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Public consultation questionnaire for ecodesign and energy labelling of COMPUTERS - DG ENER

Fields marked with * are mandatory.

Introduction

Under the European Green Deal, the European Commission presented, in 2020, the Circular Economy Action Plan, including the Circular Electronics Initiative to promote longer product lifetimes.
The Circular Electronics Initiative aims to address shortcomings in durability, circular design, presence of hazardous and harmful substances, recycled content, reparability, access to spare parts, upgradability, e-waste prevention, collection, reuse and recycling. It also aims to tackle planned obsolescence, including product obsolescence caused by software changes.
On top of resource use, a number of policies aim to reduce energy use, both during the use phase of products and beyond it. For some electronic products in particular, the energy used during the use phase is less than half of the energy used during the product's entire life cycle: material extraction, manufacturing and transport to the final store require more energy than that usually consumed during the operation of e.g. a computer. To capitalise on this initial energy investment, consequently, the product lifetime should be extended. Ecodesign, for example may address the most frequent causes of fault or total loss, such as fall from a desk or liquid spilling over the keyboard of a laptop.
Most, if not all, of the mentioned aspects are to be addressed in the product design phase. Even for recycling aspects, it is generally far more efficient to tackle issues upstream than to address them only downstream (e.g. with components designed for disassembly and recycling).
Finally, the recent Directive on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment[1] introduced requirements on the power supply (known as common charger) that will cover laptop computers and a number of other mobile electronic products. Potentially, also non-mobile computers could use the same power supply.

Relevant legislative tools

The relevant legislation to tackle the aspects mentioned above can build on the below two EU legislative frameworks.

1. **Ecodesign,** which sets minimum requirements for products to be sold in the EU and promotes the energy and material efficiency, durability, reparability and recyclability of products. Computers sold in the EU have been subject to ecodesign rules since 2013, as outlined in Regulation (EU) No 617/2013. Because of technological developments during the last decade and in the light of the measures outlined above, this Regulation is undergoing a major review.
2. **Energy labelling**, which imposes transparency obligations on suppliers by requiring relevant information to guide customers, enabling them to make a better informed choice with respect to environmental aspects. Environmental gains frequently result in direct economic savings for the final user, although, at times, with a marginal upfront cost increase. Energy labelling not only pushes the sales of the most efficient and sustainable products, but also creates competition among manufacturers to develop better and better models, to appear in the top classes. The availability of the EPREL product database, in which already over 1.5 million product models from about 40 product groups have been registered, offers an important tool to consumers and bulk purchasers to select the best products placed on the EU market.

New challenges

The widespread and increasing use of computers, particularly because of hybrid working patterns since the COVID-19 pandemic, is giving rise to a number of new challenges, for example:

- technologies used for manufacturing computers have developed in the last 10 years;
- the energy consumption patterns of products on the market are very different;
- component and chip integration is steadily increasing and has moved from e.g. 16 nanometres in 2013 to 3 nanometres in the most advanced chips today;
- although present in very small quantities in each computer, some materials raise global concerns because of their social, economic and geopolitical impacts and their scarcity and/or availability (e.g. critical raw materials such as cobalt, tantalum, neodymium, tungsten, etc.);
- lack of circularity at the end of their useful life: computers and their materials can, with the right processes (e.g. recycling or recovery), be reused, and these aspects need to be improved;
- both the energy used for their fabrication and consumers' money can be put to better use by extending product life.

Areas for possible improvement

The Commission's review of Regulation (EU) No 617/2013 identified areas to improve both the energy efficiency and the material efficiency of computers. The identified areas for the revised Regulation notably relate to:

- energy efficiency of computers when in use and performing specific tasks;
- product durability and sturdiness;
- suitability of computers for disassembly and repair;
- availability of priority spare parts;
- availability of appropriate information for users, repairers and recyclers;
- availability of software / firmware / operating system updates;
- noise emission.

For laptops, they also relate to:

- battery durability or accessibility;
- protection from the most frequent causes of major damage or total loss.

About this public consultation

This public consultation aims to offer computer users and stakeholders involved in all areas of the value chain (original equipment manufacturers, component suppliers, users, repairers, recyclers, etc.) the opportunity to express their views on how to best address the policy challenges outlined above, and to provide relevant information.
Your feedback, together with evidence from various sources including desk research and other consultations, will inform the development of the best possible policy response.
The questionnaire first gathers information about you, the respondent. It then asks questions specific to the product groups.
You may also attach position papers / documents to support your views.
You can fill in the questionnaire either:

- as a final user; or
- as a company.

If you have any questions about this consultation, please email them to ENER-ENERGY-LABELLING@ec.europa.eu indicating 'public consultation – computers' in the subject line.
Thank you for your interest and cooperation.
[1] Directive (EU) 2022/2380, amending Directive 2014/53/EU and introducing provisions for the use of the "common charger" in a number of battery-powered electronic products.

About you

* Language of my contribution

- Bulgarian
- Croatian
- Czech
- Danish

- Dutch
- English
- Estonian
- Finnish
- French
- German
- Greek
- Hungarian
- Irish
- Italian
- Latvian
- Lithuanian
- Maltese
- Polish
- Portuguese
- Romanian
- Slovak
- Slovenian
- Spanish
- Swedish

* I am giving my contribution as

- Academic/research institution
- Business association
- Company/business
- Consumer organisation
- EU citizen
- Environmental organisation
- Non-EU citizen
- Non-governmental organisation (NGO)
- Public authority
- Trade union
- Other

* First name

Edoardo

* Surname

Bodo

* Email (this won't be published)

edoardo.bodo@rreuse.org

* Organisation name

255 character(s) maximum

RREUSE

* Organisation size

- Micro (1 to 9 employees)
- Small (10 to 49 employees)
- Medium (50 to 249 employees)
- Large (250 or more)

Transparency register number

Check if your organisation is on the transparency register. It's a voluntary database for organisations seeking to influence EU decision-making.

05052317999-60

* Country of origin

Please add your country of origin, or that of your organisation.

This list does not represent the official position of the European institutions with regard to the legal status or policy of the entities mentioned. It is a harmonisation of often divergent lists and practices.

- Afghanistan
- Åland Islands
- Albania
- Algeria
- American Samoa
- Djibouti
- Dominica
- Dominican Republic
- Ecuador
- Egypt
- Libya
- Liechtenstein
- Lithuania
- Luxembourg
- Macau
- Saint Martin
- Saint Pierre and Miquelon
- Saint Vincent and the Grenadines
- Samoa
- San Marino

- Andorra
- Angola
- Anguilla
- Antarctica
- Antigua and Barbuda
- Argentina
- Armenia
- Aruba
- Australia
- Austria
- Azerbaijan
- Bahamas
- Bahrain
- Bangladesh
- Barbados
- Belarus
- Belgium
- Belize
- Benin
- Bermuda
- Bhutan
- Bolivia
- Bonaire Saint Eustatius and Saba
- Bosnia and Herzegovina
- Botswana
- Bouvet Island
- El Salvador
- Equatorial Guinea
- Eritrea
- Estonia
- Eswatini
- Ethiopia
- Falkland Islands
- Faroe Islands
- Fiji
- Finland
- France
- French Guiana
- French Polynesia
- French Southern and Antarctic Lands
- Gabon
- Georgia
- Germany
- Ghana
- Gibraltar
- Greece
- Greenland
- Grenada
- Guadeloupe
- Guam
- Guatemala
- Guernsey
- Madagascar
- Malawi
- Malaysia
- Maldives
- Mali
- Malta
- Marshall Islands
- Martinique
- Mauritania
- Mauritius
- Mayotte
- Mexico
- Micronesia
- Moldova
- Monaco
- Mongolia
- Montenegro
- Montserrat
- Morocco
- Mozambique
- Myanmar/Burma
- Namibia
- Nauru
- Nepal
- Netherlands
- New Caledonia
- São Tomé and Príncipe
- Saudi Arabia
- Senegal
- Serbia
- Seychelles
- Sierra Leone
- Singapore
- Sint Maarten
- Slovakia
- Slovenia
- Solomon Islands
- Somalia
- South Africa
- South Georgia and the South Sandwich Islands
- South Korea
- South Sudan
- Spain
- Sri Lanka
- Sudan
- Suriname
- Svalbard and Jan Mayen
- Sweden
- Switzerland
- Syria
- Taiwan
- Tajikistan

- Brazil
- British Indian Ocean Territory
- British Virgin Islands
- Brunei
- Bulgaria
- Burkina Faso
- Burundi
- Cambodia
- Cameroon
- Canada
- Cape Verde
- Cayman Islands
- Central African Republic
- Chad
- Chile
- China
- Christmas Island
- Clipperton
- Cocos (Keeling) Islands
- Colombia
- Comoros
- Congo
- Cook Islands
- Costa Rica
- Côte d’Ivoire
- Guinea
- Guinea-Bissau
- Guyana
- Haiti
- Heard Island and McDonald Islands
- Honduras
- Hong Kong
- Hungary
- Iceland
- India
- Indonesia
- Iran
- Iraq
- Ireland
- Isle of Man
- Israel
- Italy
- Jamaica
- Japan
- Jersey
- Jordan
- Kazakhstan
- Kenya
- Kiribati
- Kosovo
- New Zealand
- Nicaragua
- Niger
- Nigeria
- Niue
- Norfolk Island
- Northern Mariana Islands
- North Korea
- North Macedonia
- Norway
- Oman
- Pakistan
- Palau
- Palestine
- Panama
- Papua New Guinea
- Paraguay
- Peru
- Philippines
- Pitcairn Islands
- Poland
- Portugal
- Puerto Rico
- Qatar
- Réunion
- Tanzania
- Thailand
- The Gambia
- Timor-Leste
- Togo
- Tokelau
- Tonga
- Trinidad and Tobago
- Tunisia
- Türkiye
- Turkmenistan
- Turks and Caicos Islands
- Tuvalu
- Uganda
- Ukraine
- United Arab Emirates
- United Kingdom
- United States
- United States Minor Outlying Islands
- Uruguay
- US Virgin Islands
- Uzbekistan
- Vanuatu
- Vatican City
- Venezuela

- Croatia
- Cuba
- Curaçao
- Cyprus
- Czechia
- Democratic Republic of the Congo
- Denmark
- Kuwait
- Kyrgyzstan
- Laos
- Latvia
- Lebanon
- Lesotho
- Liberia
- Romania
- Russia
- Rwanda
- Saint Barthélemy
- Saint Helena Ascension and Tristan da Cunha
- Saint Kitts and Nevis
- Saint Lucia
- Vietnam
- Wallis and Futuna
- Western Sahara
- Yemen
- Zambia
- Zimbabwe

The Commission will publish all contributions to this public consultation. You can choose whether you would prefer to have your details published or to remain anonymous when your contribution is published. **Fo r the purpose of transparency, the type of respondent (for example, 'business association, 'consumer association', 'EU citizen') country of origin, organisation name and size, and its transparency register number, are always published. Your e-mail address will never be published.** Opt in to select the privacy option that best suits you. Privacy options default based on the type of respondent selected

* **Contribution publication privacy settings**

The Commission will publish the responses to this public consultation. You can choose whether you would like your details to be made public or to remain anonymous.

- **Anonymous**
  Only organisation details are published: The type of respondent that you responded to this consultation as, the name of the organisation on whose behalf you reply as well as its transparency number, its size, its country of origin and your contribution will be published as received. Your name will not be published. Please do not include any personal data in the contribution itself if you want to remain anonymous.
- **Public**
  Organisation details and respondent details are published: The type of respondent that you responded to this consultation as, the name of the organisation on whose behalf you reply as well as its transparency number, its size, its country of origin and your contribution will be published. Your name will also be published.

☑ I agree with the personal data protection provisions

1. Information about the respondent

1.1 Do you want to fill in the questionnaire as a **final user** or as a **company**? (Only one reply is possible; you may fill in a second questionnaire in a different role.)

- ○ as a **final user**
- ◉ as a **company**

1.2 Which of the below activities does your company perform? (You can choose more than one option.)

	Check what is relevant
Original equipment manufacturer of computers	☐
Manufacturer of related accessories	☐
Supplier of components, other than batteries, for computers	☐
Supplier of compatible batteries	☐
Company providing computers to own staff	☑
Repairer (OEM authorised)	☐
Repairer (non-OEM, including independent)	☑
Refurbisher	☑
Recycler (of any kind of materials/devices)	☐
Software developer, software supplier	☐
None of above	☐

1.3 Where is your company based?

- ◉ Inside the EU
- ○ Outside the EU

2. Questions on computers

2.1 When buying a computer (desktop, laptop, all-in-one computer), which of the following characteristics are important? (Select all that apply.)

	A: very important	B: important	C: not important	D: irrelevant
a. Price	○	◉	○	○
b. Energy consumption /efficiency	○	◉	○	○

c. Performance doing everyday tasks	○	◉	○	○
d. Performance using a specific high-end application	○	○	◉	○
e. Brand	○	○	○	◉
f. Design	○	◉	○	○
g. Guarantee	○	◉	○	○
h. Durability, sturdiness	◉	○	○	○
i. Upgradability	◉	○	○	○
j. Reparability and spare parts availability	◉	○	○	○
k. Availability of local repair centres	◉	○	○	○
l. Availability of software /firmware updates for a certain period of time	◉	○	○	○
m. Accompanying information on how to repair the product	◉	○	○	○
n. A take-back scheme offered by the manufacturer or seller (i.e. you can take an obsolete device back to the manufacturer/seller at no cost or receive a discount when purchasing another device)	○	○	○	◉
o. Accompanying information about the environmental impact of the manufacturing phase of the product itself	○	◉	○	○

2.2 If you selected 'd.' (Performance using a specific high-end application), which high-end application type do you use? (Select all that apply.)

- ☐ a. Computer-aided design (CAD)
- ☐ b. Professional / high-resolution still picture editing
- ☐ c. Professional / high-resolution video editing

- [ ] d. Scientific/simulation software (e.g. MATLAB)
- [ ] e. Programming shell
- [ ] f. Other

2.3 Which of the below measures would, in your view, make it easier to repair computers compared with the current situation? (Select all that apply.)

- [x] a. Compulsory availability of spare parts for a minimum amount of time (e.g. 7 years)
- [x] b. Standardising parts and components (to use price competition)
- [x] c. Provision of repair and maintenance information, such as exploded diagrams of the device, videos, animations, etc.
- [x] d. 'Do it yourself' repair/refurbishment operations for some components that do not involve technical knowledge and only require commonly available tools
- [x] e. Making disassembling and reassembling easier, saving on labour costs
- [x] f. Avoiding part serialisation (i.e. the need to request a code from the manufacturer to have the spare part properly functioning)
- [ ] g. I think it is already easy to repair computers now
- [ ] h. Don't know
- [x] i. Other solutions

Introduction

If you selected 'i. Other solutions' in question 2.3 above, please fill in

500 character(s) maximum

Making manufacturers share information on the maximum price of spare parts, and making it mandatory for manufacturers not to overshoot these prices (as opposed to simply giving information on the expected maximum price, as will be the case for smartphones)

Compulsory availability of all spare parts for a minimum amount of 10 years and for everyone (no list of spare part only accessible to professional repairers is necessary).

2.4 When deciding on your purchase, would you find it useful to have an energy label providing concise information on the performance (computational power) and energy efficiency of the computer when being used?

- (•) Yes
- ( ) No

2.5 Of the below aspects, which would you find useful to be included in a label to help you decide on your purchase? (Select all that apply.)

- [x] a. Reparability score (i.e. how easy and cheap it is to repair the product)
- [ ] b. Noise emissions (i.e. how silent it is)
- [x] c. Battery durability (for laptops)
- [x] d. Reliability score on resistance to liquid spilling (for laptops, e.g. a glass or drink poured onto it)
- [x] e. Reliability score on resistance to falling on the ground (for laptops)
- [x] f. Battery replaceability by the final user (for laptops)

2.6 If your own computer needs repairing (provided that this does not impact the warranty):

- ( ) a. You would like to do some repair operations yourself if possible
- (•) b. It should be feasible to have it repaired by independent repairers
- ( ) c. You prefer to have it repaired by the device's manufacturer (or by someone authorised by the manufacturer)
- ( ) d. Don't know / not applicable

2.7 For which activities/functions and for how long each day do you use your laptop /computer on average? (Select all that apply.)

	0 = no time spent at all	1 = less than 30 minutes	2 = 30 minutes to 1 hour	3 = 1 to 2 hours	4 = 2 to 4 hours	5 = over 4 hours
a. Word processing, spreadsheet, slide presentations	( )	( )	( )	( )	( )	( )
b. Emails	( )	( )	( )	( )	( )	( )
c. Using social media	( )	( )	( )	( )	( )	( )
d. Browsing the web	( )	( )	( )	( )	( )	( )
e. Streaming video or music content	( )	( )	( )	( )	( )	( )
f. Playing games	( )	( )	( )	( )	( )	( )
g. 3D modelling or computer-aided design (CAD)	( )	( )	( )	( )	( )	( )
h. Number-crunching scientific computation	( )	( )	( )	( )	( )	( )

i. Image or picture processing						
j. Video processing						
k. Music encoding, decoding or composing						
l. Database management (SQL or similar)						
m. Software development						
n. Other						
o. Overall, for how long each day do you use your laptop /computer on average?						

2.8 When buying a new computer, how do you choose it?

- a. I buy what a computer expert (friend/son/daughter/colleague, etc.) suggests to me
- b. I consider myself a computer expert and know what configuration or product I need
- c. I spend quite a lot of time reading and comparing data in magazines before deciding
- d. I buy the same computer that my company provides to employees
- e. I always buy the same brand, which fully satisfies my needs and preferences
- f. I ask the store salesperson to advise me
- g. I buy the cheapest I find
- h. I buy an expensive one, expecting more robustness and reliability
- i. I buy an expensive one, expecting higher performance or longer lifetime
- j. I choose a known brand, expecting ease of repair, availability of spare parts, availability of software/firmware updates for a certain period of time
- k. I look at memory and available storage, and at the display size (if all-in-one or laptop)

2.9 Why did you decide to replace your computer?

- a. It broke down
- b. Software updates were no longer available
-

c. Performance / energy use was no longer satisfying

d. Other

2.10 If you selected 2.9(a) above [it broke down], why did you not repair your broken computer?

a. I did not have information on how to repair it

b. I had no skills to repair it

c. The spare parts were too costly

d. The spare parts were not available

e. It was difficult to disassemble by myself

f. The repair service was too expensive or too complex, or took too long

g. Even diagnosing the malfunction was too difficult/expensive compared with the value of the computer

2.11 If you selected 2.9(a) above, what damage led you to replace your computer?

a. Damage to the power supply

b. Strong battery degradation (laptops)

c. Screen damage (laptop, all-in-one)

d. Motherboard damage

e. Damage to the memory or the storage

f. Damage to connectors / ports / physical interfaces

g. Damage to the chassis/envelope

h. Damage to fans or cooling fins

i. Other damage

2.12 What is done with the computer that was replaced?

a. It is still kept somewhere unused

b. It was sold or given away (to be used)

c. It was disposed of as electronic waste at a proper collection/recycling point

d. It was disposed of, but as waste (waste bin)

e. It was taken back by the seller/manufacturer (under a take-back scheme)

2.13 If your computer (any desktop, all-in-one or laptop) had an external power supply, which type would you prefer?

a. A specific and dedicated power supply provided in the box

- b. A suitable USB power supply (i.e. common USB-C charger) with type-C connector **provided in the box** (but any other USB common charger with type-C plug could be used)
- (•) c. A common and standard USB power supply (i.e. common USB-C charger) **not provided** in the box and with price reduction, because I own a USB-C power supply already (from other electronic products in use or that I disposed of while keeping the working power supply)
- ( ) d. Not relevant

2.14 Which of the following aspects would, in your view, make it easier to repair computers compared with the current situation? (Select all that apply.)

- [x] a. The compulsory availability of critical spare parts for a minimum amount of time (e.g. 6 years)
- [x] b. A cap on the price of spare parts (to use price competition)
- [x] c. Access to repair and maintenance information, such as disassembly maps of the device
- [x] d. 'Do it yourself' repair/refurbishment operations for some components (e.g. to replace the battery) that do not require technical knowledge, with commonly available tools or tools provided in the box
- [ ] e. Real-time information on ageing of the device/components during the use phase, such as the number of charge/discharge cycles of the battery
- [ ] f. Don't know
- [ ] g. I think it is already easy to repair computers now
- [x] h. Other solutions

If you selected 'h. Other solutions' in question 2.14 above, please fill in:

500 character(s) maximum

The compulsory availability of all spare parts for a minimum 10 years and available to everyone (not only professional repairers)

Open-source hardware and software

A short 5 days delivery period for the spare parts

The tools required to repair the whole product should not go beyond basic tools

The skill level/environment should not go beyond 'generalist/workshop'

All spare parts should be fastened with reusable fasteners and requiring no heating or cooling to be removed

2.15 Would you like to attach a position paper / document to support your views?

- (●) Yes (please upload your document(s) below)
- ( ) No

If you selected 'Yes' in question 2.15 above, please upload your file(s)

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

b56b570b-997c-45e3-8918-6784d931e6f1/R2R-ECOS-and-DUH-Comments-on-the-revision-of-the-Computers-Regulation-compressed.pdf

Contact

ENER-ENERGY-LABELLING@ec.europa.eu