

Public consultation on sustainability requirements for batteries

Fields marked with * are mandatory.

Introduction

Battery technologies play a key role in decarbonising the road transport sector and strongly contribute to energy storage solutions, both for domestic and grid applications. Their large-scale deployment has the potential to make a substantial contribution to the Energy Union and sustainable mobility policies. At the same time, the production and use of batteries can induce negative environmental impacts, notably in terms of energy and resource use.

The Strategic Action Plan on Batteries announced an action for the Commission to put forward requirements for sustainable battery design and use for all batteries placed on the EU market. The initiative “sustainability requirements for batteries” is the implementation of this action and may result, if justified, in regulatory intervention setting out minimum sustainability requirements.

The main objective of this initiative is to foster the production and placing on the EU market of high performing, safe, sustainable and durable (i.e. long-lasting) battery cells and battery packs/modules, produced with the lowest environmental footprint possible in a way that is cost-effective. At the same time, this initiative ensures a level playing field for economic operators.

About this public consultation

Given the above policy context, this public consultation aims at offering general public and relevant stakeholders (in particular those active in the sector of batteries) the opportunity to contribute to the exercise and at providing relevant and robust information in a structured way. The responses will contribute to the analysis, together with evidence from different sources, including desk research and other consultations.

The questionnaire is divided into the following parts:

- part 1: information about the respondent
- part 2: market trends and existing policies
- part 3: specific questions

The deadline for replies is 05.08.2019.

You can send any additional information that you consider relevant to this consultation to the mailbox GROW-ECODESIGN@ec.europa.eu, indicating 'Public consultation sustainable batteries' in the subject of your email.

Thank you for your cooperation.

About you

* Language of my contribution

- Bulgarian
- Croatian
- Czech
- Danish
- Dutch
- English
- Estonian
- Finnish
- French
- Gaelic
- German
- Greek
- Hungarian
- Italian
- Latvian
- Lithuanian
- Maltese
- Polish
- Portuguese
- Romanian
- Slovak
- Slovenian
- Spanish
- Swedish

* I am giving my contribution as

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

- Trade union
- Other

* First name

* Surname

* Email (this won't be published)

* Organisation name

255 character(s) maximum

* Organisation size

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

Transparency register number

255 character(s) maximum

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

* Country of origin

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

- | | | | |
|--------------------------------------|--|-------------------------------------|--|
| <input type="radio"/> Afghanistan | <input type="radio"/> Djibouti | <input type="radio"/> Libya | <input type="radio"/> Saint Pierre and Miquelon |
| <input type="radio"/> Åland Islands | <input type="radio"/> Dominica | <input type="radio"/> Liechtenstein | <input type="radio"/> Saint Vincent and the Grenadines |
| <input type="radio"/> Albania | <input type="radio"/> Dominican Republic | <input type="radio"/> Lithuania | <input type="radio"/> Samoa |
| <input type="radio"/> Algeria | <input type="radio"/> Ecuador | <input type="radio"/> Luxembourg | <input type="radio"/> San Marino |
| <input type="radio"/> American Samoa | <input type="radio"/> Egypt | <input type="radio"/> Macau | <input type="radio"/> São Tomé and Príncipe |
| <input type="radio"/> Andorra | <input type="radio"/> El Salvador | <input type="radio"/> Madagascar | <input type="radio"/> Saudi Arabia |
| <input type="radio"/> Angola | <input type="radio"/> Equatorial Guinea | <input type="radio"/> Malawi | <input type="radio"/> Senegal |

- 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
- Brazil
- British Indian Ocean Territory
- British Virgin Islands
- Brunei
- Bulgaria
- Burkina Faso
- Burundi
- Eritrea
- Estonia
- Ethiopia
- Falkland Islands
- Faroe Islands
- Fiji
- Finland
- North Macedonia
- France
- French Guiana
- French Polynesia
- French Southern and Antarctic Lands
- Gabon
- Georgia
- Germany
- Ghana
- Gibraltar
- Greece
- Greenland
- Grenada
- Guadeloupe
- Guam
- Guatemala
- Guernsey
- Guinea
- Guinea-Bissau
- Guyana
- Haiti
- Heard Island and McDonald Islands
- Honduras
- Hong Kong
- 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
- New Zealand
- Nicaragua
- Niger
- Nigeria
- Niue
- Norfolk Island
- North Korea
- 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
- Swaziland
- Sweden
- Switzerland
- Syria
- Taiwan
- Tajikistan
- Tanzania
- Thailand
- The Gambia
- Timor-Leste
- Togo
- Tokelau
- Tonga

- 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
- Croatia
- Cuba
- Curaçao
- Cyprus
- Czech Republic
- Democratic Republic of the Congo
- Denmark
- Hungary
- Iceland
- India
- Indonesia
- Iran
- Iraq
- Ireland
- Isle of Man
- Israel
- Italy
- Jamaica
- Japan
- Jersey
- Jordan
- Kazakhstan
- Kenya
- Kiribati
- Kosovo
- Kuwait
- Kyrgyzstan
- Laos
- Latvia
- Lebanon
- Lesotho
- Liberia
- Northern Mariana Islands
- Norway
- Oman
- Pakistan
- Palau
- Palestine
- Panama
- Papua New Guinea
- Paraguay
- Peru
- Philippines
- Pitcairn Islands
- Poland
- Portugal
- Puerto Rico
- Qatar
- Réunion
- Romania
- Russia
- Rwanda
- Saint Barthélemy
- Saint Helena Ascension and Tristan da Cunha
- Saint Kitts and Nevis
- Saint Lucia
- Saint Martin
- Trinidad and Tobago
- Tunisia
- Turkey
- 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
- Vietnam
- Wallis and Futuna
- Western Sahara
- Yemen
- Zambia
- Zimbabwe

*** 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 your type, country of origin and contribution will be published. All other personal details (name, organisation name and size, transparency register number) will not be published.
- Public**
Your personal details (name, organisation name and size, transparency register number, country of origin) will be published with your contribution.

I agree with the [personal data protection provisions](#)

How would you qualify your knowledge on batteries?

- a) I have a very limited knowledge
- b) I know the general aspects allowing me to have an informed opinion
- c) I am familiar with the specific technical details/aspects of these products

Market trends and existing policies

According to some forecasts, Europe could capture a share of a global battery market of up to €250billion per year from 2025 onwards. How do you see the future development of the European market for batteries manufacturing?

- a) I think that Europe will be an important player in the global market
- b) Europe will not play a big role in the global market
- c) I have no opinion

What will be the main driver for Europe being an important player?

- a) Having a strong battery value chain in the EU is of strategic importance to our industry
- b) Batteries are key to sustainable mobility and to the integration of renewable electricity generation in the grid
- c) The market will develop without the need for regulatory intervention

What type of policy and regulatory measures would be most appropriate for the promotion of batteries manufacturing in Europe?

- a) No regulatory intervention is necessary
- b) R&D funding
- c) Financial instruments (preferential loans, grants)
- d) Training
- e) Requirements on ethical sourcing of raw materials and social protection of workers
- f) Limiting unfair competition from third countries
- g) Strict sustainability requirements (durability, low carbon footprint, reusability, recyclability, etc...)
- h) Encourage industry self-regulatory efforts
- i) Other (please explain)

Are you aware of barriers (either between Member States or with third countries) for the manufacturing and/or trading of new or used batteries?

- a) Yes
- b) No
- c) I have no opinion

If yes, please explain

No clear harmonized regulations for end-of-waste declarations nor second-life requirements for used batteries

In relation with this section, please provide, if possible, evidence (e.g. by quoting an existing report/study) in support of your reply

Specific questions

If a regulatory proposal was made to make batteries more sustainable, do you think that batteries for electro-mobility applications and batteries designed for stationary use as energy storage should be regulated together?

- a) Yes, they have enough aspects in common
- b) No, these applications are too different
- c) I do not have an opinion

Free Text Question

Amongst the most relevant social and environmental impacts in the production of batteries are the use of raw materials and climate change. Would you be in favour of setting reporting obligations and/or thresholds on these impacts?

- a) Yes, reporting obligation on the climate change impact only
- b) Yes, reporting obligation on all environmental impact categories (including climate change)
- c) Yes, reporting obligation on responsible sourcing of raw materials
- d) Yes, maximum allowable thresholds on the climate change impact only
- e) Yes, maximum allowable thresholds on all environmental impact categories (including climate change)
- f) No reporting obligations or thresholds
- g) Other (please specify)

Other (please specify)

We have no opinion on these reporting obligations.

There is an emerging market for second life applications of batteries after their first use in electric vehicles. Do you consider that the generalization of second-life batteries would have positive economic and environmental impacts?

- a) Yes, the generalization of second life applications of batteries should have a positive economic and environmental impact
- b) No, recycling batteries after their first use would be more efficient in economic and environmental terms
- d) I don't know, it is too early to say

If yes, please explain

If possible, reuse is always preferable, given the positive impact on climate change.

If it were compulsory that only batteries with minimum performance requirements could be placed on the EU market, which would be in your opinion the most relevant parameters to be used for this purpose? Please rate the parameters listed in the table below from not relevant to very relevant.

	Not relevant	somewhat relevant	neither relevant nor irrelevant	rather relevant	very relevant
a. Energy density	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
b. Energy efficiency (e.g., round-trip efficiency)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
c. Durability (e.g., minimum number of charging cycles)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
d. Capacity (e.g., total number of ampere hours or C-rate)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
f. Storage or charge retention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
g. Access to relevant usage data history (e.g., cell impedance, conductance, self-discharge) to facilitate State of Charge and State of Health determination	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Please explain your reply further

The answers depend strongly on the types of batteries. We started from our interpretation that these criteria are mainly used for rechargeable batteries. Answers strongly depend on the application and the use of the battery. Also, they would be completely different for primary batteries.

The Batteries Directive 2006/66/EC sets minimum recycling efficiency targets by average weight (65% for acid-lead, 75% for nickel cadmium and 50% for other waste batteries including lithium ion ones). Do you consider that design requirements on batteries could help Europe achieve higher recycling efficiency rates? Please rate the different options below from "Don't agree" to "Completely agree"

	Don't agree	Partially disagree	Neither agree nor disagree	Partially agree	Completely agree
a. No further action is needed for this aspect	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. 'Design for recycling' requirements could help increase the efficiency of recycling plants (e.g., easy dismantling)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
c. Minimum weight based recyclability targets at product level could help increase recycling efficiency rates	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. To achieve higher recycling efficiency rates, recycling technology and economics are more important than design requirements	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

Please explain your reply further

Remark on point c: We are not in favor of a generic recyclability target at product level, regardless of the concerned materials, as this would not be relevant, nor realistic. However, we are in favor of a recyclability target for CRMs.

Some of the raw materials used in battery manufacturing (like cobalt, manganese, nickel and natural graphite) have a high economic importance as well as high supply risk (they are monitored by the European Commission as Critical Raw Materials - CRMs). In your opinion, should there be specific requirements to guarantee a minimum recovery rate of the CRMs contained in the batteries? Please rate the different options below from "Don't agree" to "Completely agree"

	Don't agree	Partially disagree	Neither agree nor disagree	Partially agree	Completely agree
a. I think that there is no need to focus on CRMs	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Specific criteria to facilitate the recovery of CRMs should be established (e.g., design for recycling)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
c. Minimum recyclability targets for CRMs at product level should be established	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
d. Although it is important to recover CRMs, minimum requirements for product design are not the right way to address this question (please explain below how else this could be addressed)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

How to address the recovery of Critical Raw Materials otherwise

Recycling targets should be value based, not mass based.

The traceability of batteries can have a positive impact in many areas of the batteries value chain: from provision of information about the origin of the raw materials to identification of the chemistry and hazardous materials contained, which is useful for the EoL treatment. If a traceability system was to be developed for batteries, which would be in your opinion the key information to be provided and which would be the most appropriate format (e.g., product passport, QR code, etc...)?

The minimum information that should be registered consists of the chemical composition, capacity, weight and (national) producer of the battery.

The information on the producer can change during the technical lifespan of the battery/cells, due to second life of the battery.

Given the long lifespan of the batteries in electrified vehicles, and the high cost of collection and recycling, each producer should, when placing a battery on the market, provide a financial guarantee to prevent costs for the management of waste from orphan products from falling on society or the remaining producers.

This financial guarantee could take the form of an advance payment of the collection and recycling costs when these batteries are put on the market, a blocked bank account, an insurance, a bank warranty,...

A financial guarantee for each battery put on the market also requires a registration of the battery, which could be linked to the registration of the vehicle.

Are there further comments you would like to make on anything that is not covered above?

Would you like to share with us a study or a position paper?

- Yes
- No

Contact

cesar.santos@ec.europa.eu