

# Draft BEREC Report on empowering end-users through environmental transparency on digital products

Fields marked with \* are mandatory.



During its 57th plenary meeting (from 6th to 8th December 2023), the BEREC Board of Regulators has approved the [Draft BEREC Report on empowering end-users through environmental transparency on digital products](#) for public consultation.

BEREC considers end-users' awareness of environmental issues as critical for end-users' empowerment and for ICT sustainability. Environmental information on digital products and services could enlighten user choices in terms of their digital consumption. Complementary to effects on the demand side, this data-driven approach of end-users' empowerment could create positive incentives for digital players to support the deployment of greener digital solutions and limit the risk of greenwashing.

In 2023, BEREC lead a fact-finding process to raise NRAs' knowledge of existing work and analysis of environmental transparency on ICT sustainability products and end-users' empowerment. This work took the form of a review of literature and existing EU regulation, a workshop on end-users' empowerment and ICT sustainability with representatives of the Commission, consulting firms, BEUC and the European Environmental Bureau (EEB), and an internal questionnaire on NRAs and other relevant stakeholders' initiatives.

Main results of this work are presented in the draft Report.

The report consists of 5 chapters:

- Introduction of the topic within the context of BEREC work on environmental sustainability and on end-users empowerment;
- Presentation of the key concepts on empowering end-users through digital products' information based on the currently valid and newly proposed EU legislation and latest research by public bodies (esp. the EC) and other entities;

- Summary of the main results of the workshop held in cooperation with the Commission, BEUC and EEB;
- Analysis of the responses provided by member NRAs on the activities and initiatives thereof, of OCAs and third parties (NGOs and industry).
- Conclusions and potential areas for future work.

All stakeholders are invited to submit their inputs via EU survey portal no later than **12 February 2024 (17:00 CET)**.

Contributions should be preferably submitted in English.

In case you are facing any difficulties with the platform, please send your questions and queries to Sustainability\_PC@berec.europa.eu

No contributions are accepted on this address.

Please ensure that the overall size of the email (including attachments) is not larger than 2 MB.

We strongly encourage all stakeholders to submit their contributions as early as possible. Contributions received after the above-mentioned deadline will not be taken into account.

All contributions received will be published on the BEREC website, taking into account requests for confidentiality and publication of personal data. Any such requests should clearly indicate which information is considered to be confidential.

\* Name

Organisation

EU member states

- AT - Austria
- BE - Belgium
- BG - Bulgaria
- HR - Croatia
- CY - Cyprus
- CZ - Czechia
- DK - Denmark
- EE - Estonia
- FI - Finland
- FR - France
- DE - Germany
- EL - Greece
- HU - Hungary

- IE - Ireland
- IT - Italy
- LV - Latvia
- LT - Lithuania
- LU - Luxembourg
- MT - Malta
- NL - Netherlands
- PL - Poland
- PT - Portugal
- RO - Romania
- SK - Slovak Republic
- SI - Slovenia
- ES - Spain
- SE - Sweden
- XY - Other

\* Email

[REDACTED]@theshiftproject.org

### Feedback on each chapter of the Draft Report

1) Please enter your comments on Executive summary and Chapter 1 (Introduction) here:

In 2019, about 3.5% of global carbon emissions were caused by the production and use of digital technology. With a projected increase which is standing at 6% per year, this figure could more than double by 2030 to reach 8% of all global carbon emissions. The electricity consumption of mobile networks has been growing at 10% per year and this rate could surge to 20% per year with the densification of antennas resulting from the usage of higher frequencies together with unchanged geographical coverage requirements. The transformation of the cloud into core cloud and multiple layers of edge cloud (regional, local, micro) together with the increase of unitary processor consumption accelerated by the development and dissemination of generative AI is likely to cause the electricity consumption of data centers to grow at 10% to 15% per year instead of the current 5% to 6% rate.

This will happen unless we operate a digital reset of technical architecture choices, economic models, regulatory frameworks, system design principles and even societal hierarchy of digital uses.

2) Please enter your comments on Chapter 2 (Key concepts on empowering end-users through environmental information on digital products) here:

2.1

In term of durability, we think that network compatibility can be a concern because it could have an impact on the lifespan of end-users' devices.

The assessment of environmental relevance and overall climate impact of technological choices should be systematic. This is particularly relevant when it comes to defining the technical and business implementation of infrastructures such as new generation network which have a leverage effect on the overall digital system.

2.3

Transparency is the key word to enable all digital actors to make the right choices regarding the sober use of digital technology.

This transparency translates into the provision of data and indicators relating to the environmental impact of digital technology on all the links in the chain made up of data centers, networks and terminal equipment. These data must be derived from standardized and recognized calculation methods for each sub-part but then grouped by user service.

The data is derived from the analysis of the life cycles of the equipment and a precise analysis of the use made of it by each user service.

The services provided are numerous, but it is at this level that the user can be made aware of the impact he or she generates on the environment.

These services include, for example, streaming, email, VOIP, web consultation, social networks, AI, IOT, without this list being exhaustive.

Each user should be able to know what energy consumption and CO<sup>2</sup> production he/she is responsible for after one hour of streaming, for example. Data relating to each sub-set (application on the terminal, types of networks used, volume and time spent in the data centers) should be available to show the difference between a fiber or Wi-Fi connection and a 4 or 5G connection, the difference between eco-designed or non-eco-designed applications and the impact of an optimized or non-optimized data center.

This data should be aggregated according to the desired level of operation. The operator of a data center must be able to analyze the proportion of so-called "essential" services in the total number of services it hosts at any given time. The network operator must have visibility of the different types of flows it handles and inform the various players.

It is thanks to all this data made available by the various players that frugal use of digital technology will be possible. It is thanks to this that objective information can be delivered to users and that new habits can be promoted.

To maximize their ability to attract users and develop user engagement, CAPs deploy techniques to stimulate, monitor, and analyze the presence of users on their platforms. Such practices rely on an exponential use of digital technology, e.g., video content, higher quality video standards, algorithms, and artificial intelligence: a handful set of CAPs is then responsible for 75% of the growth of the internet traffic (see [TRANSITIONING TOWARDS SUSTAINABLE DIGITAL BUSINESS MODELS](https://digitalization-for-sustainability.com/publications/) at <https://digitalization-for-sustainability.com/publications/>). This exponential rise of digital affluence is not self-regulated as CAPs only bear part of the resulting financial (actual costs of using networks and end-user devices) or environmental (scope 3 downstream GHG emissions) costs. Due to their financial power, a few CAPs drive the market behaviours. Making them accountable could result in reducing the traffic growth by 10 points and prevent the network environmental footprint from growing, reduce the growth of the data center footprint, save 500 / 1000 TWh of electricity worldwide in 2030 against the current trend.

Improving transparency of end-users regarding the environmental footprint of their digital services could raise awareness and promote best practices in terms of using digital services but we think that this alone is not enough to encourage behavioral changes. Therefore, we would need a labelling scheme or Eco-design framework for digital services (as for devices): automatically adapt video resolution based on device used, clear guidelines on most efficient codecs reducing network bandwidth, provide a "data saving mode" automatically activated, "audio-only" button on video platforms, prohibition of auto-play without interaction with the user...

Moreover, we think transparency is key to ensure arbitration of the common resources so that our society stays resilient.

All stakeholders and IT consumers deserve to have more direct environmental transparency in the IT services they use. Arbitration capabilities shall be designed in order to offer the choice of which systems need to be prioritized under various short and long terms stress situations.

3) Please enter your comments on Chapter 3 (Summary of BEREC Workshop on End-Users' Empowerment through environmental transparency on digital goods and services) here:

No comment

4) Please enter your comments on Chapter 4 (Existing national initiatives in the Member States) here:

4.3.1 Benchmark of third parties' initiatives (non profit organisations)

The Shift Project is a French think tank advocating the shift to a post-carbon economy. As a non-profit organisation committed to serving the general interest through scientific objectivity, we are dedicated to informing and influencing the debate on energy transition in Europe. The exponential development of digital technologies and how this development interacts with decarbonisation objectives is a major component of the carbon transition. (See Lean-ICT-Report\_The-Shift-Project\_2019.pdf (theshiftproject.org), proposals 2 and 4 in the Conclusions part)

5) Please enter your comments on Chapter 5 (Conclusions: Summary and future work) here:

Transparency is key to define a quantitative target for the European digital sector.  
While working with the French government, we published last year an assessment of a target of -30% of the CO<sub>2</sub>eq. emissions for the IT sector in France by 2030 in line with the global commitment of the sector from SBTi (-45%). This target is there to explain that the ICT sector has to reduce its carbon emissions just like any other sectors, meaning that its expected electricity usage growth is certainly not sustainable.  
We strongly suggest that such a quantitative target for the European ICT sector with ideally sub-targets for the different ICT sectors (device, networks, data centers) be established in order to facilitate the strategic alignment of digital suppliers.

6) Please enter any other comments you may have:

Please upload here any supporting document that you deem relevant:

Only files of the type pdf,doc,docx,odt,txt,rtf are allowed

In accordance with the BEREC policy on public consultations, BEREC will publish all contributions and a summary of the contributions, respecting confidentiality requests. Any such requests should clearly indicate which information is considered confidential.

\* Do you request some information to be considered as confidential?

- Yes  
 No

### Background Documents

Draft BEREC Report on empowering end-users through environmental transparency on digital products

### Contact

Sustainability\_PC@berec.europa.eu

## Contact

[Contact Form](#)