ICT Task Force comments form

Contact: ernestas.oldyrevas@ecostandard.org

No.	Comment from	Contact person	Reference	Subject of comment	Comment
1	**ECOS, EEB, Coolproducts**	Ernestas Oldyrevas	TASK 2 and TASK 3	Consideration of a recent report on ICT impacts	We very much welcome the ongoing JRC study designed to provide basis for policymaking to improve the sustainability of the ICT sector, and believe that the project is both timely and well targeted overall. However, since the circulation of the draft Task 2 and 3 reports among stakeholders, **a study of a similar scope, commissioned by the Greens/EFA group in the European** Parliament, has been published, available here: https://www.greens-efa.eu/opinions/2021/12/06/digital-technologies-in-europe/. Since the latter study provides a number of relevant data points and references, we believe that the Task 2 and 3 reports of the JRC study should be revised considering its contents and findings.
2	**ECOS, EEB, Coolproducts**	Ernestas Oldyrevas	TASK 2 and TASK 3	Consideration of literature on digital sufficiency	We regret that the research questions and the report overall do not consider **the concept of, and the literature surrounding, "digital sufficiency"**. Encompassing the need for moderating the use and development of digitalisation, especially the exponential growth in data flows and ICT usage, the concept is increasingly recognised in the academic literature. We strongly believe that in order for the ICT sector to develop in line with EU climate and energy targets in the future, EU policies will have to be devised in line with the principles of digital sufficiency. Among other works, we recommend **the following sources** to be considered in the analysis so to introduce a discussion of the concept in the report and the derived research questions: • https://www.societybyte.swiss/en/2020/05/11/sufficiency-the-missing-ingredient-for-sustainable-digitalisation/ • https://oekologisches-wirtschaften.de/index.php/oew/article/view/1791 • https://theshiftproject.org/en/article/implementing-digital-sufficiency/ In addition, we would also like to draw the attention to **several official studies and reports**

					commissioned by governmental and institutional bodies in France on the environmental impact of the ICT sector **which readily refer to the need for digital sufficiency and recommend sufficiency measures,** see e.g.: • https://www.economie.gouv.fr/files/files/directions_services/cge/consommation-energique-numerique.pdf • http://www.senat.fr/rap/r19-555/r19-5551.pdf Given the relevance of the scope of the above studies, we believe that they should be duly considered in the revised Task 2 and 3 reports. In addition, we believe that the literature on environmental impacts associated to advertising should also be reflected in the literature review and the report overall when discussing impacts of data use (e.g. in the section 3.5 of the Task 3 report). The following two studies should serve as a starting point for the analysis: • https://www.sciencedirect.com/science/article/pii/S0195925517303505 • https://groenlinks.nl/sites/groenlinks/files/2021-09/CE_Delft_210166_Carbon_footprint_unwanted_data-use_smartphones.pdf Lastly, when estimating energy saving potential and the corresponding policies, we believe that it would help for the report to **distinguish between aspects that relate to technical efficiency** (improvement of technologies and equipment), **and those that relate to more conscious and moderate use** (reducing the needs and flows of data).
3	**ECOS, EEB, Coolproducts**	Ernestas Oldyrevas	TASK 2, Chapter 4, pp. 9-10	Missing references to relevant policy initiatives	Chapter 4 on current policies and initiatives misses some noteworthy EU-level developments, notably the **European Parliament resolution** "Towards a more sustainable single market for business and consumers" (2020/2021(INI)) and the **Council Conclusions** "Making the Recovery Circular and Green" (14167/20). In addition, some key initiatives at Member State level should also be mentioned in this chapter. This includes the following non-exhaustive list of relevant initiatives: • **The French bill to fight planned obsolescence** introduced by France in 2021 (*Loi anti-gaspillage pour une économie circulaire*); • The **French reparability index** introduced in 2021; • The **French roadmap on converging green and digital transitions adopted in February 2021**; • The **French bill to reduce the environmental impact of digitalisation** adopted in November 2021, which targets higher reuse, software obsolescence and consumer information on digital sufficiency (*LOI n° 2021-1485 visant à réduire l'empreinte environnementale du numérique en France*);

					• Discussions on **Electronics Law** and a **new Circular Economy Law in Germany**; • Discussions on a **new law on planned obsolescence in Italy**; • The **political initiative** by Norway and Sweden **to ban bitcoin mining** in their countries and at EU level because of its high energy impact (see, e.g., https://www.euronews.com/next/2021/11/17/norway-could-back-european-bitcoin-mining-ban-as-minister-calls-energy-use-difficult-to-ju)
4	**ECOS, EEB, Coolproducts**	Ernestas Oldyrevas	TASK 3	Additional research questions	In the original study plan, Task 3 was proposed to be titled "*Potential for energy savings*". The title has been changed in the report since and the content of the **draft Task 3 report only partially addresses energy saving potentials at present**. While some general figures and discussions on trends about energy efficiency of network equipment are provided, we believe that the analysis lacks a detailed assessment of all the energy saving options that can meaningfully inform policymaking. This considered, **we would very much welcome an assessment of saving potential of ICT systems by stakeholder types**, i.e.: • What can ICT product manufacturers do at their level to propose best available technologies and reduce detrimental marketing strategies (including the potential impacts of such action compared to business as usual)? • What can telecommunication and network operators do to reduce the relevant environmental impacts at their level (including the potential savings associated with such action)? • What can relevant internet companies (GAFAM, etc.) do to reduce and optimise data traffic and to ensure a sustainable use of their services (including the potential savings associated with such action)? • What can private and business end-users do at their level to use less data, less ICT equipment (including the potential savings of best practices compared against standard usage)?
5	**ECOS, EEB, Coolproducts**	Ernestas Oldyrevas	TASK 3, Chapter 3, pp. 5-23	Energy consumption scenarios	Throughout chapter 3, several external references are used to estimate growth in data traffic and energy used by ICTs. However, these references are based on varying assumptions and sometimes differentiated – if not contradicting – scenarios, which makes it difficult to get an overall integrated idea of the scale of the issue. Moreover, some of the mentioned external studies bet on a stabilisation of the energy use of the digital sector due to efficiency gains, without sufficient consideration of the increasing rise of new digital services such as the metaverses, the generalisation of AI, new trends in homeworking, e-health or intensive cryptocurrency mining. We believe it would be beneficial to **streamline the analysis by compiling the best- and worst-case scenarios of each study and summing up the outcomes** on the various

					elements (data centres, servers, networks, consumer devices) for each of these two scenarios. We believe that this would help better demonstrate what can be expected in terms of energy/material use in the case of an unregulated digital sector (worst case), and in case of a targeted regulatory intervention (best case).
6	**ECOS, EEB, Coolproducts**	Ernestas Oldyrevas	TASK 3, Chapter 3, p.13	Inconsistency between estimates	**Figures 18 and 19 appear inconsistent to a disproportionately large extent** in terms of trends, **the reasons for which are not explained in the report** (i.e. is this due to different scopes, efficiency assumptions, data flow assumptions, or other reasons?). It is important for this inconsistency to be clarified, as Figure 18 as presented currently seriously jeopardises the conclusion that could be derived from Figure 19 and the VHK et al study.
7	**ECOS, EEB, Coolproducts**	Ernestas Oldyrevas	TASK 3, Chapter 4, pp. 24-37	Assumptions on rebound effects	We find the contents of chapter 4 on the contribution of the internet of things to ICT energy efficiency **overly optimistic** and call for caution with respect to estimates provided by industry sources. For instance, the Task 3 report at present often mentions theoretical potentials for the contribution to energy savings that have not really been demonstrated in real life. While we agree on the importance of increasing grid flexibility to integrate distributed RED into the grid, we think it's essential to focus on the appliances that will make a difference in this regard. The largest electric loads in a household – namely electric vehicles and heat pumps - should be smartly connected to the grid as operating them flexibly can contribute significantly to greener and more stable grids. Introducing IoT for other appliances on the other hand should be handled with caution because this may lead to higher energy and material use. The current in-passing reference to rebound effects should be reworked so to form a core part of the analysis and discussion in this chapter, including a much more thorough consideration of existing literature on the topic. We call on the study team to **include at least the following critical pieces of academic work in the discussion**: • Digitalisation of goods: a systematic review of the determinants and magnitude of the impacts on energy consumption, which states: "*we cannot conclude that e-materialisation has delivered significant energy savings to date or is likely to do so in the future.*" • The real climate and transformative impact of ICT: A critique of estimates, trends, and regulations, stating: "*Based on the evidence available, it is key that regulators move away from the presumption that ICT saves more emissions than it produces—at the very least it would seem unsafe to assume that ICT efficiencies bring about carbon savings by default.*"
8	**ECOS, EEB, Coolproducts**	Ernestas Oldyrevas	TASK 3, Chapter 4, pp. 26-27	Negative effects of IoT in industry	At the end of section 4.2.2, **only two negative effects of IoT in industry** are listed. However, **others deserve be added for completeness**, such as the fact that IoT will facilitate higher levels of robotisation and thus more electricity use (compared to human workforce); higher levels of production, storage, and delivery of goods that IoT will enable in an automated way (which has material and energy impacts); or the likelihood of further spread of assembly chains and production lines (with components assembled from all over

					the world), thus increasing transport flows.
9	**ECOS, EEB, Coolproducts**	Ernestas Oldyrevas	TASK 3, Chapter 4, point 4.2.4	Impacts of smart home systems	It is important to note in the report that "smart home" systems are often not designed and marketed to save energy but rather to offer new functionalities to building users. Several of such functionalities are in fact likely to increase and not decrease electricity use, including, for instance, safety sensors and systems (cameras, alarms, connected locks, etc.), the possibility to switch on devices earlier before reaching home (heating, cooling, lighting, kitchen equipment, etc.), or the electrification of building elements that were not consuming any energy (doors, windows, shades, etc.). **It therefore appears at best premature to conclude that smart homes systems will lead to actual energy savings. The section should, we believe, be revised to duly reflect this**.
10	**ECOS, EEB, Coolproducts**	Ernestas Oldyrevas	TASK 3, Chapter 4, point 4.2.5	Insufficient analysis of digitalisation in transport	The analysis of the impact of digitalisation on transport is overly short, rudimentary and optimistic. The last sentence on rebound effects requires much more elaboration, as does the discussion on energy saving potential (Figure 40 lacks context about past and current trends, for instance). It is important to **consider some existing critical literature** on the topic, such as for instance the article entitled "The effect of digitalization in the energy consumption of passenger transport: An analysis of future scenarios for Europe", which states: "*The analysis illustrates that the penetration of digital technologies can lead to opposite effects with regard to both energy consumption and emissions*.". In addition, we believe that it is important for the report to mention the fact that **digitalisation has driven some environmentally harmful trends**, such as impulsive on-line shopping (with a steep increase in parcel, food, and other good delivery), and supported long distance freight transport over local circuits. In addition, automated vehicles and other digital mobility services could very well support further increase in motorised transport while using a lot of energy to run.
11	**ECOS, EEB, Coolproducts**	Ernestas Oldyrevas	TASK 3, Chapter 4, point 4.3.	Impacts of IoT on durability and waste	The chapter on IoT challenges lacks one important consideration currently, notably on the significant issues associated with the increase in IoT on the durability of devices, waste creation and recycling. With an increasing use of electronic components and chips in conventional products, the handling of waste and recycling of products is likely to become more difficult in the future, and the amount of untreated electronic waste is likely to increase as a result. Moreover, product durability and lifetimes are also likely to impacted as a result, given that these embedded electronic parts may fail before the rest of the product. **It appears unlikely that in these conditions the rise of IoT would be a positive contributor to a circular economy and call on a dedicated discussion on this to be included in the revised report.** In addition, the report should also discuss impacts associated with the increasing smartness of household and other appliances in relation to security and privacy, since without clear rules on software and security updates these devices are likely to become increasingly amenable to cyber attacks and unlawful access to consumption data. The recommended policy response should therefore consider the increased vulnerability of connected devices alongside measures necessary to ensure that smartness is introduced in

					products for a justified reason and requirements to ensure their safety throughout the useful lifetime.