

OPINION No 09/2021
OF THE EUROPEAN UNION AGENCY
FOR THE COOPERATION OF ENERGY REGULATORS

of 29 October 2021

ON THE DRAFT REGIONAL LISTS OF
PROPOSED ELECTRICITY PROJECTS OF COMMON INTEREST
2021

THE EUROPEAN UNION AGENCY FOR THE COOPERATION OF ENERGY REGULATORS,

Having regard to Regulation (EU) No 347/2013 of the European Parliament and of the Council of 17 April 2013 on guidelines for trans-European energy infrastructure and repealing Decision No 1364/2006/EC and amending Regulations (EC) No 713/2009, (EC) No 714/2009 and (EC) No 715/2009¹, and, in particular, Annex III.2(12) thereto,

Having regard to the favourable opinion of the Board of Regulators of 27 October 2021, delivered pursuant to Article 22(5)(a) of Regulation (EU) 2019/942 of the European Parliament and of the Council of 5 June 2019 establishing a European Union Agency for the Cooperation of Energy Regulators (ACER)²,

Whereas:

1. INTRODUCTION

- (1) According to Article 3 of Regulation (EU) No 347/2013, a Union list of Projects of Common Interest ('PCIs')³ shall be established every two years, on the basis of the regional lists adopted by the decision-making bodies of the Regional Groups as set out in Annex III.1 to the same Regulation.

¹ OJ L 115, 25.4.2013, p.39.

² OJ L 158, 14.6.2019, p. 22–53.

³ In this Opinion, the term "proposed PCIs" indicates projects, which are included in the document of the draft regional PCI lists submitted to ACER in sections 1,2,3,4 and 10, and the term "candidate projects" indicates projects for which an application for selection was submitted.

- (2) The draft regional lists of proposed projects falling under the categories set out in Annex II.1 and 2 to Regulation (EU) No 347/2013 drawn up by the Regional Groups (RGs) shall be submitted to ACER six months before the adoption date of the Union list. The draft list shall be accompanied by the Opinions of Member States to whose territory a proposed project does not relate, but on which the proposed project may have a potential net positive impact or a potential significant effect, which were presented to a RG specifying its concerns.
- (3) According to Annex III.2.7 to Regulation (EU) No 347/2013, the National Regulatory Authorities (NRAs), and if necessary ACER, shall check the consistent application of the criteria and cost-benefit analysis (CBA) methodology and evaluate the cross-border relevance of the PCIs. They shall present their assessment to the Regional Groups.
- (4) ACER shall assess the draft regional lists and the accompanying opinions within three months of the date of receipt. ACER shall provide an Opinion on the draft regional lists, in particular on the consistent application of the criteria and the cost-benefit analysis across regions. The Opinion of ACER shall be adopted in accordance with the procedure referred to in Article 22(5) of Regulation (EU) No 2019/942.
- (5) In view of the requirement provided in Annex III.2.7 to Regulation (EU) No 347/2013, ACER developed a questionnaire aiming at coordinating the NRAs inputs. Through this questionnaire, NRAs provided structured assessments of the candidate projects on the eligibility criteria, as well as on the cost-benefit analysis of the projects and the elements affecting it (the statistics of these assessments are presented in Annex III to this Opinion). The assessments were presented to the Regional Groups (RGs) on 26 April 2021 as an input to the evaluation of the candidate projects. These individual or joint NRA assessments were also considered as an input for preparing this Opinion.
- (6) The European Commission presented in the RG meetings held on 28 and 29 June 2021 the final PCI assessment methodology and the ranking and scoring of the candidate projects proposed for inclusion in the draft Regional lists of PCIs, to be submitted to the Decision Making Bodies.
- (7) The technical Decision Making Bodies of the RGs agreed on 15 July 2021 on which projects to include in the draft regional PCI lists.
- (8) On 29 July 2021, the European Commission submitted to ACER for its Opinion the draft regional lists of proposed PCIs (cf. Annex V to this Opinion) falling under the categories set out in Annex II.1 to Regulation (EU) No 347/2013 regarding electricity transmission, storage and smart grids. The document contains the draft lists of electricity projects per priority corridor (NSOG, NSI West, NSI East and BEMIP) and for the Smart Grids thematic area.
- (9) The draft Regional PCI lists submitted to ACER includes reservations on the candidate projects stated by Member States during the technical Decision Making Bodies meeting.

2. ASSESSMENT OF THE DOCUMENT

2.1. Assessment of the process and the methodology used for drafting the draft Regional PCI lists

2.1.1. The organisation of the PCI selection process

- (10) The process followed for the 2021 selection round is similar to the one of the 2019 selection round, except for the special arrangements that were implemented to handle the COVID-19 special conditions. ACER positively acknowledges the efforts of the European Commission to enable a smooth selection process by facilitating virtual meetings and virtual communication of involved stakeholders, despite the difficult communication conditions prevailing at the time of the PCI selection process. The successful handling of this force majeure situation can provide useful lessons for the future, as a mix of physical and on-line meetings for future selection rounds can facilitate higher level of involvement of stakeholders and reduce their administrative costs.
- (11) However, the shortcomings pointed out in the ACER Opinion No 18/2019 on the draft regional lists of proposed electricity PCIs 2019 remain, as the ACER recommendations for the improvement of the process suggested in the above Opinion were not implemented. Specifically, ACER reiterates the following considerations and recommendations to improve the process of the PCI selection:
- Despite the long established PCI Cooperation Platform⁴ (CP), which aims at discussing the methodological issues and at finding solutions for a better PCI selection, important elements of the process and the selection methodology itself, were not adequately discussed under this framework. In particular, the way the cross-border relevance of internal projects and projects connecting an EU Member State ('MS') with a third country was assessed (needed for the assessment of the criterion of article 4.1(c) of Regulation (EU) No 347/2013), was not properly discussed in the CP framework, nor were alternative approaches to using a single scenario for the project assessment. The limited scope of the discussions within the CP framework hindered the further improvement of the quality and transparency of the selection process.
 - The assessment of the infrastructure needs in the RGs did not make direct use of the improved needs analysis⁵ conducted by ENTSO-E in the TYNDP 2020, but followed the same path of the previous selection round, focusing on indicators per country and avoiding a concrete discussion on the infrastructure needs for each border.

⁴ The Cooperation Platform is an informal, working level team, where representatives from the European Commission, ENTSO-E and the Agency discuss the issues pertaining to the PCI selection process.

⁵ <https://eepublicdownloads.blob.core.windows.net/public-cdn-container/tyndp-documents/TYNDP2020/Foropinion/IOsn2020MainReport.pdf>

- The timing of the TYNDP process was not aligned with the PCI selection, as at the time of the submission of candidate projects (by January 7th, 2021) the TYNDP was still under public consultation⁶. Furthermore, at the time of the provision of NRAs' assessment (March 2021) the TYNDP was not finalised yet⁷ (i.e. important features of the projects with an impact on the CBA calculations could change in the final version of the TYNDP) and not even ACER's Opinions No 3/2021 and No 4/2021 on the draft TYNDP 2020 were released. Better alignment of these processes and timings would allow a better assessment of projects by NRAs and the other RG members. Therefore, ACER reiterates its recommendation that key information on candidate projects (especially their costs and benefits) that impacts the project assessment has to be finalised before the project assessment starts, and be subject to the PCI public consultation. This means that the ENTSO-E TYNDP, which provides the necessary data for the project assessment, should take into account ACER's opinion and be finalised before the project assessment starts.
- The selection methodology circulated to the RGs for consultation lacked a number of important aspects (e.g. how non-monetised benefits would be considered, the normalisation scale of monetised benefits, the pass thresholds on the multi criteria analysis for a candidate project to be eligible as a proposed PCI).
- The way the criterion of article 4.1 (c) of Regulation (EU) No 347/2013 on project's cross-border relevance was assessed (in case this element was not included in the draft TYNDP 2020, which happened for some projects⁸) was not presented to the RGs. As a result, ACER cannot confirm the consistent application of the methodology applied.
- The consideration of non-monetised benefits, the normalisation scale of monetised benefits and the eligibility threshold on the multi analysis criteria were presented only a couple of days before or during the last RG meeting, not providing the opportunity for the RG members to prepare in advance and provide their views, which could have improved the selection methodology. Therefore, ACER reiterates its recommendation that the discussion of the methodologies, i.e. the PCI needs assessment methodology and the candidate PCIs selection methodology, should take place at the beginning of the selection process, taking into account the TYNDP identification of needs and the ACER PCI monitoring report results. Also, a clear and well-documented description of the PCI selection methodology, including all important information, should be provided to the RGs for consultation, allowing sufficient time (e.g. one month) for substantial discussion and for comments to be evaluated and, when useful,

⁶ The TYNDP package (with the exception of the Scenario report) was under consultation from 6 November 2020 to 4 January 2021.

⁷ The TYNDP package was submitted to ACER for opinion on 15 February 2021.

⁸ This is the case for candidate projects connecting an EU-MS with a non EU or a non-European Economic Area country, e.g. with UK, Libya, Egypt, Tunisia, and Switzerland.

incorporated. After the consultation, the final methodologies (including all necessary elements for the calculations to be replicated by interested parties) should be made publicly available.

- The specific rules applied for the calculation of the Net Present Values (NPVs) of the candidate projects were not disclosed, impeding the replication of the calculations by interested RG members, which is an important element of transparency. Therefore, ACER reiterates its recommendation that the details of the NPV calculation, i.e. details of the CBA rules implementation, the specific indicators to be used and their sources, be finalised and shared with the RGs before the project assessment starts.
- The specific values used for the calculation of the monetised benefits of the projects, which were the basis of their ranking, were not provided to the RGs, despite the requests by many RG members, including ACER and NRAs. Given that the TYNDP 2020 data was still under processing during the RG discussion, and only the draft project values were available which could change after the ACER Opinion on the TYNDP 2020, the lack of transparency regarding the project specific calculations constitutes a significant drawback of the assessment process. Therefore, ACER reiterates its recommendation that the RGs publish the specific rules applied and the cost and benefit values used for the calculation of the NPVs of the candidate projects, before the meeting of the Decision Making Bodies of the RGs, which adopt the final regional lists for 2021 PCIs.
- The reasoning for the inclusion or exclusion of candidate projects from the draft Regional PCI lists was not clear for some candidate projects in the draft PCI lists submitted to ACER. More specifically, despite the fact that the reason of exclusion was orally presented in the last RGs meetings for all excluded candidate projects, it was provided in the document submitted to ACER for an Opinion only for the ones with non-sufficient benefit - cost ratio. In addition, one project⁹, which was presented as not meeting the technical criteria in the last RGs meeting, and therefore no assessment was presented to the RG members for this, is included in the draft Regional PCI lists, while seemingly still under assessment. Therefore, ACER recommends that the RGs provide to all their members, before the meeting of the Decision Making Bodies, details of how the assessment was carried out for all candidate projects, including candidate projects not meeting the general /technical criteria and the ones with commissioning date before March 2022. Furthermore, the Decision Making Bodies should disclose (starting from the ongoing PCI selection process) detailed information to all the members of the respective RGs on complementary evaluation (if any) carried out on top of the assessment concluded by the RGs.

⁹ Project 174, Interconnection between Thusis/Sils (CH) and Verderio Inferiore (IT) (currently known as "Greenconnector")

- (12) ACER notes that between 14 January and 8 April 2021, the European Commission launched a public consultation on the merits of PCI candidate projects. While a general overview of the comments received was presented by the European Commission, the stakeholders' responses and how they were handled were not made available to the Regional Groups. ACER notes that the stakeholders' responses could provide additional aspects with regard to the PCI candidates, which could be relevant for the assessment of the criteria to be fulfilled by the projects. In this regard, ACER recommends the European Commission to make the public consultation responses publicly available, while preserving any confidential information or business secrets. In addition, ACER invites the Regional Groups to examine relevant concerns that may have been raised by stakeholders within their respective duties in the PCI selection process.

2.1.2. Identification of infrastructure needs and related preparatory activities

- (13) The approach followed by the RGs regarding the identification of infrastructure needs and the list of regional needs per corridor is presented in the European Commission document "Identification of system needs for the TEN-E priority corridors, PCI 2020-2021 exercise"¹⁰.
- (14) The introduction of the infrastructure needs identification was acknowledged by ACER's Opinion No 14/2017 on the draft PCI lists 2017¹¹ as a potentially considerable improvement in the selection process, provided that the appropriate technical analysis be included in the subsequent TYNDPs. ACER, in its Opinion No 3/2021 on the methodological aspects of the draft TYNDP 2020, acknowledged the improvement in the identification of system needs analysis for 2020, as it was presented in the TYNDP document "Completing the map – Power System Needs in 2030 and 2040". In particular, ACER noted that (despite some shortcomings) the specific quantities of the target capacities at each border were provided, and calculations were included for both the 2030 and 2040 study years.
- (15) Despite the existence, for the first time, of a TSOs' analysis of needed cross-border capacities in the TYNDP 2020, the PCI selection process did not make sufficient use of it, but similar to the previous PCI selection rounds, followed an approach based on indicators. The chosen indicators led to the identification of a need for all three policy objectives (market integration, security of supply, sustainability) and for all corridors. This approach, not based on a solid technical basis like the TSOs' analysis, eventually

¹⁰ <https://circabc.europa.eu/ui/group/3ba59f7e-2e01-46d0-9683-a72b39b6decf/library/d7a8da52-f30c-4831-81c9-72db1fd280ef/details>

¹¹ https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Opinions/Opinions/ACER%20Opinion%2014-2017.pdf

weakened the relevance of the needs identification to verify the criterion defined by Article 4(1)(a) of Regulation (EU) No 347/2013¹².

(16) ACER notes that some of the indicators considered were overlapping and therefore redundant:

- the “Sustainability” indicator is covered by the “transmission capacity increase” indicator, as the calculation of the target capacities by ENTSO-E encompass also the decarbonisation of the electrical system enabled by the generation mix change due to the new capacity;
- the “SoS [generation portfolio]” and the “SoS [Ramps]-improve system flexibility and stability” indicators seem to cover the same impacts of change in the generation mix due to the decarbonisation of the electrical system.

(17) ACER reiterates its support to the identification of infrastructure needs in the coming PCI selection rounds as a first step of the process, but only subject to significant improvement of the needs assessment methodology to be used.

More specifically, in ACER’s view, the discussion should be based on the ENTSO-E’s needs calculations, i.e. (for this selection round) the target capacities calculated per border for 2030 and 2040, and the following steps:

- Candidate projects that match the system needs (i.e. the aforementioned target capacities) should be deemed “necessary for at least one of the energy infrastructure priority corridors and areas” according to Article 4.1 (a) of Regulation 347/2013.
- As the above capacities have considered only the SEW benefit (encompassing market integration and RES integration), projects additional to those corresponding to the identified needs should be considered. Therefore, in addition to the proposed projects directly matching the system needs, the following categories of projects (assessed on a case by case basis) should be also considered:
 - *Extra projects with lower costs*: Projects which can prove that they will be constructed at a significantly lower cost than the one considered by ENTSO-E at the specific border, e.g. novel technology projects. These projects can be assumed to increase the needed capacity at this border, because assuming a

¹² Based on the European Commission’s presentations to the RGs and the draft Regional PCI lists submitted on 29 July to ACER it can be concluded that the reasons for excluding some candidate projects from the draft regional lists were either the non-fulfilment of the general criterion of art. 4.1 (b) or the non-fulfilment of the general criterion of art. 4.1 (c) of Regulation (EU) No 347/2013, and not the criterion of article 4.1(a), making the needs identification a burden rather than a value for the 2021 electricity PCI process.

significantly lower cost, the transmission capacity available at a lower cost than the expected benefit would have been higher¹³.

- *Potentially competing projects on equivalent routes*: Projects that can prove that they come at a cost aligned or lower than the cost assumptions taken by ENTSO-E for the calculation of the needed capacities on an equivalent border (e.g. parallel route). The inclusion of the extra capacity of these projects should result into an equal reduction of the capacity on the competing border(s) and may lead to the identification of “competing projects”.
- *SoS projects*: Projects that significantly contribute to SoS.

2.1.3. The selection methodology for transmission candidate projects

- (18) In general terms, the selection methodology applied by the four electricity RGs is similar to the one of the previous selection round. The selection methodology is presented in Annex II to this Opinion.
- (19) ACER positively notes the reduction of the number of monetised benefits calculated by project promoters which are considered in the assessment, compared to the last PCI selection round (i.e. elimination of the benefits Security of supply - Reduction of costs for ancillary services, Security of supply - Baltic States synchronization, and Security of supply – System Flexibility), because the calculation of benefits centrally performed by ENTSO-E increases the consistency of the assessment. ACER would welcome the consideration of a benefit to account for the reduction of costs for ancillary services, but it should be calculated consistently by ENTSO-E.
- (20) ACER also positively notes the elimination of the approach of the “enhanced SEW” calculation, which was introduced in the methodology in the last PCI selection round to handle the distortions to the SEW calculations caused by the inflated TYNDP 2018 reference grid, but which resulted in some negative effects¹⁴ to the projects’ assessment.
- (21) The shortcomings pointed out in the ACER Opinion No 18/2019 on the draft regional lists of proposed PCIs 2019 remain, as the ACER recommendations for the improvement of the selection methodology were not implemented. Specifically,

¹³ According to the ENTSO-E needs identification methodology, the identified needed capacity (new MW) is the one that brings higher benefits than the costs of this capacity. ENTSO-E assumes some standard costs per border to conduct its calculations, so if a promoter can provide a project with a technology that incurs lower cost, the capacity of this project can be accepted as additional to the ENTSO-E estimated capacity at this border.

¹⁴ See recital 28 of ACER Opinion No 18/2019 on the draft regional lists of proposed PCIs 2019.

ACER reiterates the following considerations and recommendations, adapted to the adjustments made to the selection methodology 2021:

- In ACER's view, the multi-criteria analysis approach used for the ranking of the projects should have been avoided, as the spectrum of available monetised benefits could allow for a simple and easily understandable, purely CBA – based approach. The final ranking of projects can definitely factor in other drivers, including the fulfilment of wider EU policy objectives (e.g. coherence of EU member states, increase of security of supply, integration in the EU internal energy market), on top of the pure CBA results of the projects, as long as these drivers are clearly framed as such. In ACER's view, this approach of structuring the process would considerably increase the credibility of the PCI selection process by differentiating in a transparent way between more technical and more policy-oriented parts of the decision-making.
- Regarding the calculation of costs and monetised benefits, ACER is unable to verify whether the CBA rules (i.e. use of benefit results of two study years with suitable interpolation and discounting) were consistently applied, given the lack of visibility regarding the calculations of the project benefits, as elaborated in recital (11) of this Opinion. A CBA calculation template should have been made available to RG members and published, for a better transparency of the PCI selection process.
- Regarding the scenarios used, according to the “Methodology for assessing the transmission and storage candidate PCI projects - PCI 2020-2021 exercise”, the assessment was “primarily based on benefits related to the 2030 “National Trends” scenario”. The European Commission stated in that document that “*the choice of the scenario was made considering the consistency of ENTSOs scenarios with the latest Commission scenario used for the Climate Target Plan impact assessment and also the consistency with the gas PCI process*”. However, the single scenario approach is not aligned with the requirements of Annex IV of Regulation (EU) No 347/2013¹⁵. Also, in ACER's view, a scenario in alignment with the European Union targets can be the basis for the assessment, however, the consideration of one single scenario may result in biased results by missing in the assessment other possible futures, both in terms of infrastructure needs and assessments of individual projects. In addition, using only one scenario for the year 2030 limits the analysis regarding the uncertainties of results in the longer term.
- Regarding the non-monetised benefits considered in the assessment, a considerable degree of double counting is noted. More specifically, the “15%

¹⁵ According to point (2) (a) of Annex IV of Regulation (EU) No 347/2013, for the evaluation of the criteria listed in Article 4 “*the impact, for the area of analysis as defined in Annex V.10, in terms of energy system-wide generation and transmission costs and evolution and convergence of market prices provided by a project under different planning scenarios*” should be considered.

Interconnection Target”, although not entirely considered, seems, to a large extent, accounted for through the assessment of the examined project benefits. It must be also noted that according to Regulation (EU) 2018/1999¹⁶ for an interconnector contributing to the 15% Interconnection Target to be implemented, it is a prerequisite that it demonstrates a positive CBA¹⁷. Therefore, this indicator can only display a positive score for candidate PCIs with a positive CBA, where its contribution is not needed for passing a benefit vs. cost threshold. Considering this criterion to assess the value of projects, which do not show a positive CBA, creates a risk of fostering inefficient and inadequate projects, without welfare gains for society. In addition, this criterion should account only for benefits not already accounted for in the monetised part. Also, regarding the criterion “*physical isolation*”, it is noted that the corresponding benefits of ending physical isolation are, to a large extent, accounted for through the criteria pertaining to Socio-Economic Welfare and Security of Supply benefits¹⁸. ACER, thus, sees no need for such explicit extra criteria in the technical assessment of PCIs, unless these criteria are clearly defined as covering only those benefits which are not already assessed in the TYNDP.

- Although “*Principles on monitoring*” were included in the “*Methodology for assessing the transmission and storage candidate PCI projects - PCI 2020-2021 exercise*” for projects which are already included in the fourth PCI list, these principles were not further specified into a consistent check-list or action plan. In addition, according to the principles, “*the lack of proper justification may have a negative impact on the assessment of the candidate projects*”. However, during the process there was no evidence of which projects were scrutinised, the justification provided by promoters or other stakeholders, whether this justification was accepted and the reasoning, and finally the impact on the assessment of the candidate projects. ACER notes that the draft Regional PCI lists include 7 projects for which a need for additional scrutiny has been identified in its consolidated PCI monitoring report in 2021, due to the following reasons:

¹⁶ Regulation (EU) 2018/1999 of the European Parliament and of the Council on the Governance of the Energy Union and Climate Action, amending Regulations (EC) No 663/2009 and (EC) No 715/2009 of the European Parliament and of the Council, Directives 94/22/EC, 98/70/EC, 2009/31/EC, 2009/73/EC, 2010/31/EU, 2012/27/EU and 2013/30/EU of the European Parliament and of the Council, Council Directives 2009/119/EC and (EU) 2015/652 and repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council

¹⁷ Point 2.4.1 of Section A of Part I of Annex I of Regulation (EU) 2018/1999

¹⁸ Acknowledging that further improvements of ENTSO-E’s CBA methodology and its implementation in the TYNDP would cover further actual benefits of the interconnectors.

- 4 projects¹⁹, because no works or activity was reported during the last reporting period;
 - 2 projects²⁰, because they are put on hold and/or rescheduled by their project promoters and their commissioning date was postponed by at least 2 years since their inclusion in the current PCI list;
 - 4 projects²¹, for repeated failure to show progress from the status of “*under consideration*” or “*planned, but not yet in permitting*” to a more advanced status since their inclusion in the first PCI list (in 2013).
- ACER recommends that the results of the scrutiny checks performed by the RGs, at least for the above projects, should be made available to the members of the RGs before the meeting of the Decision Making Bodies of the RGs, which will adopt the final regional PCI lists for 2021 PCIs.
 - In ACER’s view, the application of the same requirements for advanced and non-advanced projects (e.g. conceptual projects) continues to have shortcomings, as non-advanced projects, in general, cannot reliably provide the same level of details regarding costs and benefits.

(22) Also, ACER has the following additional considerations and recommendations:

- The adopted methodology increased by 50% the points that a project can collect for the non-monetised benefits²², while the points for the monetised ones remained the same, changing the balance between monetised and non-monetised criteria compared to the last PCI selection round. This approach allowed the inclusion in the draft lists of candidate projects that did not need to demonstrate any monetised net benefits (i.e. in case a project scored more than 9 out of the 12 points that could be collected for the non-monetised benefits, by adding the 1 point collected for projects with a B/C ratio < 0.2 for the monetised part would enable it reach the threshold of 10). This raises serious doubts on the actual socio-economic viability of candidate projects with low monetised benefits.
- Regarding projects connecting an EU MS with a non-EU country, the methodology does not explain which TYNDP benefits were split between EU and non-EU countries, the rules for this splitting, and which TYNDP benefits were attributed to the project as a whole (possibly due to difficulties to apply a splitting rule or to the worldwide impact of GHG emissions in third countries).

¹⁹ Draft TYNDP 2020 projects 1- RES in north of Portugal (regarding the part of the project corresponding to PCI 2.16.1), 270 - FR-ES project-Aragon-Atlantic Pyrenees, 276 - FR-ES project-Navarra-Landes, and 1054 - Westtirol (AT) – Zell/Ziller (AT)

²⁰ Draft TYNDP 2020 projects 1, and 1054

²¹ Draft TYNDP 2020 projects 1, 254 - HVDC Utranet Osterath to Philippsburg, 235 - HVDC SuedLink Brusnuttel/Wilster to Grossgartach/Grafenrheinfeld, and 144 - Mid Continental East corridor

²² The maximum points a project can get according to the adopted selection methodology of 2021 is 12, against 8 in the selection methodology 2019.

Also, the specific values of costs and benefits per project considered in the assessment are missing. The non-disclosure of the above information to the RGs does not allow the RG members to verify the assessment, nor ACER to provide an opinion on the integrity and consistency of the assessment of these projects. Therefore, ACER recommends, where applicable, that the details of how the splitting of costs and benefits (exhibited in the TYNDP) of the candidate projects connecting an EU MS with a non-EU country was carried out and the values considered for their assessment are provided before the meeting of the Decision Making Bodies of the RGs, which will adopt the final regional PCI lists for 2021.

- Regarding the implementation of the adopted selection methodology, ACER notes an inconsistency in the implementation of the pass threshold in the multi criteria analysis. In particular, although the threshold was set at “equal to 10” for all RGs, in the NSOG RG the threshold set was “higher than 10”, leading to the exclusion of a project of this group from the draft Regional list.
- Indicator B10 reflecting the added welfare of projects to the system real time operation was considered for the assessment of the monetised benefits of projects. ACER notes that such benefits as B10 are of increasing importance. However, the limited approach adopted by the third CBA Guideline for the calculation of this benefit, i.e. calculated by promoters and only for projects located in or connecting countries that have a specific mechanism for contracting redispatch reserve power plants, does not safeguard consistency across the projects assessed. This socio-economic benefit of transmission projects should be assessed irrespective of whether a specific mechanism for contracting redispatch reserve exists or not.

(23) In ACER’s view, significant improvements in the selection methodology could be achieved and should be pursued in the future. In this respect, ACER recommends the following:

- The selection methodology should be based on (further expanded) proven monetised benefits, taking into account as a next step also other drivers, including the fulfilment of wider EU policy objectives (e.g. coherence of EU member states, increase of security of supply, integration in the EU internal energy market), on top of the pure CBA results of the projects, as long as these drivers are clearly framed as such.
- The future TYNDPs should better fit the purpose of the PCI selection, by providing a sufficient level of information on the candidate projects and especially on the project benefits according to ACER’s past recommendations.
- The RGs should use the results of project assessments from contrasted TYNDP scenarios in the long term, thus accounting for the uncertainties of project benefits. A broader cooperation with relevant institutions (European Commission, Member States, as well as NRAs and ACER) should be pursued early in the process for defining the scenarios, ideally when scenarios for the

TYNDP are in consultation, or, as a second- best option, when the TYNDP results are in consultation.

- A simplified and standardised methodology for the assessment of the non-advanced projects (indicated as such in the TYNDP) should be introduced. A clear distinction between advanced and non-advanced projects can provide greater consistency of the ranking exercise.

2.1.4. The selection methodology for storage projects

(24) The selection methodology for storage projects applied by the four electricity RGs is presented in Annex II to this Opinion.

(25) The selection methodology for the storage projects, like in the previous PCI process, is based on a study²³ commissioned by the European Commission, which aims at capturing a wider spectrum of benefits of storage projects, by complementing the TYNDP benefits. However, some elements of the methodology were not clear; in particular, how the benefit “Reduction of non-CO₂ emissions” was monetised, how the benefit “Reduction of costs for ancillary services” and the losses were considered in the assessment, and how the benefit “system stability”, was normalised and added to the monetised part. In general, the consideration of a non-monetised benefit in the ranking was not explained.

(26) The overall approach (i.e. the multi-criteria analysis, and the structure of the methodology) is the same as the one applied for the transmission projects, except for the different lifetime period used for storage projects, which (like in the previous PCI process) for hydro-pump (HP) storage projects was 50 years, for Compressed Air Energy Storage (CAES) projects 35 years, and for batteries 15 years. ACER reiterates its recommendation that the applied lifetime period for HP and CAES projects should not be extended, for the same reasons that it disagrees to longer lifetime period for transmission projects, i.e.:

- In order to have a reasonable visibility of the benefits: a long economic lifetime of 50 years would mean considering benefits for time horizons for which no plausible assumptions can be made (i.e. for the year 2075 or 2080, which would be the case when the commissioning date of a project is 2025 or 2030, respectively). This is confirmed by the fact that ENTSO-E is reluctant to construct scenarios pertaining to such long horizons.
- Given the uncertainty of the future, a balanced approach must be taken, as many considered benefits are uncertain to materialise. Therefore, there has to be a balance between the non-materialised benefits considered and the non-

²³ Study on an assessment methodology for the benefits of electricity storage projects for the PCI process: <https://op.europa.eu/en/publication-detail/-/publication/4d333f57-d086-11e9-b4bf-01aa75cd71a1/language-en>

considered benefits of a far-away future. With too long an economic lifetime this balance would be lost.

- (27) ACER reaffirms its recommendations provided in ACER's Opinion No 05/2017 on the Draft ENTSO-E Guideline for CBA of Grid Development Projects regarding the improvement of the CBA methodology for storage projects. In particular, it stresses the need for a more concrete, quantified and possibly monetised approach to be applied in the future TYNDPs, especially regarding the calculation of the benefits related to flexibility and ancillary services.

2.1.5. The assessment methodology for smart grid projects

- (28) A draft report on "Projects of common interest in the priority thematic area of smart grids deployment" was prepared by the European Commission's Joint Research Centre (JRC) and shared for NRA comments in the period 23 June to 7 July 2021.
- (29) The approach based on the Key Performance Indicator (KPI) introduced since 2010 continued to have a prominent role in the supporting assessment provided by the JRC to the Thematic Group. The Agency reiterates its request for KPIs to be replaced by the use of a reliable CBA, which should be the main basis for the assessment of smart grid projects.
- (30) None of the proposed smart-grid projects are included in their respective NDPs nor were they part of the latest ENTSO-E's TYNDP, further limiting the available information on their costs and benefits.
- (31) For two projects, NRAs indicated that they were not able to assess their contribution to the specific criteria mentioned in Art. 4.2(c) of the Regulation (EU) No 347/2013, while for an additional two projects this assessment was solely based on JRC's assessment.

None of the NRAs were able to assess the calculation of smart grid projects' costs.

As a result, the discussion on the projects was limited and does not fully correspond to the requirement of the Thematic Group project assessment, as stated in the Annex III.2.11 to Regulation (EU) No 347/2013.

- (32) In ACER's view, the selection process of smart-grid PCIs could benefit from the following improvements:
- The PCI selection process should be further simplified by focusing on CBA and by limiting the relevance of any KPI-based approach.
 - Smart grid project promoters should aim to include relevant smart grid projects into their respective NDPs to facilitate the exchange of relevant project-related information already before the PCI selection process.

2.2. Assessment of the proposed PCIs in the draft Regional PCI lists

- (33) On 29 July 2021, the document called “Draft Regional PCI lists - electricity and gas project & Draft thematic area - smart grids” was submitted to ACER.
- (34) Regarding the consistency of the PCI selection across regions, ACER notes that the same terms of reference for RGs and selection methodology were applied for the evaluation of the three specific criteria of Article 4(2) of Regulation (EU) No 347/2013 across all regions, and that the benefit data used in this assessment was based on the TYNDP data, except for storage and smart grids projects. Therefore, some degree of consistency was safeguarded throughout the process and across all regions.
- (35) However, due to the fact that some benefits incorporated in the TYNDP 2020 were calculated by project promoters, according to the CBA guidelines, based on their studies and calculations, and despite the scrutiny of the concerned NRAs, some inconsistency was inevitable due to the different sources and assumptions for calculating benefits used by the promoters.
- (36) The following table summarises the main statistics on the assessment of the candidate projects and how the field was eventually narrowed by the selection process.

	Candidate projects	European Commission Presentations to the RGs		Statistics on the document “ <i>Draft Regional PCI lists - electricity and gas project & Draft thematic area smart grids</i> ”		
		“Not in line with general / technical criteria”	Ranked projects	Included in the draft lists		“Did not prove Benefits higher than Costs”
				Trans.	Stor.	
NSOG	22 (*)	7	15	5	2	8
NSI West	31	6 (**)	25	15	9	2
NSI East	24	3	21	10	2	9
BEMIP	7	1	6	5	1	-
Total	84	16	67	35	14	19

(*) One project was withdrawn from the process (not included in the statistics)

(**) One project initially assessed by EC as not meeting the general criteria (project 174) was included in the draft list

- (37) In Annex IV, NRAs’ views on the projects included in the draft Regional PCI lists are presented, building on the joint assessments of candidate projects by NRAs, the statistics of which are presented in Annex III to this Opinion. It is noted that NRAs

submitted an assessment for 76 out of 84²⁴ candidate projects, i.e. for all transmission candidate projects and for 17 out of the 20 candidate storage projects which involve a MS.

- (38) Reference in Annex IV to this Opinion is made only to the projects included in the Section 1.1 “draft regional PCI lists”, which NRAs indicated that they either were not able to assess, were opposed to, or had divergent views upon. No reference is made to projects not included in the draft Regional PCI lists, for which NRAs agree to their non-inclusion. It is noted that proposed projects for which there is no reference in this Opinion are supported by the involved NRAs.

HAS ADOPTED THIS OPINION:

1. ACER’s Opinion on the projects of the draft regional PCI lists is provided in section 2.2. and Annex IV of this Opinion.
2. ACER is not able to assess the consistent application of the criteria of Regulation (EU) No 347/2013 and of the cost-benefit analysis to all the candidate projects due to:
 - (i) lack of transparency:
 - (a) on the way the cross border relevance of internal projects and projects connecting an EU-MS with a third country was assessed in case the cross-border capacity increase impact between EU-MS was missing in the draft TYNDP 2020;
 - (b) on the specific rules applied for the calculation of the present values of benefits and costs of candidate projects, as well as of the specific values used for these calculations (especially considering that the TYNDP 2020 data was still not finalised);
 - (c) on the specific rules applied for the calculation of some of the scores for the non-monetised benefits of the candidate projects, especially regarding the normalisation used for the calculation of the score of the benefit “Sustainability - Reduction of non-CO2 emissions”, and the scores calculated for the three sub-indicators per country of the “15% interconnection target” benefit;
 - (ii) the inconsistency noted in the assessment methodology due to lack of consideration of multiple planning scenarios.
3. To help tackle the deficiencies listed above and enable ACER to perform its legal duty, the RGs should work on improving the transparency of the process and the

²⁴ For 6 projects there was no need for an assessment, because these projects were either located in a non-MS territory or their application was withdrawn by the promoter.

methodologies used in the ongoing and future PCI selection processes taking into account ACER's recommendations included in this Opinion.

This Opinion is addressed to the European Commission.

Done at Ljubljana, on 29 October 2021.

- SIGNED -

*For the Agency
The Director*

C. ZINGLERSEN

Annexes:

Annex I – The process and the main activities for establishing the draft Regional PCI lists

Annex II – Description of the methodology applied for establishing the draft Regional PCI lists and ACER specific remarks

Annex III - Statistics on NRAs' assessment of candidate projects

Annex IV - NRAs' assessment of proposed PCIs

Annex V - Draft regional PCI lists

Annex I - The process and the main activities for establishing the draft Regional PCI lists

The milestones of the PCI process in the framework of the RGs are indicated in the table below.

Date / Event	Main activities
17 November 2020	Electricity PCI cross-Regional Group meeting (transmission and storage): <ul style="list-style-type: none"> - Overview of project of common interest legal framework by the EC - Presentation of PCI 2020 – 2021 process & roles and responsibilities of the stakeholders by the EC - Presentation of ACER’s 2020 monitoring outcomes and of the principles for monitoring inclusion in the current PCI process - Presentation on TYNDP 2020 process scenarios, the infrastructure gaps identified by ENTSO-E, and the CBA methodology
25 November 2020	Opening of the applications call for the fifth PCI list for electricity projects (transmission and storage)
07 January 2021	Closure of the applications for candidate electricity projects (transmission and storage)
12 January 2021	Opening of the applications for the fifth PCI list for smart grids projects
14 January 2021	Publication of a consultation on the candidate electricity projects (transmission and storage)
28 January 2021	1 st Smart grids thematic meeting: <ul style="list-style-type: none"> - Presentation of the assessment framework - Presentation of ACER findings of the past selection process
4 February 2021	Start of NRA assessments of the consistent application of the criteria/CBA methodology and the evaluation of the cross-border relevance of the candidate projects
8 February 2021	Electricity PCI cross-Regional Group meeting: <ul style="list-style-type: none"> - General update on the PCI process (2020-2021) - ENTSO-E presentation of the Pan-European Power System Needs - Member states short presentations on their specific country needs - Presentation of the methodology for the regional needs identification
8 March 2021	Closure of the call of applications for smart grid projects

8 and 9 March 2021	<p>Electricity PCI cross-Regional Group meeting and Regional Group meetings:</p> <p>Cross-Regional Group meeting:</p> <ul style="list-style-type: none"> - General update on the PCI process - Identification of system needs per region –Methodology presentation <p>Regional Group meetings:</p> <ul style="list-style-type: none"> - identify which needs are having a significant impact on the countries in the TEN-E priority corridor - consider which of the needs identified in the previous step are to be included in the agreed list of needs - agree the list of system needs that can be addressed by infrastructure in the TEN-E priority corridor.
24 March 2021	Consultation on the list of candidate Projects of Common Interest in smart grids
5 April 2021	Deadline for submission of NRAs assessments on electricity candidate projects.
8 April 2021	End of the public consultation on the electricity candidate projects
26 and 27 April 2021	<p>Electricity PCI cross-Regional Group meeting and Regional Group meetings:</p> <p>Cross-Regional Group meeting:</p> <ul style="list-style-type: none"> - General update on the PCI process - PCI draft assessment methodology presentation - NRAs consultation outcomes – high level view <p>Regional Group meetings:</p> <p>Open discussion/scrutiny on the candidate projects based on :</p> <ul style="list-style-type: none"> - Projects promoters presentations of their projects - NRAs views - MSs representatives and stakeholders presentations - European Commission’s relevant feedback from the public consultation
16 June 2021	End of public consultation on smart grid projects
28 and 29 June 2021	<p>Electricity PCI cross-Regional Group meeting and Regional Group meetings:</p> <p>Cross-Regional Group meeting:</p> <ul style="list-style-type: none"> - Presentation of the PCI assessment methodology by the EC



	<ul style="list-style-type: none"> - Update and finalisation of the methodology based on the discussions in the meeting - Validation of the PCI assessment methodology <p>Regional Group meetings:</p> <ul style="list-style-type: none"> - Presentation by EC of the outcomes of the compliance check of the candidate projects with the technical requirements of PCI projects (location, capacity, etc)] - Presentation by EC and discuss of the ranking of the RG candidate projects based on the implementation of the PCI assessment methodology.
30 June 2021	<p>2nd Smart grids thematic meeting:</p> <ul style="list-style-type: none"> • Presentation of candidate projects • JRC Assessment of the candidate smart grids projects • The results of the public consultation • Assessment of the smart grids candidate projects by the smart grids thematic group
15 July 2021	<p>Technical Decision Making Body meeting, to draw up the draft regional PCI lists</p>
29 July 2021	<p>Draft regional PCI lists submitted to ACER</p>

Table 1: Main activities for transmission, storage and smart grids projects carried out in the framework of the Regional Groups

Annex II - Description of the methodology applied for establishing the draft Regional PCI lists and ACER specific remarks

The main elements of the methodology applied for the assessment of the candidate projects according to the “Methodology for assessing the transmission and storage candidate PCI projects - PCI 2020-2021 exercise” are presented in this section, alongside with the unclear or not clarified elements.

A.2.1 An overview of the assessment methodology applied

The first step of the assessment by the RGs was checking whether candidate projects meet the technical criteria of Annex II.1 of Regulation 347/2013 depending on their category, based on the information available in the TYNDP project sheets.

Then, the RGs checked whether candidate projects meet the criteria of article 4.1 (a) of Regulation 347/2013 regarding the necessity of the project and article 4.1 (c), regarding its cross-border relevance. The assessment of the criterion of article 4.1 (c), according to the “Methodology for assessing the transmission and storage candidate PCI projects - PCI 2020-2021 exercise” was based on the information available in the draft TYNDP project sheets, and “*In a few more complex cases, a further check involving the project promoters, ENTSO-E and ACER is done.*” Despite the above reference, ACER was not involved in any such assessment, and as mentioned in Section 2 of this Opinion, there is no visibility on how the cross-border relevance of internal projects and projects connecting an EU Member State (‘MS’) with a third country was performed.

Regarding the criterion of article 4.1 (b) of Regulation 347/2013, i.e. the overall potential benefits of the project outweighs its costs, a multi-criteria approach was applied for the assessment of the projects in order to account for both monetised and non-monetised benefits. The steps for examining this criterion are the following:

A.2.1 Handling of monetised benefits and costs

Regarding the computation of the present value of costs and benefits the following rules were applied: a discount rate of 4% was used, a zero residual value and an economic lifetime of 25 years for the transmission projects, of 50 years for hydro-pump storage projects, of 35 years for CAES projects, and of 15 years for battery storage. Due to the non-release of sample computations or the specific calculations for each project, the following elements of the methodology are unclear:

- The formula used for the calculation of the present values (or, alternatively, an inclusive example of the most complex project), to show how the interpolation rule stipulated by the CBA methodology was applied to produce a single benefit value (given that the calculation of benefits was performed at two time horizons in the TYNDP, ie. for year 2025 and 2030).



- The starting year assumed for the benefits (e.g. the year of commissioning or another starting year).
- The starting year assumed for the CAPEX and OPEX (e.g. the year following the commissioning or another starting year).
- How the commissioning date of a project is determined, when it includes many investment items with different commissioning dates.
- Which is the specific value of social cost of CO2 considered for calculating the “additional Societal benefit due to CO2 variation”
- Which are the monetisation coefficients for benefit B6 (value of lost load) by country

A.2.1.1 Handling of monetised benefits

The steps followed for the calculation of the monetised benefits, according to the “Methodology for assessing the transmission and storage candidate PCI projects - PCI 2020-2021 exercise”, are the following:

- The Present Value of the monetised benefits of the projects according to the “National Trends” scenario of the TYNDP 2020 was calculated.
- The Present Value of the project costs was calculated.
- The Benefit / Cost ratio was constructed, and normalised according to the scale of Table 2. A different scale was used depending on whether the benefit is higher or lower than the total costs of a project. A project is assigned the middle of the scale points (10 points) when project benefits equal project costs.

Benefit/cost	Normalised value
B/C < 0,2	1
0,2 < B/C < 0,3	2
0,3 < B/C < 0,4	3
0,4 < B/C < 0,5	4
0,5 < B/C < 0,6	5
0,6 < B/C < 0,7	6
0,7 < B/C < 0,8	7
0,8 < B/C < 0,9	8
0,9 < B/C < 1	9
B/C = 1	10
1 < B/C < 2	11
2 < B/C < 3	12
3 < B/C < 4	13
4 < B/C < 5	14
5 < B/C < 6	15
6 < B/C < 7	16



$7 < B/C < 8$	17
$8 < B/C < 9$	18
$9 < B/C < 10$	19
$B/C > 10$	20

Table 2: Scale for normalising Benefit/Cost ratio

The monetised benefits considered for the transmission projects are the following:

- **Socio-economic welfare [SEW]:** It is assumed that the value of indicator B1 of the TYNDP 2020 was used.
- **Losses:** It is assumed that the value of indicator B5 was used (i.e. deducted from the benefits value in case the project increases the losses of the grid or added in case the project decreases the losses of the grid).
- **Sustainability - Additional Societal benefit due to CO2 variation:** It is assumed that the values of the indicators B2a “Additional Societal benefit due to CO2 variation, B1-SEW-related component”, and B2b “Additional Societal benefit due to CO2 variation, B5-losses-related component” of the TYNDP 2020 project sheets were used, although it is unclear which is the specific value of social cost used to monetise these indicators.
- **Security of supply- adequacy [ENS]:** It is assumed that the values of indicator B6 of the TYNDP 2020 were used.
- **Security of supply - Reduction of necessary reserve or re-dispatch power plan:** It is assumed that the values of the indicator B9 “Reduction of Necessary Reserve for Redispatch Power Plants” in the TYNDP 2020 (as were reported by project promoters) were used.

The monetised benefits considered for the storage projects according to the “Methodology for assessing the transmission and storage candidate PCI projects - PCI 2020-2021 exercise” are the above benefits considered also for transmission projects, with the following differences:

- the benefit “**Reduction of non-CO2 emissions**” is also taken into account. Since only the quantities of emissions are mentioned in the TYNDP 2020, there is a need for monetisation. The values used for the monetisation are not clear, as the link mentioned in the “Methodology for assessing the transmission and storage candidate PCI projects - PCI 2020-2021 exercise” does not provide reference to a specific report.
- **Reduction of costs for ancillary services (Reduced cost of reserve capacity, Reduced cost of frequency regulation).** This benefit was only qualitative and not quantified in the TYNDP 2020, but as it was considered as relevant for the storage plants, “*estimated values were considered based on benchmarking with other projects and public literature*”. No further details were released on the assessment of this benefit.
- **Losses** are not mentioned

In addition, it must be noted that no information was provided to the RGs on the specific values considered for each project for each benefit, and the specific calculations conducted.

A.2.1.2. Handling of project cost

- The Capital Expenditure (CAPEX) values, as reported in the TYNDP 2020 project sheets, were used. Given that the project specific calculations were not released to the RGs, the consistent implementation of the above rules cannot be confirmed by ACER. Also, it is unclear what is the year assumed for the CAPEX to materialise, especially in the cases of projects with multiple investment items commissioned at different years.
- The lifecycle cost of each project was calculated based on the annual operational expenditure (OPEX) as reported by the project promoter in the TYNDP 2020. Given that the project specific calculations were not released to the RGs, the consistent implementation of the above rule cannot be confirmed by ACER. Also, it is unclear what is the year assumed for OPEX to commence, especially in the cases of projects with multiple investment items commissioned at different years.

A.2.2 Handling of non-monetised benefits (only for transmission projects)

The non-monetised benefits considered for the transmission projects are the following:

- **15% interconnection target:** The 3 ratios²⁵ mentioned in in point 2.4.1 of Section A of Part I of Annex I of the Governance Regulation were calculated for each MS. For each ratio that does not meet the set target thresholds for one of the interconnected countries, 1 point is assigned to the projects between this country and another MSs or EEA country (i.e. max 3 points).
- **SoS – system stability:** This indicator, B8, is presented in the TYNDP with “0”, “+” or “++”. The points assigned to a project is the percentage of the “+” for system stability indicated for the project in the TYNDP 2020 over the maximum amount of “+” a project can attain, multiplied by 2, which is the maximum points that can be given to this indicator.
- **Sustainability - Reduction of non-CO2 emissions:** The values of the gases emissions indicted under this indicator are normalised. Then the sum of the non-CO2 emissions normalised points is divided by the total amount of points a project can attain, and the outcome is multiplied by 2, which is the maximum points that can be given to this indicator.
- **Physical isolation:** 5 points were assigned only to the projects connecting Cyprus.

²⁵ a) difference of marginal prices at the borders >2€/MWh, b) nominal transmission capacity /2030 peak load<30%, and c) nominal transmission capacity /2030 RES installed <30%

For the storage projects, according to the “Methodology for assessing the transmission and storage candidate PCI projects - PCI 2020-2021 exercise” the **system stability, particularly frequency stability**, as computed by ENTSO-E was considered as a non-monetised benefit. However, it was not explained how it was normalised and added to the monetised part.

A.2.3 Ranking of projects

After the calculation of the total benefits and costs, the subsequent steps of the assessment methodology per priority corridor were the following:

- The final score of a project was calculated as the sum of all the points for the monetised and non-monetised benefits of the project.
- In order for a transmission project to be accepted in the list, a threshold of 10 points was set in all RGs, although it was not clear whether a project collecting 10 points would be included in the list or rejected.
- Storage projects were ranked on the basis of their monetised benefit/cost ratio, therefore the rule this ratio should be higher than 1 was applied. (However, the consideration of a non-monetised benefit in the ranking was not explained).

Annex III - Statistics on NRAs' assessment of candidate projects

The NRAs under the coordination of ACER provided their assessment and views on the following topics:

- Criteria set out in *art. 4.1.c of Reg. (EU) 347/2013* (cross border relevance).
- Contribution of the projects to the specific criteria set out in *art. 4.2.a of Reg. (EU) 347/2013* (market integration, sustainability, security of supply).
- Identification of inconsistencies regarding the provided cost data (CAPEX, OPEX).
- Identification of inconsistencies and disagreements regarding the available benefits, i.e SEW, B2, B4, SoS (B6, B7 and B8), losses, and B9
 - statement whether possible benefits outweigh costs
- Indication of projects' commissioning dates inconsistencies

NRAs submitted in total 77 assessments regarding 76²⁶ out of the 84²⁷ candidate projects, i.e. for all transmission candidates and for 17 out of the 20 candidate storage projects, which involve a MS²⁸.

In the following table, some statistics of the NRAs submissions per corridor are provided:

	Candidate projects	Projects assessed by NRAs	Assessment in coordination with other EU-NRAs	Coordination with non-EU country
NSOG	22 ¹⁹	14	2	3
NSI West	31	31	8	0
NSI East	24	23	5	1
BEMIP	7	7	4	0
Total	84	76	19	4

Table 3: NRAs assessments by corridor

²⁶ In case of one candidate project, i.e. project 150, double assessment was provided by different NRAs.

²⁷ Two transmission candidates (i.e. TYNDP projects 190 and 1040) and 3 storage candidates (i.e. projects 1014, 1015 and 1022) are not located in EU countries, and one candidate (i.e. project 172) was withdrawn by the promoter. For these projects no input was needed to be provided by NRAs.

²⁸ No assessment was provided for candidate projects 1003, 1013, and 1038.

26 assessed projects are not included in the NDPs, 7 are only partly included, and 8 are included as “under consideration”.

In 5 cases, i.e. for projects 296, 1026, 1042 (storage), 1046, and 1051, the NRAs objected to the inclusion of the project in the final TYNDP 2020 (which was pending at the time of the NRAs’ assessment).

In 8 cases, i.e. for projects 1, 153, 247, 283, 285, 1030, 1042, and 1042 (storage), the NRA stated that projects do not meet any conditions of Art. 4(1)(c) (i.e. regarding cross-border relevance). In 17 additional cases, the NRAs indicated that they are not able to assess if criterion was met by the projects.

In 14 cases, i.e. for projects 153, 247, 283, 285, 296, 349, 1026, 1030, 1042 (storage), 1044, 1046, 1050, 1051, and 1082, the NRAs were not able to assess whether the project contributes significantly to at least one of the specific criteria, and in 2 cases there were divergent views.

The statistics regarding the identification of inconsistencies to the data and calculations included in the TYNDP 2020 regarding the projects’ CAPEX and OPEX, and the benefit calculations are presented respectively in figures 1 and 2 below²⁹.

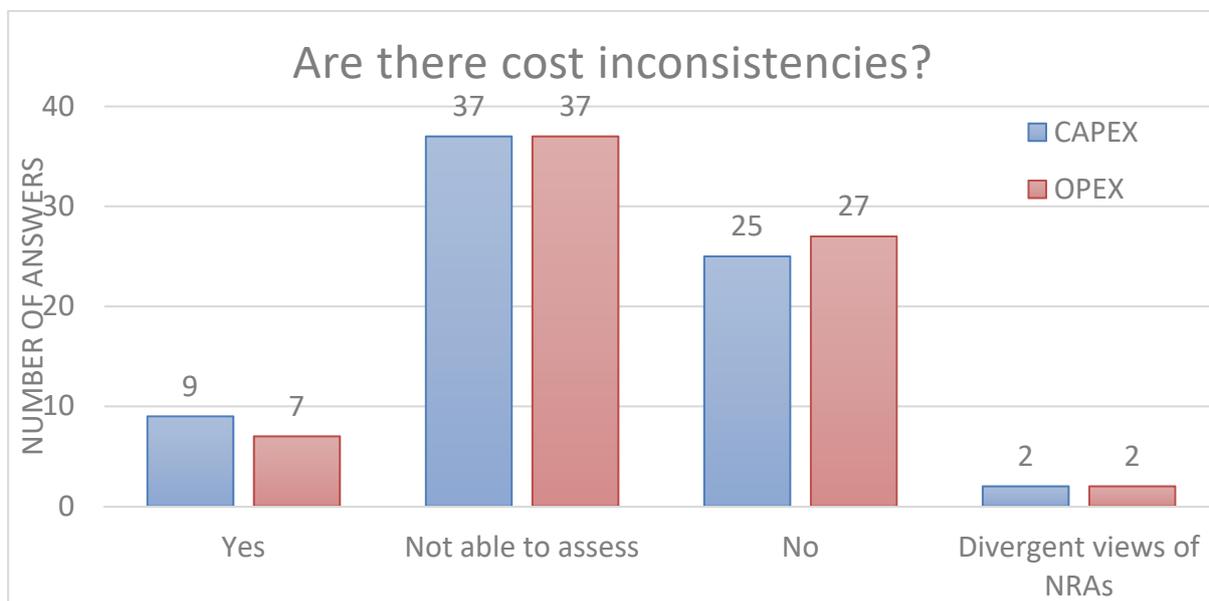
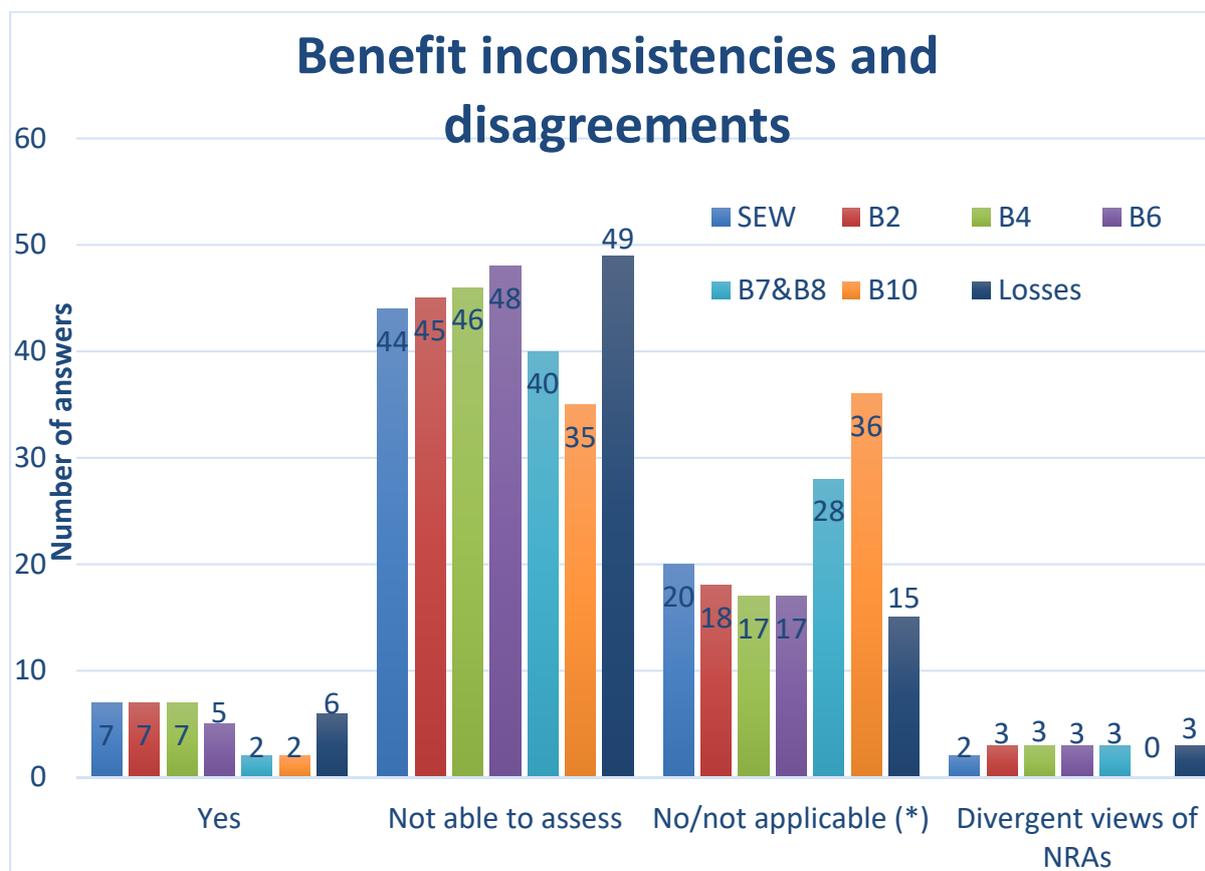


Figure 1: NRAs assessments regarding inconsistencies to the CAPEX and OPEX data

²⁹ The presented figures are based on the assessments received on the respective questions, i.e. 73 assessments regarding 72 assessed projects.



(*) The answer «Not applicable» was interchangeable to «No» only in B7&B8 and B10. In the questions about other inconsistencies, only answer «No» was available.

Figure 2: NRAs assessments regarding inconsistencies to the CAPEX and OPEX data

Although the inconsistencies identified pertain to a small number of projects, which should be further scrutinised by the RGs, the striking fact is that for most of the benefit categories the NRAs stated that they were not able to assess the benefits calculations for more than half the projects. This should lead to significant improvements in the methodologies used by ENTSO-E and their implementation, and more transparency to the overall process.

The statistics regarding the assessment of plausibility of the commissioning dates provided by the PCI promoters are presented in table 4 below.

No, there is no inconsistency	36
Yes, there is inconsistency	15
Not able to assess (e.g. the project is not mature enough)	20
Divergent views of the NRAs	2
Total	73

Table 4: NRAs assessments of inconsistencies to the commissioning dates of the candidate projects indicated in the draft TYNDP 2020

It is noted that in most of the cases where inconsistencies were identified, i.e. in 12 cases, NRAs indicated that project promoters were overly optimistic with the commissioning dates, while only in two cases the NRAs indicated that they expect an earlier commissioning date than the TYNDP one.

Regarding the issue of whether “overall benefits outweigh costs” the replies received are presented in the following table:

Yes	26
No	4 (*)
Not able to assess	41
Divergent views of the NRAs	2
Total	73

Table 5: Are benefits higher than costs?

(*) The four projects deemed by the respective NRAs to have costs higher than benefits are TYNDP projects 150, 153, 247 and 285.

Finally, regarding the question “Do NRA objects to the inclusion of the project in the final PCI Regional list?” the replies received are presented in the following table.

No	58
Yes	12
Not able to assess	3
Divergent views of the NRAs	4
Total	77

Table 6: Do NRAs object to the inclusion of the project in the final PCI Regional list?

The 12 projects for which NRAs object to the inclusion in the regional PCI list are the following TYNDP projects: 150, 153, 247, 283, 285, 296, 1002, 1026, 1042 (storage), 1046, 1050, 1051. It is noted that 5 of these projects are included in the draft Regional PCI lists.

The projects for which NRAs have divergent views are TYNDP projects: 270, 276, 335 and 1068. All of these projects are included in the draft Regional PCI lists.

Annex IV - NRAs' assessment of proposed PCIs

In this annex reference is made only to the projects, which NRAs indicated that they either were not able to assess, were opposed to, or had divergent views upon. No reference is made to projects not included in the lists, for which NRAs agree to their non-inclusion. It is noted that proposed projects for which there is no reference in this Opinion are supported by the involved NRAs.

A.4.1. Opinion on the draft regional list – NSOG Regional Group

A.4.1.1 With respect to the candidate project 153 “France-Alderney-Britain (FAB)”, the French NRA, CRE, reported that the project failed, in their view, to prove that it will increase the grid transfer capacity at the French border with the United Kingdom by at least 500 MW compared to the situation without commissioning of the project. Hence, CRE objects to the project’s inclusion in the PCI list. In addition, CRE noted that the project commissioning date may require to be updated to take into account the project advancement and that the reported costs were not updated.

A.4.1.2 With respect to the candidate project 247 “AQUIND Interconnector”, the French NRA, CRE, reported that the project failed, in their view, to prove that it will increase the grid transfer capacity at the French border with the United Kingdom by at least 500 MW compared to the situation without the project. Hence, CRE objects to the project’s inclusion in the PCI list. In addition, CRE noted that the project commissioning date may require update to take into account the project advancement and asked clarifications about where the projects stands in terms of permitting.

A.4.1.3 With respect to the candidate project 285, “GridLink”, the French NRA, CRE, reported that the project failed, in their view, to prove that it will increase the grid transfer capacity at the French border with the United Kingdom by at least 500 MW compared to the situation without commissioning of the project. Hence, CRE objects to the project’s inclusion in the PCI list. In addition, CRE noted that the project commissioning date may require update to take into account the project advancement.

A.4.1.4 With respect to the candidate project 335, “North Sea Wind Power Hub”, there were divergent views between the involved NRAs.

The German NRA, BNetzA, objects to the inclusion of the project as it is not yet evaluated in the context of German National Development Plan (NDP), which has a binding character in the German legal framework. BNetzA reported that the NDP assessment process requires the project to demonstrate its validity in all defined scenarios, but due to the non-maturity of this project such an assessment is not possible (in the current version of the German NDP, published in January 2021, the TSOs evaluated the NSWPH as a sensitivity on one of the scenarios).

The Dutch NRA, ACM, does not object to the inclusion of the project 335 in the PCI list.

A.4.2. Opinion on the draft regional list – NSI West Regional Group

A.4.2.1 With respect to the candidate project 270 “Aragón-Atlantic Pyrenees”, there were divergent views between the involved NRAs.

The French NRA, CRE, objects to the inclusion of the project in the PCI list due to the immaturity of the project, and the uncertainty over its value caused by the absence of updated costs and the fact that the costs do not integrate needed reinforcements.

The Spanish NRA, CNMC, on the other hand, supports the project’s inclusion in the PCI list for the following reasons:

- a) The project’s Net Present Value (NPV) has been calculated according to the 3rd draft CBA methodology is positive for the 2030 NT, 2030 GA and 2030 DE scenarios when considering a 25-years lifetime, and for all scenarios with a lifetime of 40 years.
- b) The CAPEX provided is consistent with the latest information available and also includes preliminary internal reinforcements. Furthermore, the CAPEX also considers a 10% uncertainty.
- c) According to the ENTSO-E needs report 2020, there is a need for further market integration in the NSI West Corridor, with a special focus on the isolation of the Iberian Peninsula. Spain does not yet fulfil the 10% objective set for 2020, and this project will be needed to meet the 2030 objective to 15%.
- d) With reference to Figure 3.4 in the “Entsoe_210123_Country_Sheets_ES”, included in the TYDNP2020 package, the SEW has greater gains for the Iberian peninsula, mainly for the increase of boundary capacity between 5GW and 8 GW, although this effect is not linear.

A.4.2.2 With respect to the candidate project 276 “Navarra-Landes”, there were divergent views between the involved NRAs.

The French NRA, CRE, objects to the inclusion of the project in the PCI list due to the immaturity of the project, and the uncertainty over its value caused by the absence of updated costs and the fact that the costs do not integrate needed reinforcements.

The Spanish NRA, CNMC, on the other hand, supports the project’s inclusion in the PCI list for the following reasons:

- a) The project’s Net Present Value (NPV) has been calculated according to the 3rd draft CBA methodology and is positive for all scenarios but CT2030 with a lifetime of 40 years.

- b) The CAPEX provided is consistent with the latest information available and also includes preliminary internal reinforcements. Furthermore, the CAPEX also considers a 10% uncertainty.
- c) According to the ENTSO-E needs report 2020, there is a need for further market integration in the NSI West Corridor, with a special focus on the isolation of the Iberian Peninsula. Spain does not yet fulfil the 10% objective set for 2020, and this project will be needed to meet the 2030 objective to 15%.
- d) With reference to Figure 3.4 in the “Entsoe_210123_Country_Sheets_ES”, included in the TYDNP2020 package, the SEW has greater gains for the Iberian peninsula, mainly for the increase of boundary capacity between 5GW and 8 GW, although this effect is not linear.

A.4.2.3 With respect to the candidate project 296 “Britib”, the French and Spanish NRAs, CRE and CNMC, object to the project’s inclusion in the PCI list, due to lack of information about the project, and its non-inclusion in any of the French or Spanish NDPs.

A.4.2.4 With respect to the candidate project 1026 “Hydro pumped storage Riedl”, the German NRA, BNetzA, stated that since storage projects are market-based and not regulated, without prejudice to the TEN-E Regulation, it opposes their inclusion in the PCI list, as such inclusion would have binding implications in the German legal framework. Hence, BNetzA objects to the inclusion of the project 1026 in the PCI list.

On the other hand, according to the Austrian NRA, Regulation (EU) 347/2013 (annex II) clearly states the possibility for electricity storage projects to apply for and receive PCI status. Furthermore, the assessment of the candidate project shows significant benefits to society compared to its costs (which will be financed under competitive environment). The candidate project was included in the fourth PCI list, with unchanged project properties and its inclusion in the fifth PCI list would ensure its timely implementation.

Also, the project offers more options in the balancing of the German-Austrian border region and contributes to the European market integration, sustainability and security of supply, as pump storage capacities clearly help to balance the electricity system (in a market-based manner) in a time when the energy system is in a transition to a renewable resources based system with intermittent generation. Finally, E-Control notes that no substantiated reasons were presented by any Member State according to Article 3.3 (a) of Regulation (EU) 347/2013.

Therefore, E-Control strongly recommends the inclusion of the candidate project 1026 in the fourth PCI list.

A.4.2.5 With respect to the candidate project 1030 “MARES Organic Power Energy Storage”, the Irish NRA, CRU, was not able to assess the inclusion of the project to the PCI list, due to the important uncertainties arising from the very early stage of the project.

A.4.3 Opinion on the draft regional list – NSI East Regional Group

No views, within the spirit of recital 38 of this Opinion, were expressed on this corridor projects.

A.4.4 Opinion on the draft regional list – BEMIP Regional Group

A.4.4.1 With respect to the candidate project 1068 “LaSGo Link”, there were divergent views between the involved NRAs.

The Latvian NRA, supports the inclusion of the project in the PCI list.

The Swedish NRA, EI, on the other hand, has not been able to conclusively assess the project yet.

A.4.5 Opinion on the draft list of proposed smart grid PCIs

ACER received filled-in checklists from all NRAs of the countries hosting the candidate projects. In none of the cases did NRAs specify objections to the proposed candidate projects, although it needs to be noted that the majority of NRAs involved were not able to assess at least the calculation of project costs, due to the lack of information.

A.4.5.1 Regarding candidate project Gabreta Smart Grids, ERU and BNetzA were not able to assess the inclusion of the project to the PCI list, due to lack of information on the project, since the project is not included in the NDP and no other information was available to the NRAs except the JRC report.

A.4.5.2 Regarding candidate project Again COnnected Networks, ERU and RONI were not able to assess the inclusion of the project to the PCI list due to the lack of information, as the project is not part of the NDPs.

Annex V - Draft regional PCI lists