



ENTSOG SINGLE-SECTOR COST-BENEFIT ANALYSIS (CBA) METHODOLOGY

CONSULTATION REPORT

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1. Introduction and legal basis

Art. 11 of the TEN-E Regulation defines how ENTSOG and ENTSO-E shall develop their respective energy system wide cost-benefit analysis methodology (CBA methodology). On 30 June 2023, ENTSOG submitted its draft CBA methodology to ACER, Member States, and the European Commission (EC) after having gathered input from the relevant stakeholder during a consultation process. This process is referred to in Art. 11(2):

"Prior to submitting their respective draft methodologies to the Member States, the Commission and the Agency in accordance with paragraph 1, the ENTSO for Electricity and the ENTSO for Gas shall publish preliminary draft methodologies and conduct an extensive consultation process and seek recommendations from Member States and, at least, the organisations representing all relevant stakeholders, including the entity of distribution system operators in the Union established pursuant to Article 52 of Regulation (EU) 2019/943 (EU DSO entity), associations involved in electricity, gas and hydrogen markets, heating and cooling, carbon capture and storage and carbon capture and utilisation stakeholders, independent aggregators, demand-response operators, organisations involved in energy efficiency solutions, energy consumer associations, civil society representatives and, where it is deemed appropriate the national regulatory authorities and other national authorities.

Within three months of publication of the preliminary draft methodologies under the first subparagraph, any stakeholder referred to in that subparagraph may submit a recommendation.

The European Scientific Advisory Board on Climate Change established under Article 10a of Regulation (EC) No 401/2009 of the European Parliament and of the Council (31) may, on its own initiative, submit an opinion to the draft methodologies.

Where applicable, Member States, and stakeholders referred to in the first subparagraph shall submit and make publicly available their recommendations and the European Scientific Advisory Board on Climate Change shall submit and make publicly available its opinion to the Agency and, as applicable, to the ENTSO for Electricity or the ENTSO for Gas.

The consultation process shall be open, timely and transparent. The ENTSO for Electricity and the ENTSO for Gas shall prepare and make public a report on the consultation process.

The ENTSO for Electricity and the ENTSO for Gas shall provide reasons where they have not, or have only partly, taken into account the recommendations from Member States or the

stakeholders, as well as from national authorities, or the opinion of the European Scientific Advisory Board on Climate Change.”

This report is the public report on the consultation process described in Art. 11(2), fulfilling all requirements. It also contains all stakeholder feedback received.

2. Compliance of the consultation process with the TEN-E Regulation

ENTSOG published its preliminary draft CBA methodology on 28 February 2023 and started an open, timely, and transparent consultation on it the same day with a press release¹ and a post on LinkedIn² and twitter³. Along with the preliminary draft CBA methodology and its annexes⁴, a document containing background information on the consultation process⁵ and a web-based feedback form⁶ were published on the ENTSOG website⁷ and linked in the press release. Also, a public consultation workshop⁸ was announced for 27 March 2023. The workshop was also advertised on LinkedIn⁹ and twitter¹⁰. The workshop was held in hybrid setting at ENTSOG's premises and online. More than 50 persons took part in the workshop. A recording¹¹ and the used presentations¹² are available online. In line with the second subparagraph of Art. 11(2), the public consultation lasted three month, i.e. until 31 May 2023. Amongst other categories, the list of types of organisations that were able to identify themselves as such when filling in the survey contained those listed in the first subparagraph of Art. 11(2). The survey allowed participants to provide input on all relevant aspects of the CBA methodology as well as the

¹ https://www.entsog.eu/sites/default/files/2023-02/PRO287_230228_Press%20Release%20ENTSO%20publishes%20its%20preliminary%20draft%20single%20sector%20CBA%20methodology.pdf

² https://www.linkedin.com/posts/entsog_hydrogen-infrastructure-activity-7036379108313849856-fkXd/?utm_source=share&utm_medium=member_desktop

³ <https://twitter.com/ENTSOG/status/1630612057828605966?s=20>

⁴ https://www.entsog.eu/sites/default/files/2023-03/Preliminary%20Draft%20CBA%20Methodology%20for%20Public%20Consultation_update.pdf

⁵ <https://www.entsog.eu/sites/default/files/2023-02/Introduction%20for%20Public%20consultation%20Questionnaire.pdf>

⁶ <https://forms.office.com/Pages/ResponsePage.aspx?id=YQFgflpN0GmocDjMoCxXHN4pyFtiFFibAoeq8vfKJUMFpLSUo0V1VKWDJDVkpSU0pXVIU1Q0pKNy4u>

⁷ <https://www.entsog.eu/methodologies-and-modelling#3rd-cba-methodology>

⁸ <https://www.entsog.eu/entsog-public-workshop-preliminary-draft-cost-benefit-analysis-methodology>

⁹ https://www.linkedin.com/posts/entsog_cost-benefit-analysis-activity-7042070933158678528--JTS?utm_source=share&utm_medium=member_desktop

¹⁰ <https://twitter.com/ENTSOG/status/1636305061398626304?s=20>

¹¹ <https://www.entsog.eu/media/37009>

¹² <https://www.entsog.eu/sites/default/files/2023-03/CBA%20Workshop%20Compilation.pptx>

possibility to submit free text recommendations. A reminder to take part in the public consultation was posted on LinkedIn¹³ and twitter¹⁴.

3. Recommendations and opinions received by ENTSOG and the justification of their consideration

No recommendations were received from the Member States. ENTSOG received 5 replies to its online survey and the European Scientific Advisory Board on Climate Change (ESABCC) issued an opinion. Furthermore, bilateral meetings between ENTSOG and the ESABCC and between ENTSOG and ENTSO-E took place.

3.1. Opinion received from the European Scientific Advisory Board on Climate Change¹⁵

1. Adequately account for all relevant GHG emissions

Adaptation of B1 indicator to consider all relevant GHG emissions (including account of GHG emissions in the non-power sectors). In addition, regarding monetization of indicator B1, it is proposed to consider the higher granularity available for the shadow cost of carbon and ETS (i.e. yearly basis).

2. Assess climate adaptation costs, benefits and measures

(2.1) This recommendation is not currently addressed by draft CBA methodology. In order to properly assess the impact of climate change on infrastructure it is necessary to properly assess the counterfactual situation. This is only possible through the implementation of this consideration in the joint scenario development process of ENTSOG and ENTSO-E.

(2.2) The final CBA methodology might enlarge the scope of the externalities linked to the implementation of the project. So far, only the environmental impact is included

¹³ https://www.linkedin.com/posts/entsog_cba-costbenefitanalysis-infrastructure-activity-7069327832304287745-2VeY?utm_source=share&utm_medium=member_desktop

¹⁴ <https://twitter.com/ENTSOG/status/1663561232677498882?s=20>

¹⁵ European Scientific Advisory Board, May 2023. Towards a decarbonised and climate-resilient EU energy infrastructure: recommendations on an energy system-wide cost-benefit analysis.

Link here: <https://climate-advisory-board.europa.eu/reports-and-publications/towards-a-decarbonised-and-climate-resilient-eu-energy-infrastructure-recommendations-on-an-energy-system-wide-cost-benefit-analysis/advice-on-a-harmonised-eu.pdf/@display-file/file>

	(preferably as a quantified indicator, if not possible qualitatively).
3. Apply appropriate scenarios and sensitivities	<p>(3.1) The draft CBA methodology recommends to assess projects against the full time horizon and against all the scenarios that shall be target-compliant. If a national trend scenario based on NECPs should not cover the full time horizon until 2050, for the PS-CBAs it shall be coupled with the 2050 data of a scenario with another storyline. The draft CBA methodology refers to the fact that ACER's scenario framework guidelines will ensure the target compliance of the scenarios.</p> <p>(3.2 and 3.3) Sensitivity analysis shall include (if latest science-based input data from the scenario process allows it) the impact of extreme climate events.</p>
4. Ensure granular net-present value assessment	<p>(4.1) The draft CBA methodology applies an assessment periods in accordance with the economic life of <i>hydrogen</i> infrastructure projects in line with the ESABCC recommendation. An assessment period of 40 years is recommended.</p> <p>(4.2) Implementation of a higher granularity in the assessed years (for mid- and long-term), e.g. 5 years instead of 10 years as currently suggested by draft CBA methodology. This recommendation requires joint consideration of ENTSOG and ENTSO-E in the scenario building process.</p> <p>If higher granularity was made available, this would allow for a higher granularity when performing PS-CBA assessments of hydrogen projects.</p>
5. Take into account	
5.1 Project implementation feasibility	(5.1) Implemented through the TYNDP-specific project collection process. Project promoters shall submit justification on their project's schedule. For subsequent TYNDP processes a validation mechanism for the plausibility of projects commissioning years will be defined.
5.2 Social aspects	(5.2) Ongoing adaptation for final CBA methodology. Social aspects might be included as part of the residual impact of

	the project (so far, the CBA methodology only includes the environmental impact).
6. Capture expected benefits of renewable energy integration	<p>(6.1) Capturing of more benefits linked to additional RES capacities going beyond the connection of RES capacities already accounted for in the reference grid and avoiding curtailment of electricity produced from these sources. To comply with this, the hydrogen infrastructure projects can be submitted and assessed with additional information about hydrogen production (e.g., electrolyzers) and/or demand that it enables.</p> <p>(6.2) The definition of RES applied in the CBA methodology should be aligned with the definition set out in Art. 2 of the EU Renewable Energy Directive. While the understanding of RES in the context of ENTSOG's CBA methodology is in line with this definition, it is not explicitly stated in the draft CBA methodology. This might be updated in the final CBA methodology after further alignment with ENTSO-E.</p>
7. Adequately assess multi-sectorial dynamics to identify the most beneficial solutions	Flexibilities like batteries, on-site steel tanks for hydrogen, and consumption timing of certain end users are provided by the scenarios and their usage is optimised by the interlinked model in the application of the CBA methodology. This is non-optional.

3.2 Recommendations received via the web-based survey

The input from the participants in the survey are displayed below in case they are relevant for the content of the CBA methodology or to give insights into the type of participating association. The consideration of the remarks in the draft CBA methodology is put below the

relevant screenshot.

4. Type of organization

5 Responses

ID ↑	Name	Responses
1	anonymous	["National regulatory authority","Project promoter"]
2	anonymous	["Public authority"]
3	anonymous	["Organisation involved in energy efficiency solutions","Company involved in electricity, gas and hydrogen markets"]
4	anonymous	["Distribution system operator"]
5	anonymous	["Project promoter"]

7. ENTSOG intends to publish the results of this public consultation. If your response should remain confidential, please indicate it below:

5 Responses

ID ↑	Name	Responses
1	anonymous	My response should only be disclosed anonymously
2	anonymous	My response can be disclosed on behalf of the Organisation I am representing
3	anonymous	My response should only be disclosed anonymously
4	anonymous	My response should only be disclosed anonymously
5	anonymous	My response should only be disclosed anonymously

The organisation that allowed the disclosure its answers publicly is CINEA.

i. On the assessment framework

8. Do you have any feedback regarding the consideration of hydrogen demand and supplies in the assessment framework?

3 Responses

ID ↑	Name	Responses
1	anonymous	rttydv
2	anonymous	also for Hydrogen market the development depend on the evolution of demand, supply. So it's important to monitorize them
3	anonymous	no feedback

Table 3 of the draft CBA methodology explains that demand and supply development of hydrogen must be provided by the scenarios.

9. Do you have any other feedback related to the Scenarios' input considered for the assessment framework? (section 1.1 Scenarios)

3 Responses

ID ↑	Name	Responses
1	anonymous	dfhdhdf
2	anonymous	the same
3	anonymous	no feedback

Table 3 of the draft CBA methodology explains that demand and supply development of hydrogen must be provided by the scenarios.

10. Regarding the network assumptions for hydrogen: in your view, are the proposed reference networks suitable for a harmonised energy-system wide cost-benefit analysis...

4 Responses

ID ↑	Name	Responses
1	anonymous	dhghsfhdg
2	anonymous	I'm not very experienced on this issue
3	anonymous	no feedback
4	anonymous	It is quite difficult to define an H2 reference network as of today: H2 infrastructure and markets are in the very early stages of development, therefore it is not feasible to fully evaluate what kind of network developments will be required in the future: as an example, it is not possible to predict where future congestions will happen, and where to build the interconnectors to solve these congestions. An H2 reference network built on PCI projects would assume that the list will include enough H2 projects to have a clear idea of what the actual network will look like,. In addition, it is important to identify and make public where the production sites of hydrogen would be located. Moreover, in addition to the issues reported above, there might be several additional criticalities (e.g.: SoS, availability of H2, RES integration) due to a misalignment between production and suboptimal development of the transportation grid capacity and/or its capillarity. Furthermore, the possibility that planned infrastructures will not be able to transport hydrogen if this technology fails to develop constitutes a significant risk. Therefore, developing an effective CBA method based on an H2 reference network seems to be quite complex as of today, as the outlook of what the actual network will be is not clear at all, and this poses a risk by making the evaluation of projects against said network quite inaccurate.

The draft CBA methodology contains different hydrogen infrastructure levels than proposed in the preliminary draft CBA methodology to cover the uncertainty of the development of hydrogen network development (section 2.2.1). Also, section 2.2.1 of the draft CBA methodology allows project promoters to allocate production and demand with a sub-country granularity. The mentioned criticalities are covered to a good extent by the security of supply-related benefit indicator B5 (see section 4.4).

11. In your view, is it relevant to include as part of the preliminary draft CBA methodology modelling assumptions for the interlinkages between hydrogen, electricity and natural...

5 Responses

ID ↑	Name	Responses
1	anonymous	Yes
2	anonymous	Yes
3	anonymous	Yes
4	anonymous	No opinion
5	anonymous	Yes

This is in line with ENTSOG's approach and innovation ambitions.

13. In your view, are there any element(s) missing in the described interlinkages?

5 Responses

ID ↑	Name	Responses
1	anonymous	No opinion
2	anonymous	No opinion
3	anonymous	No opinion
4	anonymous	No opinion
5	anonymous	Yes

14. if yes, please specify

1 Responses

ID ↑	Name	Responses
1	anonymous	Much attention should be paid in evaluating inter-sectorial integration options; while costs are primarily related to the built-out of hydrogen ready infrastructure, with reference to benefits alternative options could be considered: the efficiency lost in avoided investments in electricity or gas infrastructure or in flexible power generation capacities or cost-efficient direct use of renewable potentials. The cost-efficiency principle remains a key criterion.

Several relevant assumptions are made in the scenario process in accordance with Art. 12 of the TEN-E regulation. Amongst the remaining flexibilities of the system, the most cost-efficient solution between sectors is identified by the methodology. The introduction of an additional aspect of the sustainability indicator B1 (see section 4.4.) strives to include additional fuel-switching effects compared to the preliminary draft CBA methodology.

15. Do you have any feedback on the proposed network and market assumptions for the interlinked modelling of hydrogen-electricity systems? (section 1.2.3 Network...

3 Responses

ID ↑	Name	Responses
1	anonymous	drtethdh
2	anonymous	it could be is an equilibrium model
3	anonymous	no feedback

To make the assessments feasible, the final energy demand is considered as inelastic in regards to the price.

16. Do you have any additional remarks related to the assessment framework?

3 Responses

ID ↑	Name	Responses
1	anonymous	fdhgefsdgd
2	anonymous	no
3	anonymous	no remarks

ii. On the project-specific assessment framework in general

17. In your view, are the proposed general grouping principles relevant for the assessment of hydrogen infrastructure?

5 Responses

ID ↑	Name	Responses
1	anonymous	Yes
2	anonymous	No opinion
3	anonymous	Yes
4	anonymous	No opinion
5	anonymous	Yes

19. Do you have any suggestions to complement/modify the grouping principles?

5 Responses

ID ↑	Name	Responses
1	anonymous	No
2	anonymous	No opinion
3	anonymous	No
4	anonymous	No opinion
5	anonymous	No

21. In your view, is it relevant to consider additional considerations for grouping?

5 Responses

ID ↑	Name	Responses
1	anonymous	Yes
2	anonymous	No option
3	anonymous	Yes
4	anonymous	No option
5	anonymous	Yes

23. Do you have any suggestions to complement/modify the additional considerations for grouping?

5 Responses

ID ↑	Name	Responses
1	anonymous	No
2	anonymous	No option
3	anonymous	No
4	anonymous	No option
5	anonymous	Yes

24. If yes, please specify

1 Responses

ID ↑	Name	Responses
1	anonymous	The provision that investments can be grouped together only if they are at maximum two advancement status apart from each other is essential, as the activities referring to the planned and permitting status oftentimes overlap, therefore making it complex to differentiate clearly between the two. Reducing the maximum advancement status difference to less than two would thus make grouping less clear and effective.

The difference of maximum two status steps was in principle maintained, while it was added that a group that has an enabler that is only "under consideration" can only be "under consideration" as a whole (see section 4.1).

iii. On benefits in general

25. In your view, do the indicators proposed by ENTSOG in the preliminary draft CBA methodology allow to properly capture the overall benefits of hydrogen infrastructure?

5 Responses

ID ↑	Name	Responses
1	anonymous	No opinion
2	anonymous	No opinion
3	anonymous	Yes
4	anonymous	No opinion
5	anonymous	Yes

27. Would you propose to include any additional indicator(s) to quantify other(s) benefit(s) not capture by the proposed methodology?

5 Responses

ID ↑	Name	Responses
1	anonymous	Yes
2	anonymous	No option
3	anonymous	No option
4	anonymous	No option
5	anonymous	No

28. If yes, please specify

1 Responses

ID ↑	Name	Responses
1	anonymous	sgsrasdgasd

iv. On B1 indicator

29. In your view, is this benefit well described?

5 Responses

ID ↑	Name	Responses
1	anonymous	Yes
2	anonymous	No
3	anonymous	Yes
4	anonymous	No option
5	anonymous	Yes

This and the following questions concerns indicator B1. No specification was made by the participant that had answered “no” to question 29. Nevertheless, the definition of all benefit indicators was further refined in the draft CBA methodology.

31. Do you find it relevant for the assessment of benefits of hydrogen infrastructure under the sustainability criteria?

5 Responses

ID ↑	Name	Responses
1	anonymous	No
2	anonymous	Yes
3	anonymous	Yes
4	anonymous	No opinion
5	anonymous	Yes

No specification was made by the participant that had answered “no” to question 29.

33. Do you agree with the described methodology for its calculation?

5 Responses

ID ↑	Name	Responses
1	anonymous	No
2	anonymous	No
3	anonymous	Yes
4	anonymous	No opinion
5	anonymous	No

34. if no, please specify

2 Responses

ID ↑	Name	Responses
1	anonymous	erstegwefqw
2	anonymous	To properly monetize the benefit, using the EIB shadow cost poses a relevant risk, as the cost does not seem to reflect the true characteristics of the CO2 market and its future developments, thus making the monetized value of the benefit calculated as such unrealistic. A more appropriate value is the future CO2 price for the EU Emission Trading Scheme (ETS), as it is formed on the actual market value of CO2 and forecast technology developments. Using this value should entail more realistic results for the analysis, thus making this indicator more adequate to evaluate the real benefits of a project. An appropriate carbon pricing regime should entail two options (Carbon emission pricing and Shadow price CO2). Shadow price CO2 is often used to measure the willingness of each country to pay for or to accept carbon in an ETS; therefore, in such a scheme it would be appropriate to consider only the delta of CO2 / MWh emissions produced by using hydrogen or the replaced technologies.

To address this comment, the B2 indicator is defined to work with the ETS price, while the B1 indicator uses the shadow cost.

35. Additional remarks/feedback regarding indicator B1?

2 Responses

ID ↑	Name	Responses
1	anonymous	ergwrgsdgsags
2	anonymous	no feedback

v. On B2 indicator

36. In your view, is this indicator well described?

5 Responses

ID ↑	Name	Responses
1	anonymous	No
2	anonymous	No opinion
3	anonymous	Yes
4	anonymous	No opinion
5	anonymous	No

37. If no, please specify

2 Responses

ID ↑	Name	Responses
1	anonymous	esdgdsfgzfgsdhf
2	anonymous	As the indicator also monetizes the avoided RES curtailment, referred to in B3, the inclusion of this factor should be made explicit in the formula used to compute the benefit

The description of B2 was improved including the introduction of formulas.

38. In your view, is it relevant for the assessment of benefits of hydrogen infrastructure under Market integration and Competition criteria?

5 Responses

ID ↑	Name	Responses
1	anonymous	No opinion
2	anonymous	No opinion
3	anonymous	Yes
4	anonymous	No opinion
5	anonymous	No opinion

40. Do you agree with the described methodology for its calculation?

5 Responses

ID ↑	Name	Responses
1	anonymous	Yes
2	anonymous	No opinion
3	anonymous	Yes
4	anonymous	No opinion
5	anonymous	Yes

42. Additional remarks/feedback regarding indicator B2

3 Responses

ID ↑	Name	Responses
1	anonymous	dsrhhehwe
2	anonymous	no feedback
3	anonymous	The efficiency and efficacy of alternative options should always be considered (strengthening the grid to absorb larger volumes of renewable sources or investments in flexible technologies). The indicator is also relevant under Security of Supply and Flexibility criteria, as safe access to H2 resources should be considered economically relevant for the surplus of consumers The indicator calculation should also consider, through an additional component that could take on a negative value, how the competitiveness of European industries would increase/decrease because of the lower/higher incidence of energy costs on production costs

The aspects are largely covered by the scenario process and other benefit indicators. Some details cannot be included into the CBA methodology due to its complexity.

vi. On B3 indicator

43. In your view, is this indicator well described?

5 Responses

ID ↑	Name	Responses
1	anonymous	No
2	anonymous	No opinion
3	anonymous	Yes
4	anonymous	No opinion
5	anonymous	Yes

44. If no, please specify

1 Responses

ID ↑	Name	Responses
1	anonymous	34eyrweth

The B2 indicator's description was improved.

45. In your view, is it relevant for the assessment of benefits of hydrogen infrastructure under the sustainability criteria?

5 Responses

ID ↑	Name	Responses
1	anonymous	Yes
2	anonymous	No opinion
3	anonymous	Yes
4	anonymous	No opinion
5	anonymous	Yes

47. Do you agree with the described methodology for its calculation?

5 Responses

ID ↑	Name	Responses
1	anonymous	Yes
2	anonymous	No opinion
3	anonymous	Yes
4	anonymous	No opinion
5	anonymous	Yes

49. Additional remarks/feedback regarding indicator B3

2 Responses

ID ↑	Name	Responses
1	anonymous	wertwertw
2	anonymous	no feedback

vii. On B4 indicator

50. In your view, is this indicator well described?

5 Responses

ID ↑	Name	Responses
1	anonymous	No
2	anonymous	No opinion
3	anonymous	Yes
4	anonymous	No opinion
5	anonymous	Yes

51. If no, please specify

1 Responses

ID ↑	Name	Responses
1	anonymous	dsgdhhd

The description was improved.

54. Do you agree with the described methodology for its calculation?

5 Responses

ID ↑	Name	Responses
1	anonymous	Yes
2	anonymous	No opinion
3	anonymous	Yes
4	anonymous	No opinion
5	anonymous	Yes

56. Do you agree with the source proposed as reference for monetisation (European Environment Agency)?

5 Responses

ID ↑	Name	Responses
1	anonymous	No
2	anonymous	No opinion
3	anonymous	No opinion
4	anonymous	No opinion
5	anonymous	No opinion

57. If no, please specify other source

1 Responses

ID ↑	Name	Responses
1	anonymous	sddhsdgs

Since no other source was proposed, it could not be considered.

58. Additional remarks/feedback regarding indicator B4

2 Responses

ID ↑	Name	Responses
1	anonymous	dfjhdtstdvsg
2	anonymous	no feedback

viii. On B5 indicator

59. In your view, is this indicator well described?

5 Responses

ID ↑	Name	Responses
1	anonymous	No
2	anonymous	No opinion
3	anonymous	No opinion
4	anonymous	No opinion
5	anonymous	Yes

60. If no, please specify

1 Responses

ID ↑	Name	Responses
1	anonymous	dsfhdase

The indicator was further improved.

61. In your view, is it relevant for the assessment of benefits of hydrogen infrastructure under Security of supply and Competition criteria?

5 Responses

ID ↑	Name	Responses
1	anonymous	Yes
2	anonymous	No opinion
3	anonymous	No opinion
4	anonymous	No opinion
5	anonymous	No opinion

63. Do you think this indicator should be expressed in monetised terms?

5 Responses

ID ↑	Name	Responses
1	anonymous	No opinion
2	anonymous	No opinion
3	anonymous	No opinion
4	anonymous	No opinion
5	anonymous	Yes

This is in line with the draft CBA methodology.

65. Do you agree with the described methodology for its calculation?

5 Responses

ID ↑	Name	Responses
1	anonymous	No opinion
2	anonymous	No opinion
3	anonymous	No opinion
4	anonymous	No opinion
5	anonymous	No

66. If no, please specify

1 Responses

ID ↑	Name	Responses
1	anonymous	If the indicator is monetised, then two different parameters should be used: the CODG indicator will be a useful proxy for the analysis of improvements and renewal of existing infrastructure that can be used for both natural gas and H2, as in that case the gases act as equivalent energy vectors and therefore should be evaluated in the same economic terms; for new, H2-only infrastructure, a fully independent CODH should be defined, as for this kind of infrastructure CODG won't be a useful proxy, since H2 prices are significantly higher than natural gas prices, and will remain so for the foreseeable future. Therefore, a proper, independent indicator should be used, reflecting the higher price of H2 with respect to natural gas. The same methodology adopted by ACER for the calculation of CODG could be used for the calculation of CODH, by using an indicator that would estimate a value for each sector in each EU country, taking into account the different type of customers who consume hydrogen

CODG will only serve as a proxy as long as the CODH is not properly established. Project promoters have the chance to justify another value.

67. Additional remarks/feedback regarding indicator B5

2 Responses

ID ↑	Name	Responses
1	anonymous	dssafcZX
2	anonymous	no feedback

ix. On Environmental impact

68. In your view, does the proposed section on environmental impact consider all the relevant information?

5 Responses

ID ↑	Name	Responses
1	anonymous	Yes
2	anonymous	No opinion
3	anonymous	Yes
4	anonymous	No opinion
5	anonymous	Yes

The following question (69) concerns environmental impact indicator. Participants that replied “no” to the previous question (68) could provide more details. Therefore, no response was collected for questions (69).

x. On project costs

70. In your view, do the proposed definitions for CAPEX and OPEX consider all relevant elements?

5 Responses

ID ↑	Name	Responses
1	anonymous	Yes
2	anonymous	No opinion
3	anonymous	No opinion
4	anonymous	No opinion
5	anonymous	Yes

The following question (71) concerns CAPEX and OPEX. Participants that replied “no” to the previous question (70) could provide more details. Therefore, no response was collected for questions (71).

xi. On economic net present value and other economic indicators

72. In your view, is the proposed value for social discount rate adequate?

5 Responses

ID ↑	Name	Responses
1	anonymous	No
2	anonymous	No opinion
3	anonymous	No opinion
4	anonymous	No opinion
5	anonymous	No

73. If no, please specify

2 Responses

ID ↑	Name	Responses
1	anonymous	aZDGDFSGSADFSD
2	anonymous	Whereas an SDR of 3% seems to be an adequate average value for the CBA, for specific projects there should be the possibility to propose a different SDR, under justified assumptions, as H2 activities are nascent and investing in H2 infrastructure carries a significant risk in terms of unknown developments of the market environment. The request to use a different SDR should be justified by the promoter in detail, making the assumptions and specific conditions that require the use of a different SDR explicit.

Different SDRs are proposed in the sensitivity analysis of each PS-CBA. A uniform PS-CBA is required to ensure comparability between the different projects, including a uniform SDR.

74. Do you agree with the proposed assumptions related to the estimation of the economic life for hydrogen infrastructure?

5 Responses

ID ↑	Name	Responses
1	anonymous	Yes
2	anonymous	No opinion
3	anonymous	Yes
4	anonymous	No opinion
5	anonymous	Yes

The following question (75) concerns the proposed economic life. Participants that replied "no" to the previous question (74) could provide more details. Therefore, no response was collected for questions (75).

76. In your view, is the proposed sensitivity analysis relevant for the project-specific cost-benefit analysis of hydrogen infrastructure?

5 Responses

ID ↑	Name	Responses
1	anonymous	No opinion
2	anonymous	No opinion
3	anonymous	Yes
4	anonymous	No opinion
5	anonymous	Yes

The following question (77) concerns the sensitivity analysis. Participants that replied “no” to the previous question (76) could provide more details. Therefore, no response was collected for questions (77).

The following question (78) concerns the EPI. No specification was made by any participant.

xii. Other remarks

The following question (79) concerns any other remarks/comments not already addressed in the previous questions of this questionnaire. No specification was made by any participant.

