POSITION PAPER

JRC ICT TASK FORCE STUDY DRAFT POLICY RECOMMENDATIONS

Following the release of the ICT Task Force Study reports on Task 12 'Final Policy Recommendations' and the stakeholder consultation meeting on 15 November 2022, the environmental stakeholders hereby submit their views.

> **There is an urgent need for greater ambition to address the energy and material efficiency of ICT products.** We support the initiative to investigate at a horizontal level the energy efficiency and circular economy aspects of ICT products with the clear objective to develop policy options to address these. However, a much stronger warning signal needs to be sent to policymakers considering the exponential increases in energy consumption, resource use and e-waste that could threaten other efforts the EU is pioneering to reduce environmental impacts. Hard choices, wide ranging solutions and strict regulations are necessary. The following sections explain where we observe there is potential for improvement.

SETTING THE SCENE AND GENERAL AMBITION

We believe that the content of the report insufficiently captures the severity and breadth of the ICT energy consumption crisis. ICTs are rapidly becoming indispensable in a wide range of human activities, resulting in exponential increases in resource use, energy consumption and e-waste. This is true for all ICT developments and not only end-consumer applications. Allowing this trend to continue is untenable. Wide scale implementation of crypto currencies, metaverses, artificial intelligence, smart cities, internet of things (IoT), autonomous vehicles, and infinite new device and network generations will not be possible on the current course.

Beyond environmental considerations, there are also questions of strategic autonomy which are at stake with EU policies on the ICT sector. For example, the discussions around the European's Chips Act demonstrates that being a leader in ICT and semi-conductor production is impossible if there is no access to needed materials and a limited capacity. The EU's investments and ambitions in the tech sector should, therefore, rather be targeted at circular and sufficiency policies.

Recommendations for the report:

▶ Quantify the challenge: Figures to better quantify the ICT energy crisis should be stated at the beginning of the report. We recommend citing the publication 'Behind the figures: understanding

the environmental impacts of ICT and taking action'[1] when redrafting the text to place greater emphasis on the severity of the problem.

▶ **Emphasise the urgency and degree of change required:** The report should emphasize that allowing current trends to continue unchecked is not an option and that circular and sufficiency policies should be priority.

ENERGY EFFICIENCY POLICY RECOMMENDATIONS (4.2.1)

REQUIREMENTS FOR DEVICES

In the stakeholder meeting, the study was described as a gap analysis. However, all the gaps have not been identified in this current iteration of the report. There are several missing elements in the policy discussion related to devices:

▶ **Active mode within benchmarking approaches:** We support the inclusion of active mode requirements for products. However, if these are addressed using benchmarking tools, it is important to note that the user profile must be as representative as possible of actual use so that the figures are meaningful and representative.

▶ **Minimum requirements for software energy use**: Software design can also impact data and energy use of ICT products[2].

▶ **Power management:** Usage profiles (and related total energy consumption) of products may diverge considerably from the consumption predicted by benchmarking tools due to variations in the time products spend in lower energy consuming modes. Requiring default power management ensures that products enter lower energy consuming modes in the most effective way.

▶ **Improvements to energy labelling:** There is no discussion of how energy labelling could be expanded to new product categories, and what the priority criteria would be in these cases.

▶ **Self-reporting requirements:** The provision of live information to end users on the energy consumption of their products has not been addressed. Devices could inform users on how much energy they are using and how much they could save by changing certain settings and behaviours. For this type of technology to be efficient, checking conformity and accuracy of reported data versus declared will bee needed.

Recommendations for the report:

▶ **Cover gaps in device policies:** Expand the list of policy recommendations to address the above considerations.

EXPLORATION OF THE POTENTIAL OF THE DIGITAL SERVICES ACT

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[1] Benqassem S., Bordage, F., de Montenay, L., Delmas-Orgelet, J., Domon, F., Lees Perasso, E., Prunel, D., &a; Vateau, C. (2021). Behind The Figures: understanding the environmental impacts of lct and taking action. European Parliamentary group of the Greens/EFA, https://extranet.greens-efa.eu/public/media/file/1/7389

[2] E. Kern, L. M. Hilty, A. Guldner, Y. V. Maksimov, A Filler, J. Gröger, S. Naumann (2018). Sustainable software products—Towards assessment criteria for resource and energy efficiency. Published by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/)

Service providers are mentioned with respect to default streaming settings, information reporting, and software application products. However, the influence these entities can have is much wider in terms of customer behaviour in relation to ICTs. The EU has shown with the recently adopted Digital Services Act (DSA) that online platforms and service providers could be regulated with respect to user rights, including significant controls and sanctions. Unfortunately, environmental impact was overlooked in this legislation. Online platforms and service providers should be similarly regulated to account for their data, energy, and environmental impacts.

Recommendations for the report:
- ▶ **Explain potential role of the DSA:** The report should recommend a complementary package or new chapter to the DSA to cover environmental concerns.

REQUIREMENTS FOR SERVICES

To successfully curb the growing impacts of ICT, the policy recommendations need to go further in the area of services. There are major gaps such as:
- ▶ **Minimum energy/data efficiency performance standards for services:** These should be calculated on a per device/person basis at least in the areas of crypto currency mining, smart cities, IoT, autonomous vehicles, public services. This is important to prevent i) redundancy in systems and ii) inefficient use of data, communication protocols, energy, and materials.
- ▶ **Recognition of the need of proactive regulation in emerging ICT applications:** The ICT industry moves very quickly, so commitments are needed to develop faster and more proactive regulatory approaches for services.
- ▶ **A shift to 'digital sufficiency':** this would entail data lightweighting, slow and low tech becoming the norm (e.g. data-light webpages, applications, and databases). France already recognised the necessity of such a shift, passing related legislation in 2021.

Recommendations for the report:
- ▶ **Cover gaps in service policies:** Expand the list of policy recommendations to address the above considerations or at least cover these off at a high level.

MATERIAL EFFICIENCY POLICY RECOMMENDATIONS (4.2.2)

HARDWARE DURABILITY AND RELIABILITY REQUIREMENTS

We support the inclusion in table 5 (page 13), of a range of material efficiency policy options, We are particularly in favour of measures to address minimum / expected lifetime, which would enable the communication of technical product lifetimes at point of sale via the energy label or similar. However, the need for a dedicated preparatory study and standardisation request to support such a policy is worth mentioning. We also strongly support a separate durability score, and we encourage recognition of the need for a standardisation request for a horizontal durability scoring standard.

REPAIRABILITY, UPGRADABILITY AND REUSABILITY REQUIREMENTS

There are important gaps in the reparability, upgradability, and usability provisions listed in Table 5 that include:

▶ **Prevention of part pairing:** It is necessary to prevent parts pairing / serialisation, where replacement parts are not fully accepted during repair or upgrade operations unless the OEM accepts the part serial number. The user should be the deciding entity on parts replacement to ensure the widest range of repair options possible. Authorising independent repairers to replace parts should be made easy and in no case require contacting the OEM. Also, refurbishers should be considered as owners. On page 16 under 'spare part availability and delivery time' the text states "Availability of the procedure for authorisation of part replacement, and all necessary elements that would for a normal operation of the device after a replacement of a part". There are the following issues with this way of tackling parts pairing:

    o Parts pairing does not fit under the heading of 'spare part availability and delivery time' and should therefore be listed as a separate bullet in table 5.

    o Parts pairing is not specifically mentioned. It is therefore not highlighted as a priority, and it is unclear what the intentions of this text are.

    o It is not clearly specified that the owner must be the entity who authorises the replacement part.

    o The text above could be interpreted simply as an information requirement on what the procedure is for parts authorisation, so does nothing to change the procedure itself, allowing for OEM restrictions and control of parts replacement.

▶ **Acceptance of third-party and second-hand parts:** The ability of products to accept third party and second-hand spare parts can create a fairer market, reduce repair price, and increase the likelihood of successful repair, but part pairing can prevent this.

▶ **Ensuring ease of data deletion:** Data deletion is mentioned on page 17/18 under the heading of 'Reusability/upgradability specific provisions'. The options of implementing data deletion functionality in the firmware BIOS or in software are mentioned. However, BIOS deletion operations will be much harder for the average user to complete and will have different likelihood of correct implementation compared to GUI based deletion. Therefore, requirements should be developed to ensure accessible GUI interfaces for deletion procedures.

▶ **Availability of repair information to wider audience:** Under the heading 'Repair info / maintenance instructions to independent operators / end users' (page 16), harmonisation of the process for professional repairers to have access to repair information is mentioned. It is unclear exactly what this harmonisation would include. The sample text provided still places excessive burden of proof on professional repairers. Feedback from within repairer networks has highlighted that such wording serves to restrict rather than enable repair because the legislation does not limit OEM requirements for approval. Further, there is no direct mention of widening the audience to independent operators / end users despite the suggestion of the heading. Synergies with the Digital Product Passport suggested in the Ecodesign for Sustainable Products Regulation should also be investigated.

▶ **Standardisation of certain relevant spare parts:** Interoperability of spare parts has a significant potential in terms of devices' repairability and affordability of repair operations. In the recent Commission's proposal on Ecodesign requirements for mobile phones, smartphones, cordless phones and tablets, a review clause engages the Commission to look into the 'feasibility of defining a standardised battery that could be used interchangeably across a range of mobile phones and slate tablets'. This should be considered for other frequently failing spare parts used in other types of products. This can encourage competition between manufacturers, facilitate repair and re-use, and make the price of spare parts decrease.

- ▶ **Increase visibility and robustness of parts pairing recommendations:** Specifically list 'Prevention of parts pairing' and 'acceptance of third-party parts' as bullet points in table 5 under 'Reparability, upgradability, and usability' and elaborate on these in the text after the table, making clear that the owner must be the entity who is entitled to authorise the replacement part and not the OEM.
- ▶ **Address the usability of data deletion options:** Include text to explain the hierarchy of deletion options, with GUI approaches being preferred to BIOS commands.
- ▶ **Make repair information available to end users, independent operators, and professional repairers:** The option of removing registration clauses altogether and opening the availability of repair information to independent operators and end users should be listed. If registration clauses must be retained, reasons should be clearly justified and we would propose changes to the text for harmonisation to make it easier for professional repairers to be approved, e.g.:

    'manufacturers, importers or authorised representatives shall accept registration requests if the professional repairer to demonstrates that:

    (i) they are referenced in an official registration system as professional repairer, where such system exists in the Member States concerned;
    or
    (ii) they are covered by insurance covering liabilities resulting from their activity.'

SOFTWARE RELATED DURABILITY

The list of software measures is incomplete. It is important that operating system (OS) updates that downgrade performance are prohibited, and that the rollback of operating system updates is possible. In this way, obsolescence caused by operating system issues can be reduced. This topic is not the same as 'Availability of software functionality / security updates' and these aspects therefore need to be listed in the table as separate bullet points.

Also, the distinction between security and functionality updates is inoperative and counterproductive as it does not consider corrective updates (bug fixes), which often have nothing to do with security updates (patching security breaches) but are nevertheless essential for the proper use of the device. Moreover, the improvement of functionalities or the setting up of new ones (i.e. functionality updates) can contain security elements to ensure proper protection of this new functionality, without the latter being essential. As the proposed definitions of updates are too subjective (definitions (35) & (36): "whose main purpose is..."), manufacturers could easily make a security update look like a functionality one, and thus only make them available for 3 years, even if the text removes the voluntary aspect mentioned above. Security updates therefore should be called conformity updates.

- ▶ **Updates that downgrade performance:** A policy option should be added to require that if performance degrades due to an update this needs to be fixed within one month.
- ▶ **Rollback of updates:** A policy option should be added to ensure that OS updates can be undone (returning to previous versions of the OS) if required by the user without impairing the operation of the device.
- ▶ **Conformity and functionality updates:** Necessary conformity updates should always be unbundled from dispensable functionality updates. The following vocabulary and definitions should, therefore, be used when developing policies related to software updates:

o   'conformity update' means an operating system update, including security patches or bugs fixes, if relevant for a given device, whose main purpose is to keep the good in conformity, by providing enhanced security or corrective measures for the device;

o   'functionality update' means an operating system update that is not necessary to keep the good in conformity, and whose main purpose is to improve current functionalities or implement new functionalities;

REFURBISHING AND REMANUFACTURING REQUIREMENTS

Only two bullets are listed under this heading, addressing the 'ability to be identified of products/parts' and 'wear and damage resistance during the remanufacturing process'. In addition, the criteria listed under these headings are vague or only information based. We would recommend the development of a scoring system based around better defined criteria. Several scoring criteria could be the same as those used for repair, reuse and upgrade, but others that could be specific to refurbishing and remanufacture such as:

- **Surface cleaning capability of priority surfaces:** all priority surfaces / some priority surfaces / no priority surfaces)
- **Accessibility of fasteners for priority parts:** all clearly visible and accessible / some clearly visible and accessible / hidden or not accessible, e.g. behind an adhesive or other parts.
- **Ease of handling of priority parts:** all can be easily handled (e.g. they are not too small, bulky, heavy, soft, sticky or sharp, they do not have a tendency to tangle) / some priority parts can be easily handled / priority parts cannot be easily handled
- **Number of operators needed for disassembly and assembly.**
- **Assembly guidance via parts asymmetry:** all priority parts have asymmetry or other assembly guidance / some priority parts have priority parts have asymmetry or other assembly guidance / none have asymmetry or other assembly guidance.
- **Directly securing parts:** all priority parts are secured directly upon insertion without the need for additional operations / some priority parts are secured directly upon insertion without the need for additional operations / all parts require additional operations to secure them after insertion.
- **Fastener strength:** reusable two times or more / reusable once / removable / neither removable nor reusable.

Recommendations for the report:

▶ **Improve criteria for remanufacturing and refurbishing:** A more robust range of scoring-based criteria should be added to the report as previously listed.

OTHER POLICY RECOMMENDATIONS (4.2.3)

We strongly support the inclusion of minimum guarantee for B2B sales. It does not make sense that OEMs are legally permitted to offer much shorter guarantees for the same products when sold to a business rather than a consumer. For example, we also support a quality label for refurbished products. In relation to other policies, the Cyber Resilience Act[3] should be discussed in the context of horizontal regulation, as it could be extended to tackle some aspects of security that might improve product lifetimes.

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[3] https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13410-Cyber-resilience-act-new-cybersecurity-rules-for-digital-products-and-ancillary-services_en

▶ **Security and longevity:** Include considerations around how the Cyber Resilience Act could tackle security aspects that could improve product lifetime.

SYSTEM POLICY RECOMMENDATIONS (4.2.3)

We strongly support measure #11 for horizontal requirements on firmware and software but recommend that the previously highlighted issues of updates that downgrade performance and rollback of updates are also explored in this context.

METHODOLOGICAL CONSIDERATIONS
RELATIVE EFFECTIVENESS OF DIFFERENT MEASURES

Even if a full analysis cannot be carried out, the effectiveness of different measures should at least be taken into account in the discussion. For example, provision of information to consumers on the environmental impact of telecoms services is less likely to result in change than a data tax.

Recommendations for the report:
▶ Discuss relative effectiveness of different measures at a high level in the report discussion.

DISCUSSION OF REBOUND EFFECTS

In the discussion of policy approaches, rebound effects should be considered in terms of the potential for expected gains to be reduced because of behavioural or other systemic responses. For example, making the default video resolution the lowest level could result in manufacturers only supplying very high-resolution options in order to avoid consumer complaints.

Recommendations for the report:
▶ Discuss potential rebound effects for the different policy proposals where relevant.

CLARITY OF RATIONALE BEHIND PRODUCT PRIORITISATIONS

The rationale for prioritising material efficiency recommendations per product is unclear and seems to be rooted in the status quo of what is easiest with current product designs rather than where there is most opportunity for improvement. For example, repair and durability is a major issue for consumer imaging equipment, which has essentially become a throwaway technology. There is much scope for improvement in this product group compared to other ICT products that are already more durable and repairable, yet the priorities for imaging equipment are much lower for most policy options than for other products.

Recommendations for the report:
▶ Focus policies on where there is most opportunity for improvement.

OVERVIEW OF GAPS IN CURRENT POLICY

Whilst we recognise that a full examination of the gaps in current policy approaches is not the goal of this work, more could be said at a high level (with examples) about the ways in which existing policy could be improved, such as the limited product scope of some regulations (e.g. in relation to table 2). An example of

this would be the way that higher specification and professional products are often excluded from regulations even when these products are ubiquitous. It would also be useful to highlight those products that were previously assessed for inclusion under ErP and not pursued for reasons such as low or declining sales or low energy savings – e.g. video players / recorders. The same principle applies for the ways in which policy options are derived. Relying on the existing wording of current legislation misses the opportunity to establish more effective approaches as the foundation for harmonisation – recommendations in a study like this should identify these inadequacies and make proposals for how to resolve them at a horizontal level.

Recommendations for the report:

▶ **Directly address professional and high specification products:** Discuss gaps in current policy approaches in relation to product scope especially high specification and professional products. Remove text on page 13 section 4.2.2 which suggests that it is only necessary to address the material efficiency of consumer electronics products and not professional devices too.

▶ **Contextualise products within ecodesign:** Explain, at a high level (e.g. possibly by colour coding or similar), which products have been previously discounted for policy measures under ecodesign or ecolabelling and why. Also consider if these arguments may still be valid or if reassessment could be merited.

▶ **Recognise the need to go beyond existing policy approaches:** Avoid proposing sub-optimal wording based on current legislation or regulatory discussions without considering how this could be improved for robustness and greater savings. For example, weak wording relating to parts pairing and maximum spare parts price is currently included in the report that needs to be improved to ensure that the requirements have an impact.

EVALUATION OF THE ADEQUACY OF POLICY PROPOSALS

There is a lack of a quantitative assessment to evaluate if the proposed policies will be sufficient. If industry predictions regarding data traffic expansion, IoT and other developments are accurate and mitigations are not implemented, a crisis is likely to occur regardless of whether some device or system-level measures such as those proposed in the chapter have been implemented.

Recommendations for the report:

▶ **Estimate adequacy of the policy proposals:** Detailed calculations may not be possible within this report, but ballpark estimates should be provided.

ADDITIONAL EDITORIAL COMMENTS

We have identified the following editorial issues

▶ **Description of Figure 1 (page 10):** There is an error in description of figure 1, "the device level, represented by the orange area". Device level should refer to the blue not the orange area.

▶ **Lack of clear terms:** in 4.2.1. the term "public ICT" could be interpreted many ways (e.g. computers bought for public offices) and should be better defined as it appears to be intended to refer to 'ICT in public spaces' defined in table 1 such as ATMs, ticket machines and public WLAN hotspots.