken into consideration for improving the proposed Ecodesign regulation.

International stakeholders

The proposed measure will be notified to the WTO/TBT at the end of this Interservice Consultation to ensure that no barrier to trade is introduced.

Data collection and use of expertise

Scientific/expertise domains concerned

External expertise was mainly gathered through the preparatory studies and impact assessment procedure providing technical, environmental and economic analyses, which were carried out with contributions of external consultants. Material efficiency analyses[13] were carried out by the JRC. Additionally, a scenario analysis of various policy options was developed for the impact assessment by an external consultant.

Data used

Sales and energy data has been provided by industry representatives and integrated or verified with data collected from official producers' documentation on the web. The different data sources have been compared to fine tune the technology progress evolution and trends, and to update the impact assessment.

Methodology used

The methodology followed the provisions of the Directive, in particular Article 15 and Annexes I and II. The technical, environmental and economic analysis in preparatory study followed the structure of the 'Methodology Study Ecodesign of Energy-related Products' (MEErP) devised for the Commission's Directorate-General for Enterprise and Industry and endorsed by stakeholders. The impact assessment report followed the European Commission's Better Regulation guidelines[14].

Main organisations/experts consulted

The process of preparing the proposed regulation was conducted in an open way, taking into account input from all relevant stakeholders, including the representatives of national authorities, manufacturers and their associations, environmental NGOs, consumer organisations and technical experts. An open public consultation had taken place to ensure that all relevant advices and comments from the public have also been addressed. A SME consultation trough the Enterprise Europe Network took place the first half of 2016.

Summary of advice received and used

Stakeholders' comments (gathered in the consultation process) were addressed in the impact assessment as well as in the proposed Ecodesign regulation.

No potentially serious risks with irreversible consequences were mentioned by stakeholders, nor were any identified during the preparatory work.

[13] JRC (2015), Environmental Footprint and Material Efficiency Support for product policy- Analysis of material efficiency requirements of enterprise servers

[14] https://ec.europa.eu/info/better-regulation-guidelines-and-toolbox_en

Means used to make the expert advice publicly available

The preparatory study was accompanied by a dedicated website where interim results and further relevant materials were published regularly for timely stakeholder consultation and input. The study website, as well as the consultation activities, were publicised on the DG GROW ecodesign webpages[15]. The written input received during the Consultation Forum process is available on the Commission's CIRCABC portal, including the minutes of the Consultation Forum's meeting.

2.1. Impact assessment

An impact assessment of the possible policy measures was carried out pursuant to Article 15(4)(b) of Directive 2009/125/EC. Several policy options for achieving a market transformation fulfilling the appropriate level of ambition were considered:

- option 1: no new EU action ('business-as-usual' case)

- option 2: self-regulation

- option 3: an ecodesign regulation on servers and data storage products, articulated in 3 sub options that differ by the stringency of the requirements (3.1 being the least and 3.3 the most stringent scenario).

- option 4: Energy labelling of servers and data storage products

- option 5: a compulsory Energy Star scheme.

Option 2 has been discarded, because the industry has so far not proposed any kind of self-regulation, which is a minimum condition in accordance with Article 17 and Annex VIII of the Directive 2009/125/EC to consider this option.

Option 4 has also been discarded, for the following reasons. First of all, there are no or very little direct sales to private household to whom the energy label normally is targeted. Moreover, servers are business-to-business products; in order for the label to be a relevant tool for an informed choice when buying the product, it should be carefully designed to provide concise but at the same time relevant and effective information. In any case, the lack of a well-established metric for the energy efficiency of servers, and of the necessary data on product performances and efficiencies, would be the main obstacle for the existence of an energy label for servers.

The impacts of a policy option introducing new ecodesign requirements were assessed against the 'business as usual' scenario. Based on an assessment of costs and benefits and impacts, the preferred option was option 3.2 (consisting of a minimum requirement on the PSU efficiency, a maximum requirement on the idle power consumption, information requirements on server efficiency and operating condition and material efficiency requirements including extraction of key-components and of critical raw materials, availability of built-in functionality for secure data deletion and provision of the latest available version of firmware)

– It is expected that the combination of ecodesign requirements will lead to the following results:

- the ecodesign requirements achieve potential for cost-effective improvements in the energy efficiency of servers and data storage products;
- the information requirement on server performance and efficiency creates market transparency and comparable basis for customers and provides incentives for manufacturers to innovate/invest in energy efficiency;

[15] http://ec.europa.eu/growth/industry/sustainability/ecodesign/product-groups_en

- the requirements for improved material efficiency should result in an increased reuse (and, to a minor extent, recycle) rate of servers and data storage products.
- there will be positive impacts on the competitiveness of industry and jobs created/maintained in EU-based sectors;
- requirements for the placing on the EU market of servers and data storage products are harmonised, leading to the lowest possible administrative burdens and costs for economic operators;
- no disproportionate burdens or significant additional costs for manufacturers will result from the proposed measure. Re-design cycles and the pace of innovation have been taken into account.

3. LEGAL ELEMENTS OF THE PROPOSAL

1. Definition of the scope of the proposed Regulation

The scope of the proposed Ecodesign Regulation covers

Servers with up to 4 processor sockets

Online 2, 3 and 4 data storage products[16]

The proposed Regulation in general shall not apply to the following products:

Servers intended for embedded applications;

Servers classified as small-scale servers in terms of Regulation (EU) No 617/2013;

Servers with more than four processor sockets;

Server appliances;

Large servers;

Fully fault tolerant servers;

Network servers;

Small data storage products (Online 1)[16];

Large data storage products (Online 5 and 6)[16].

Ecodesign requirements for energy efficiency

3.1. a. Energy efficiency

- The proposed PSU minimum efficiency requirements for servers and data storage products are based on the criteria to achieve the 80PLUS efficiency classification[17]; the stakeholders have been consulted about the levels and timing of the different tiers of the requirement. The PSU efficiency has improved significantly over time, and it is estimated that 80% of the servers and data storage products can achieve the Tier 1 (effective by 2020) level currently. The assumed PSU efficiency distribution in BAU for majority of the stock is based on the power supply outlook inputs from

[16] Terminology consistent with the taxonomy developed by the Storage Networking Industry Association Green Storage Initiative (SNIA).

[17] https://plugloadsolutions.com/80PlusPowerSupplies.aspx

the industry stakeholders[18]. The stringency of the PSU efficiency requirements has been tailored in order to foster, in a sustainable way, the transition to the more efficient PSUs.

Table 1 Estimated PSU efficiency for servers and storage in BAU scenario

Product type	Efficiency class	2015	2020	2025	2030
Server (1, 2 socket rack, tower)	Non-certified	25%	20%	15%	10%
	80 Plus	5%	1%	0%	0%
	Bronze	5%	1%	0%	0%
	Silver	60%	20%	10%	5%
	Gold	5%	50%	20%	15%
	Platinum	0%	5%	50%	20%
	Titanium	0%	3%	5%	50%
Servers (4 socket rack, resilient and blade)	Non-certified	25%	20%	15%	10%
	80 Plus	5%	1%	0%	0%
	Bronze	5%	1%	0%	0%
	Silver	60%	15%	5%	5%
	Gold	5%	30%	15%	5%
	Platinum	0%	30%	40%	30%
	Titanium	0%	3%	25%	50%
Storage	Non-certified	25%	20%	15%	10%
	80 Plus	5%	1%	0%	0%
	Bronze	5%	1%	0%	0%
	Silver	60%	20%	10%	5%
	Gold	5%	50%	20%	15%
	Platinum	0%	5%	50%	20%
	Titanium	0%	3%	5%	50%

Figure 1 shows the percentage of 230V server compatible PSUs registered on the 80PLUS database[19] that can already meet the proposed Tier 1 and Tier 2 requirements.

[18] Power Supply Efficiency Outlook, Digital Europe, 6th June 2016.

[19] https://www.plugloadsolutions.com/80PlusPowerSuppliesDetail.aspx?id=0&type=1

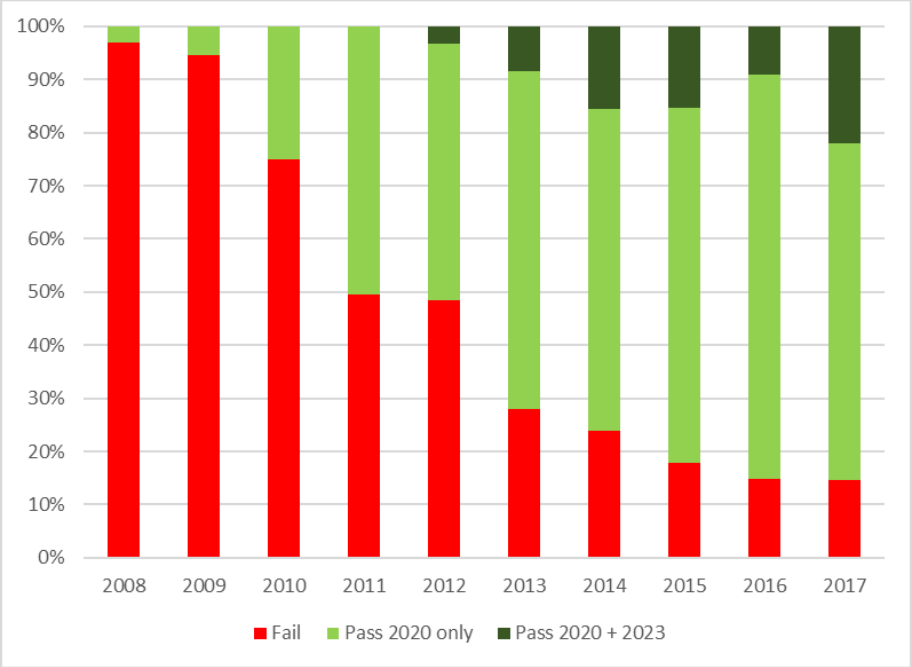

Figure 1 Estimated pass rate of the proposed requirement Tier 1 (2019) and Tier 2 (2023) for single output PSU

- The Proposed maximum idle state power limits are based on similar criteria which were set in a draft Energy Star specification[20] for servers, modified after stakeholder consultation and incorporating a proposal from industrial stakeholders (Digital Europe) with expert data analysis. Based on this analysis, the graphs below in Figure 2, Figure 3 and Figure 4 show the performance of different servers in relation to the proposed maximum idle state power consumption[21]. The MEPS line shown is calculated from the proposed base allowance and the CPU performance. It can be seen that idle power has not changed significantly over different generations for CPU and approximately 50%-65% of servers' configurations can already meet the proposed maximum idle state power requirement.

[20] https://www.energystar.gov/products/spec/enterprise_servers_specification_version_3_0_pd

[21] The idle power data are adjusted to remove the idle power allowance for memory, storage and network IO based on the exact configuration of each server tested. This is the reason for which there are also negative values in the graph

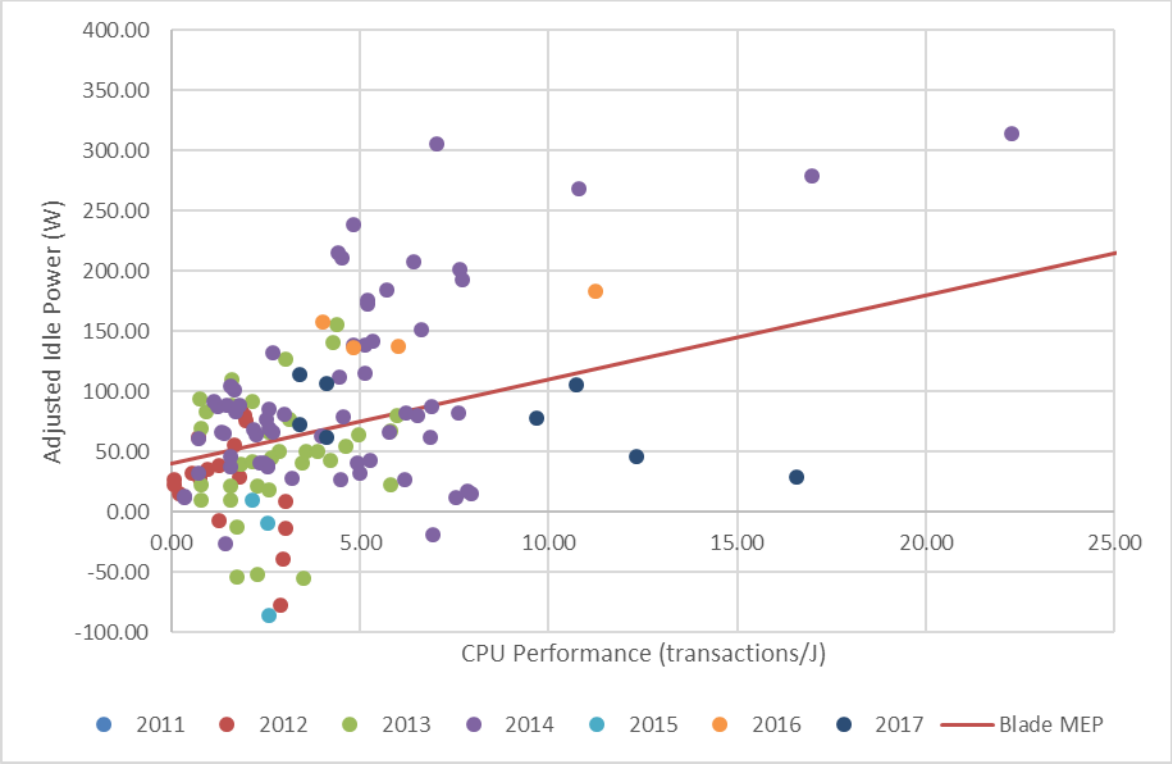

Figure 2 Blade server idle power adjusted for memory, storage and network adders vs. proposed idle power requirement

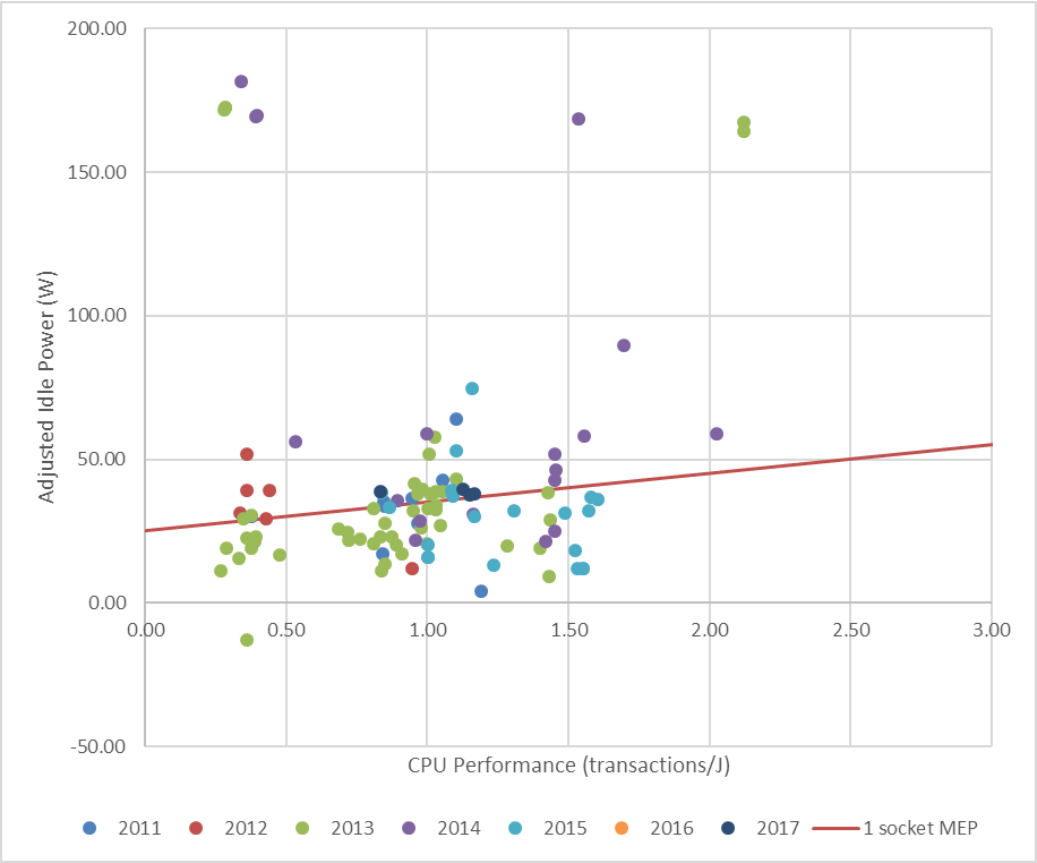

Figure 3 1 socket server idle power adjusted for memory, storage and network adders vs. proposed idle requirement

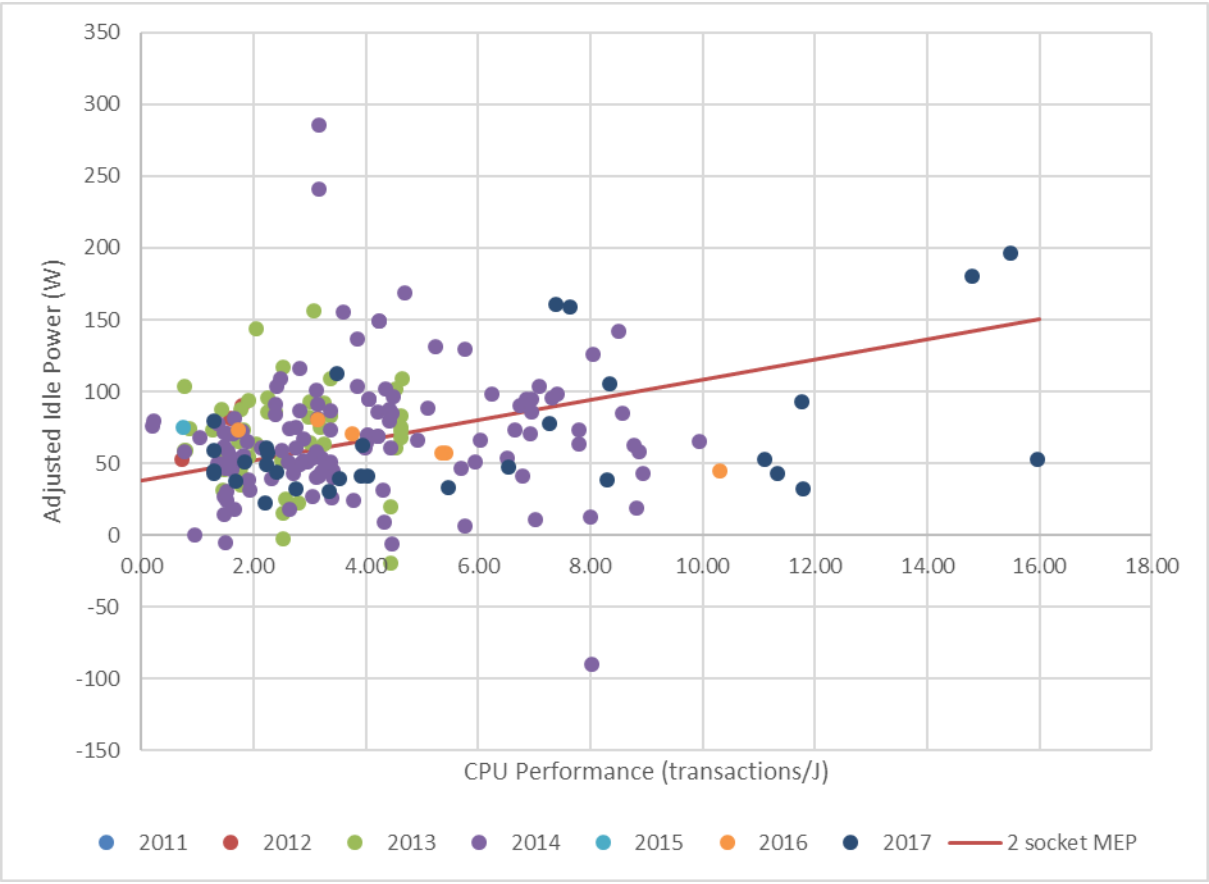

Figure 4 2 socket server idle power adjusted for memory, storage and network adders vs. proposed requirement

- The proposed information requirements on the server efficiency and the server performance in active state are measured and calculated following the standard EN 303 470:2018, which is, in turn, based on the SERT (Server Efficiency Rating Tool)[22] testing method. There is no proposed active mode MEPS, as the metric for the energy efficiency was finalised in early 2017, and proposing quantitative requirements would have entailed risks of robustness of the proposal.

- The proposed Ecodesign Regulation also includes an information requirement on the operating conditions, based on the ASHRAE classification[23]; this requirement aims to decrease the energy consumption at data centre/server room level, by providing data centre owners and operators with information on the reliability of servers and data storage products at higher operating temperatures (therefore making them able to operate a rational choice when choosing to increase the data centre operating temperature). Figure 5 shows the maximum operating temperature of ca. 300 models of servers from 6 leading suppliers and ca. 200 models of disk storage from 7 leading suppliers; the majority of the models have already maximum operating temperatures over 35°C (corresponding to the upper threshold of A2 operating condition class).

[22] Standard Performance Evaluation Corporation (SPEC), Server Efficiency Rating Tool (SERT) Design Document 2.0, 2017.

[23] ASHRAE (2011), Thermal guidelines for Data Processing Environments: http://ecoinfo.cnrs.fr/IMG/pdf/ashrae_2011_thermal_guidelines_data_center.pdf

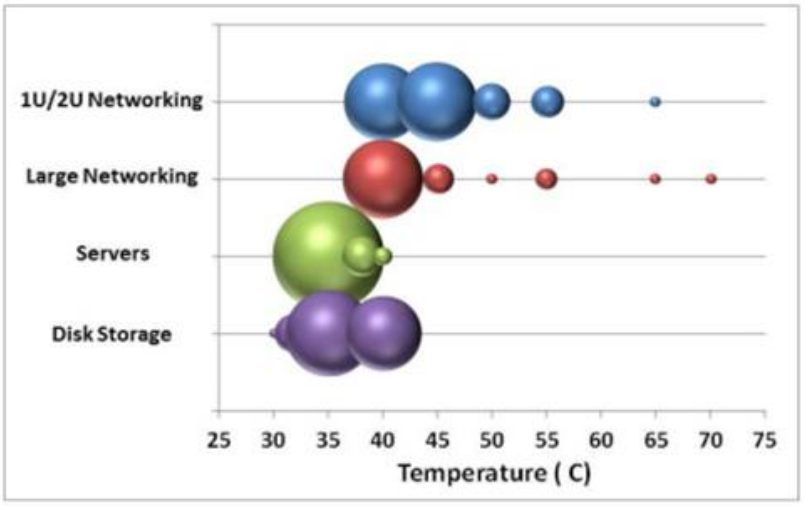

Figure 5 Benchmarking results of maximum temperature[24]

3.2.

3.3. b. Material efficiency aspects

Servers and data storage products are already 'good pupils' in material efficiency[25]. The ecodesign requirements on material efficiency in the proposed Ecodesign Regulation could further improve the current situation in a sustainable way for original equipment manufacturers, while also opening new chances for repairers and recyclers. This is among the first experiences in Ecodesign on regulatory measures addressing circular economy aspects, and the interaction with stakeholders has been instrumental to their fine-tuning.

The requirement on the extraction of key-components is expected to foster the reparability and upgradability of servers and data storage products, in particular by third parties (such as spare parts repairers and maintenance).

The absence of a guarantee that data contained in servers and data storage products will be completely deleted limits the number of these products and their components (in particular the data storage devices such as the hard disk drives) being reused, due to the risk of misuse of confidential data previously stored in the products. Data deletion tools are therefore crucial for facilitating reuse. The requirement on a built-in functionality for secure data deletion could be implemented by means of technical solutions such as, but not limited to, a functionality implemented in firmware, typically in the Basic Input/Output System (BIOS), in software included in a self-contained bootable environment provided in a bootable compact disc, digital versatile disc or universal serial bus memory storage device included with the product, or in software installable in the supported operating systems provided with the product.

Moreover, the reuse/refurbishment of servers and data storage products can be challenging if the firmware (necessary to install new components) is not available or compatible; in lack of specific commercial agreements with the Original Equiment Manufacturers, this can cause earlier obsolescence in servers and data storage products. Therefore it is proposed that the latest available version of the firmware shall be made available for a minimum period of eight years after the placing on the market of the product.

The information requirement on the content in Neodymium and Cobalt is meant to facilitate the recycling process by informing on the amount (in weight range) of material that the product contains,

[24] https://tc0909.ashraetcs.org/documents/ASHRAE%20Networking%20Thermal%20Guidelines.pdf

[25] The total recovery (reused and recycled) rate is assumed to be 85% in the baseline scenario.

hereby encouraging the separation, at early stages of dismantling, of the components containing these materials.

2. Implementation of ecodesign requirements

It is proposed that the requirements are progressively introduced with the following timeline:

1 March 2020, including all energy efficiency and material efficiency requirements, with the exception of the requirement on the firmware availability;

1 March 2021, for the requirement on the firmware availability,

1 January 2023, tightening the energy efficiency requirements on the PSU efficiency;

1 January 2026, further restricting energy efficiency requirements on the PSU efficiency.

The dates of entry into force of the requirements takes into account the average time that servers and data storage products are kept on the market, and the time manufacturers need to re-design currently non-compliant models.

Regulation (EU) No 617/2013 with regard to Computers and Computer servers is amended in order to align scope with the proposed Regulation. "Computer servers, blade system and components, multi-node server, server appliance" are deleted from the text of Regulation (EU) No 617/2013.

3. Measurements and calculations

Measurements and calculations of the relevant product parameters should be performed using harmonised standards established in accordance with Article 10 of Directive 2009/125/EC, the reference numbers of which will be published in the *Official Journal of the European Union*, or using other reliable, accurate and reproducible methods which take into account the generally recognised state-of-the-art. A commission communication on draft transitional methods has been prepared, with the aim to help manufacturers and market surveillance to identify such methods.

4. Benchmarks

The indicative benchmarks in the Annex V to the proposed Ecodesign Regulation are identified for the purpose of part 3, point 2 of Annex I to Directive 2009/125/EC and refer to the best available technology at the time of drafting the document.

5. Date for evaluation and possible revision

The Commission shall evaluate this Regulation in the light of technological progress and present the results to the Ecodesign Consultation Forum no later than 01 March 2023.

Legal basis

The proposed Regulation is an implementing measure pursuant to Directive 2009/125/EC, in particular Article 15(1) thereof. The Directive is based on Article 114 of the Treaty.

Subsidiarity principle

The environmental performance of enterprise servers and data storage products could be potentially regulated at national level in the absence of harmonised requirements at EU level. However, this would create regulatory obstacles to the free movement of such goods within the Internal Market, and consequently action at EU level appears to be necessary and provides added value over national action.

Proportionality principle

In accordance with the principle of proportionality, this measure does not go beyond what is necessary in order to achieve the objective. It also leads to higher savings than any other conceivable option with minimum costs.

Choice of instrument

Proposed instrument: Regulation.

Other means would not be appropriate for the following reason(s):

The proposed form of action is a Commission Regulation implementing Directive 2009/125/EC, because the objectives of the action can be achieved most efficiently by fully harmonised requirements throughout the EU, thus ensuring the free movement of servers and data storage products. The proposed instrument is directly applicable in all Member States, and this ensures that there are no costs for transposition of the implementing legislation into national legislation.

4. BUDGETARY IMPLICATION

The proposal has no implications for the EU budget.

5. ADDITIONAL INFORMATION

Review/revision/sunset clause

The proposal includes a review clause.

European Economic Area

The proposed act concerns an EEA matter and should therefore extend to the European Economic Area.