



Publishing date: 31/01/2014

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**OPINION OF THE AGENCY FOR THE COOPERATION OF ENERGY  
REGULATORS No 01/2014**

**of 30 January 2014**

**ON THE ENTSO-E GUIDELINE FOR COST BENEFIT ANALYSIS  
OF GRID DEVELOPMENT PROJECTS**

THE 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 715/2009<sup>1</sup>, and, in particular, Article 11(2) thereof,

WHEREAS:

- (1) On 15 November 2013, pursuant to Article 11(1) of Regulation (EU) No 347/2013, the European Network of Transmission System Operators for Electricity (“ENTSO-E”) published and submitted to the Agency for the Cooperation of Energy Regulators (“Agency”) its methodology for a harmonised system-wide cost-benefit analysis (“CBA”) at Union level for projects of common interest (“PCIs”), entitled “ENTSO-E Guideline for Cost Benefit Analysis of Grid Development Projects” (“CBA Methodology 2013”). ENTSO-E also published and submitted to the Agency a set of supporting documents: “CBA Methodology - Key issues”, “CBA Methodology - Frequently Asked Questions”, and “CBA Methodology - Evaluation of Consultation comments”<sup>2</sup>.
- (2) The ENTSO-E CBA methodology shall be drawn up in line with the principles laid down in Annex V of Regulation (EU) No 347/2013 and be consistent with the rules and indicators set out in Annex IV of Regulation (EU) No 347/2013. It is to be applied for the preparation of each subsequent ten-year network development plan (“TYNDP”) developed by ENTSO-E. In addition, it is relevant for investment requests of PCI promoters to National Regulatory Authorities (“NRAs”), as such requests shall include a project-specific<sup>3</sup> CBA consistent with

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<sup>1</sup> OJ L 115, 25.4.2013, p.39.

<sup>2</sup> ENTSO-E, “ENTSO-E Guideline for Cost Benefit Analysis of Grid Development Projects”, 14 November 2013; ENTSO-E, “ENTSO-E Guideline for Cost Benefit Analysis of Grid Development Projects - Key issues and questions”, 12 June 2013; ENTSO-E, “ENTSO-E Guideline for Cost Benefit Analysis of Grid Development Projects - Frequent Asked Questions” 12 June 2013; ENTSO-E, “ENTSO-E Response to the Public Consultation on “Guideline for Cost Benefit Analysis of Grid Development Projects”” 14 November 2013. The set of ENTSO-E documents is available at: <https://www.entsoe.eu/major-projects/ten-year-network-development-plan/tyndp-2014/>

the ENTSO-E CBA methodology, taking into account benefits beyond the borders of the concerned Member State. Therefore the Agency assessed the CBA Methodology 2013 not only with regard to its consistency with Annex V and Annex IV of Regulation (EU) No 347/2013, but also with respect to its suitability for its expected applications.

- (3) Pursuant to Article 11(6) of Regulation (EU) No 347/2013, the methodology shall be updated and improved regularly, and the Agency may request such updates and improvements with due justification and timescales. Furthermore, the ENTSO-E's CBA Methodology 2013 (p. 48) indicates that "*system development tools are continually evolving, and it is the intention that this document will be reviewed periodically in line with prudent planning practice and further editions of the TYNDP*". The Agency deemed appropriate to take this provision and ENTSO-E's intention into account for Section 4 of the present Opinion,

HAS ADOPTED THIS OPINION:

The CBA Methodology 2013 defines rules and indicators whose objectives are consistent with Annex IV of Regulation (EU) No 347/2013<sup>4</sup>. The security of supply criterion, though, should be further monetised by ENTSO-E, as discussed in Section 3 of the present Opinion.

The CBA Methodology 2013 is to a large extent in line with the principles in Annex V of Regulation (EU) No 347/2013, even if, formally, the principles of Annex V(1), (3), (5), (6) and (11) (years of input data set, guidance for use of network and market modelling, guidance on discount rates, impacts to be taken into account, identification of beneficiaries and cost bearers) seem not to be fully reflected in the CBA Methodology 2013. The Agency encourages ENTSO-E to continue work in this area and adapt the CBA methodology or improve it, as further discussed in this Opinion.

The Agency considers it necessary that ENTSO-E adapts the CBA Methodology 2013 in accordance with the Agency's considerations in sections 2.1 to 2.9 of the present Opinion before it is submitted to the European Commission for approval.

### **1. On the process for preparing the ENTSO-E CBA Methodology 2013**

Since January 2012, preparatory work for the elaboration of the ENTSO-E CBA Methodology 2013 was carried out by ENTSO-E, in cooperation with the European Commission and the Agency. The elaboration of the methodology was mainly based on the ENTSO-E "Guidelines for Grid Development", which was published as

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<sup>3</sup> In this Opinion, "project" means one or several lines, facilities, equipment or installations falling under the electricity infrastructure categories of Regulation (EU) No 347/2013 (in line with Article 2(3) of such Regulation).

<sup>4</sup> The objectives of the indicators are to measure the specific criteria in Article 4(2)(a) of Regulation (EU) No 347/2013: (i) market integration, competition and system flexibility, (ii) sustainability and (iii) security of supply.

Appendix 3 of the ENTSO-E TYNDP 2012<sup>5</sup>. Various meetings were held during 2012, with the participation of ENTSO-E, the European Commission and the Agency<sup>6</sup>, inviting also researchers from the THINK project<sup>7</sup>.

The ENTSO-E activities included two stakeholder workshops (19 November 2012 and 24 June 2013), the publication of various draft versions of the ENTSO-E CBA methodology (November 2012, December 2012, June 2013), presentations of the draft ENTSO-E CBA methodology in various meetings (including for consultation of Member States on 13 June 2013 and on 9 October 2013) and the organisation of a formal public consultation from 3 July to 15 September 2013, with the support of the accompanying documents “CBA Methodology - Key issues” and “CBA Methodology - Frequently Asked Questions”.

The Agency appreciates the efforts of ENTSO-E to involve stakeholders and provide transparency, including an extensive consultation process, in line with Article 11(1) of Regulation (EU) No 347/2013. The Agency recommends continued effort on broad stakeholder involvement and the provision of adequate transparency in the upcoming applications of the CBA Methodology 2013 (ENTSO-E TYNDP 2014 and selection of PCIs 2015), as well as for future updates of the CBA methodology.

However, the Agency notes that not all the comments and proposals by stakeholders are properly summarised in the “CBA Methodology - Evaluation of Consultation comments”. Furthermore, ENTSO-E could have been more open to accept some useful comments provided by expert studies (namely, the report from the THINK project, hereafter “THINK report”, and the Frontier consultancy study<sup>8</sup>, hereafter “Frontier study”) and by respondents to the public consultation<sup>9</sup>. Such comments include proposals for:

- Further monetisation of benefits (THINK report, Frontier study, EDF, EWEA, Iberdrola, RSE, Tractebel);
- Clear identification of net benefits (THINK report, Frontier study, EDF, Europacable, Tractebel);
- Further categorisation of cost components (THINK report, EDF);

<sup>5</sup> ENTSO-E, "10-Year Network Development Plan 2012", 5 July 2012,

[https://www.entsoe.eu/fileadmin/user\\_upload/library/SDC/TYNDP/2012/TYNDP\\_2012\\_report.pdf](https://www.entsoe.eu/fileadmin/user_upload/library/SDC/TYNDP/2012/TYNDP_2012_report.pdf)

<sup>6</sup> The Agency published an “Agency position on the ENTSO-E “Guideline to Cost Benefit Analysis of Grid Development Projects””, 30 January 2013,

[http://www.acer.europa.eu/Official\\_documents/Board\\_of\\_Regulators/Board%20of%20Regulators%20Decisions/Position%20on%20ENTSO-E%20CBA.pdf](http://www.acer.europa.eu/Official_documents/Board_of_Regulators/Board%20of%20Regulators%20Decisions/Position%20on%20ENTSO-E%20CBA.pdf).

<sup>7</sup> <http://www.eui.eu/Projects/THINK/Home.aspx>. The THINK consortium, after a public consultation in December 2012, published its report “Cost Benefit Analysis in the Context of the Energy Infrastructure Package”, January 2013,

<http://www.eui.eu/Projects/THINK/Documents/Thinktopic/THINKTopic10.pdf>

<sup>8</sup> Frontier Economics, "Electricity: Project of Common Interest - Selection process - A Report for NRAs - Executive Summary", October 2012,

<http://www.acer.europa.eu/Electricity/Documents/Transmission%20project%20evaluation%20and%20election.pdf>

<sup>9</sup> <https://www.entsoe.eu/consultations/document/docdetails.do?uid=0004-219a-77fc-d5e4-78a9&>

- Disaggregation of environmental and social costs (THINK report, Tractebel);
- Further indications on harmonised weighting/ranking (THINK report, EWEA, Tractebel);
- Transparent access to and public validation of data and scenarios (THINK report, EDF, Tractebel);
- Extension to multiple year analysis (Frontier study);
- Definition of a common EU-wide discount factor (THINK report, Frontier study, Tractebel);
- Specific evaluations of competing projects (THINK report, Tractebel).

## **2. On necessary adaptations of the ENTSO-E CBA Methodology 2013**

The Agency welcomes the effort made by ENTSO-E to follow the recommendations provided by the Agency in its Opinion on the TYNDP 2012<sup>10</sup> and, in particular:

- The development of more monetised benefit indicators;
- The emphasis put by ENTSO-E on avoiding any risk of double counting of economic effects;
- The presentation of costs, socio-economic welfare and variation of losses in monetary terms and, in general, the quantification of all indicators (in addition to the colour codes already in use);
- The identification of cost components, including capital and operational expenditures, to obtain the total cost of a project;
- The introduction of new tables for each benefit indicator in order to clearly show how every indicator is derived from market or network studies;
- The elaboration of more quantitative indicators for environmental impact and for social impact;
- The elaboration of Annex 4 of the CBA Methodology 2013 providing quantitative information on the monetisation of value of lost load in ten European countries;
- The preparation of Annex 5 of the CBA Methodology 2013 including an initial assessment of ancillary services;
- The improved definition of grid transfer capability and of conditions under which it is calculated (section 3.3 of the CBA Methodology 2013);
- The introduction of new rules in order to achieve a more consistent clustering<sup>11</sup> approach;
- The precise identification of technical and economic key parameters in section 2.3 of the CBA Methodology 2013;

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<sup>10</sup> Opinion of the Agency for the Cooperation of Energy Regulators No 06/2012 of 5 September 2012 on the European Ten-Year Network Development Plan, [http://www.acer.europa.eu/Official\\_documents/Acts\\_of\\_the\\_Agency/Opinions/Opinions/ACER%20Opinion%2006-2012.pdf](http://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Opinions/Opinions/ACER%20Opinion%2006-2012.pdf)

<sup>11</sup> In this Opinion, “cluster” means a cluster of investment items that have to be realised in total to achieve a desired effect (ENTSO-E CBA Methodology 2013, p. 19). “Investment item” means an individual equipment or facility, such as a transmission line, a cable or a substation (ENTSO-E CBA Methodology - Frequently Asked Questions, p. 5).

- The extension of the time horizons for building representative planning scenarios;
- The new methodological approach to construct and to analyse contrasting future developments (visions);
- The identification of six parameters (demand, fuel cost, renewable energy sources, CO<sub>2</sub> price, discount rate, commissioning date) for sensitivity analysis.

However, the Agency also considers it necessary that ENTSO-E adapts the CBA Methodology 2013 as outlined in sections 2.1 to 2.9 of the present Opinion before it is submitted to the European Commission for approval.

### **2.1 The Agency recommends ENTSO-E to describe the overall TYNDP-PCI processes**

The Agency believes that an overall introduction to the whole process defined by Regulation (EC) No 714/2009<sup>12</sup> and by Regulation (EU) No 347/2013 (scenario building - TYNDP - PCI selection - cross border cost allocation) and the role of the CBA methodology for each step<sup>13</sup> would greatly improve the quality and readability of the CBA Methodology 2013.

### **2.2 The Agency recommends ENTSO-E to more appropriately include the “CBCA objective” in the CBA Methodology 2013**

ENTSO-E indicated in its “CBA Methodology - Key issues” that the main goals of this methodology are:

- a) System wide cost benefit analysis (CBA), allowing an assessment of all TYNDP projects in a homogenous way;*
- b) Assessment of candidate PCIs which contribute to market integration, sustainability and security of supply; when approving cost allocation, and for PCIs, the results of CBA could be considered if at least one project promoter requests the relevant national authorities to apply cross border cost allocation.*

With respect to the latter element, the Agency, in its Opinion on the ENTSO-E Work Programme 2013<sup>14</sup>, already called on ENTSO-E to further investigate the role of CBA as an input for cross-border cost allocation (“CBCA”).

ENTSO-E explained in a footnote in the CBA Methodology 2013<sup>15</sup> that “*some benefits (socio-economic welfare, CO<sub>2</sub>...) may also be disaggregated on a smaller*

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<sup>12</sup> O.J. L 211, 14.8.2009, p.15.

<sup>13</sup> In addition to the aforementioned steps, the CBA results shall be considered for NRA incentives and for Union financial assistance in the form of grants for works.

<sup>14</sup> Agency Opinion No 02/2013 of 28 January 2013 on the ENTSO-E Draft Annual Work Programme 2012 through 2013, [http://www.acer.europa.eu/Official\\_documents/Acts\\_of\\_the\\_Agency/Opinions/Opinions/ACER%20Opinion%2002-2013.pdf](http://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Opinions/Opinions/ACER%20Opinion%2002-2013.pdf)

<sup>15</sup> Footnote 33 of the CBA Methodology 2013.

*geographical scale, like a member state or a transmission system operator (TSO) area. This is mainly useful in the perspective of cost allocation”.*

This is appreciated by the Agency. However, the addition of a footnote is insufficient and the Agency suggests that ENTSO-E provides in the CBA Methodology 2013 much more guidance on CBA as an input to CBCA (including on disaggregation of project costs by country, on time horizons, on discounting method) in order to facilitate the preparation of investment request by promoters of PCIs and the related decision-making process by NRAs<sup>16</sup>.

### **2.3 The Agency recommends ENTSO-E to clarify its approach to n+5, n+10, n+15, n+20 input data set principle**

The CBA Methodology 2013 (p. 9) states that *“the scenarios will be representative of at least two time horizons based on mid-term and long-term horizons”*.

As already noted, this approach in the CBA Methodology 2013 seems not to fully reflect the principle in Annex V(1) of Regulation (EU) No 347/2013 about years of input data sets.

As ENTSO-E stated in September 2012 that *“the introduction of multiple rolling time horizons for performing studies, often without any information to anchor the construction of the scenarios (e.g. 2020 targets), is an example of an added burden with questionable added value. Such an “academic” and unverified approach carries great danger to bring unworkable complexities and severely hinder the process of efficiently identifying the investments that bring added value”*<sup>17</sup>, the Agency expects ENTSO-E to evaluate in the CBA Methodology 2013 the appropriateness (complexity vs. added value) of the n+5, n+10, n+15 and n+20 data set principle and to identify a pattern for future inclusion of this principle in the CBA methodology.

### **2.4 The Agency recommends the use of a common discounting methodology across Europe**

The CBA Methodology 2013 (p. 27) provides general guidance on discount rates, including the following statements:

- “Real prices implies real rates, nominal prices imply nominal rate”;
- “Each Regional Group should choose a unique social discount rate”.

<sup>16</sup> See also the Recommendation of the Agency for the Cooperation of Energy Regulators no 07/2013 of 25 September 2013 regarding the cross-border cost allocation requests submitted in the framework of the first union list of electricity and gas projects of common interest, [http://www.acer.europa.eu/Official\\_documents/Acts\\_of\\_the\\_Agency/Recommendations/ACER%20Recommendation%2007-2013.pdf](http://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Recommendations/ACER%20Recommendation%2007-2013.pdf)

<sup>17</sup> ENTSO-E, “ENTSO-E Position on the draft Regulation on guidelines for trans-European energy infrastructure”, 25 September 2012, [https://www.entsoe.eu/fileadmin/user\\_upload/library/news/ENTSO-E\\_Regulation\\_4\\_trans-European\\_energy\\_infrastructure/120925\\_EIP\\_position\\_ENTSO-E\\_final.pdf](https://www.entsoe.eu/fileadmin/user_upload/library/news/ENTSO-E_Regulation_4_trans-European_energy_infrastructure/120925_EIP_position_ENTSO-E_final.pdf)

The CBA Methodology 2013 does not provide concrete figures for discount rate(s) or a precise definition of the time horizon to be considered. It indicates that “*an appropriate residual value will therefore be included in the end year, using the standard economic depreciation formula used by each TSO or project promoter*”.

The Agency believes that the three elements (discount rate, time horizon and definition of residual value, if any) should be provided in order to offer comprehensive guidance for CBA. These elements should contribute to the definition of a common discounting method across Europe, including for CBCA purposes. In addition, when a country belongs to several regions, a harmonised approach is necessary to avoid different discounting conditions for the same transmission system operator (“TSO”).

The Agency recommends that, as a temporary solution, the Frontier study’s short-term approach (4% real rate, 25 years, no residual value) is used in the CBA Methodology 2013. The assumption of zero residual value is preferable because (i) it can be more easily a common assumption across all countries<sup>18</sup>, (ii) the residual value of project benefits after the time horizon may not correspond to the discounted value of any net future revenue after the time horizon and (iii) such assumption allows for a more conservative estimation of project benefits. As suggested by the THINK report, the Agency also recommends that ENTSO-E carries out a public consultation on these proposed elements in the frame of the TYNDP 2014 consultation.

## **2.5 The Agency recommends ENTSO-E to put more emphasis on the monetised cost-benefit indicators**

The CBA Methodology 2013 (p. 21) is proposing a combined cost-benefit analysis and multi-criteria assessment<sup>19</sup>. The collated assessment findings are shown diagrammatically in the form of an assessment table, including seven categories of benefits, as well as three “impact” indicators (costs, environmental impact and social impact), and an assessment of Grid Transfer Capability (“GTC”).

The Agency believes that this assessment, displaying multiple criteria and dimensions to stakeholders, is a possible approach, although a proper CBA avoiding double counting of economic effects continues to be preferable. The Agency also believes that ENTSO-E should put more attention on the monetisation of costs and benefits. In particular, ENTSO-E should provide, for each project:

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<sup>18</sup> On the contrary, the adoption of (national) standard economic depreciation formula used by each TSO could imply different approaches across the Europe.

<sup>19</sup> According to the definition in European Commission DG REGIO “Guide to Cost Benefit Analysis of Investment Projects”, July 2008 [http://ec.europa.eu/regional\\_policy/sources/docgener/guides/cost/guide2008\\_en.pdf](http://ec.europa.eu/regional_policy/sources/docgener/guides/cost/guide2008_en.pdf): “Multi-Criteria Analysis is a family of algorithms used to select alternatives according to a set of different criteria and their relative ‘weights’. In contrast to CBA, which focuses on a unique criterion (the maximisation of social welfare), Multi-Criteria Analysis is a tool for dealing with a set of different objectives that cannot be aggregated through shadow prices and welfare weights, as in standard CBA”.



- the project benefit-cost ratio, and
- the project net benefit (also referred to as the “net present value”).

The accuracy and comprehensiveness of cost-benefit indicators will increase over time, at the same pace as increasing monetisation.

Furthermore, it would be useful that ENTSO-E provides concrete examples about the calculation of cost-benefit indicators, including the use of interpolation and extrapolation for all years, similarly to the example provided by the European Network of Transmission System Operators for Gas (“ENTSOG”) in its CBA Methodology<sup>20</sup>.

## **2.6 The Agency recommends ENTSO-E to provide clarifications on socio-economic welfare benefits**

The CBA Methodology 2013 (p. 35) identifies two parameters when calculating socio-economic welfare (“SEW”) benefit B2: i) additional overall welfare (across boundaries) and ii) internal dispatch costs (within a boundary). Furthermore, the CBA Methodology 2013 (p. 35) indicates that avoided spillage is extracted from the studies for indicator B2.

The Agency expects more clarity and transparency from ENTSO-E regarding the various components of SEW benefits (or, in other terms, reduced short-term generation costs). In particular, ENTSO-E should clearly differentiate these benefits:

- Socio-economic welfare (calculated by a European market study);
- Relieving national constraints / Internal dispatch costs (SEW variation calculated by local market studies, while avoiding double counting effects with other SEW figures);
- Variation in generation curtailments (SEW variation calculated by network studies, while avoiding double counting effects with other SEW figures).

## **2.7 The Agency recommends appropriate categorisation and disaggregation of cost components**

The CBA Methodology 2013 (p. 25) provides a list of six cost items that should be taken into account when estimating costs and uncertainty ranges.

The Agency believes that this list could represent an initial categorisation of cost components, facilitating the identification of all relevant costs and avoiding any double counting. The Agency recommends that the costs incurred for mitigating

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<sup>20</sup> ENTSOG, “ENTSOG Cost-Benefit Analysis Methodology Project Specific CBA Methodology”, 15 November 2013, p. 43,  
[http://www.entsog.eu/public/uploads/files/publications/CBA/2013/methodology/INV0154\\_131115\\_CB A\\_Methodology\\_PS.pdf](http://www.entsog.eu/public/uploads/files/publications/CBA/2013/methodology/INV0154_131115_CB A_Methodology_PS.pdf)

environmental or social impact of the project should be presented separately, thus providing a list of seven cost components:

- Materials and assembly costs;
- Costs for temporary solutions;
- Environmental costs;
- Consenting/social costs;
- Costs for replacement of devices;
- Dismantling costs;
- Maintenance and other life-cycle costs.

## **2.8 The Agency recommends ENTSO-E to treat TSOs' and third parties' projects equally**

The CBA Methodology 2013 (p. 28) presents two possible ways for project evaluation: the Take Out One at the Time (“TOOT”) methodology and the Put IN one at the Time (“PINT”) methodology. ENTSO-E concludes that *“the TOOT methodology is recommended for cost-benefit analysis of a transmission plan such as the TYNDP”*. The CBA Methodology 2013 also presents steps for strictly competing projects. Furthermore, ENTSO-E states in the “CBA Methodology - Frequently Asked Questions” (p. 7) that *“the reference network will represent the target capacity, taking into account the investment needs identified through market studies. Hence, the TOOT approach will be adapted on each border in order to take into account both the maturity of the future projects and potentially competitive projects”*.

The Agency welcomes ENTSO-E’s approach to identify the target capacity. It expects ENTSO-E to include the sentence from “CBA Methodology - Frequently Asked Questions” in the CBA Methodology 2013 and to continue ensuring equal treatment of all projects, as already recommended by the Agency Opinion on the ENTSO-E TYNDP 2012.

## **2.9 The Agency recommends ENTSO-E to define and consistently use key terms**

The Agency expects ENTSO-E to include definitions of key terms and to use a consistent terminology, where needed, in order to support the project promoters applying the CBA Methodology 2013 and to provide clarity to the readers of the CBA document. Where applicable, consistency with the draft network codes shall be pursued as well<sup>21</sup>.

It is also deemed important that (as already done in many instances) ENTSO-E always precisely identifies the addressees of ENTSO-E recommendations in the CBA Methodology 2013.

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<sup>21</sup> Among other consistency checks, the Agency recommends deleting the words “(generally 0.95 p.u. – 1.05 p.u)” in ENTSO-E CBA Methodology 2013, p. 48.

### **3. On further developments of the ENTSO-E CBA Methodology 2013**

#### **3.1 The Agency recommends ENTSO-E to develop a separate CBA guideline to identify specific benefits of storage projects before the PCI selection in 2015**

According to the CBA Methodology 2013 (p. 5), *“the scope of this methodology is planning future transmission. However the regulation also requires ENTSO-E to consider storage in the cost benefit methodology. The principles of taking storage into account in the CBA methodology are described in Annex 6”*.

The Agency believes that such principles do not allow for an adequate CBA for storage projects. For example, the Agency notes that no explicit reference to the cost of electricity due to losses during the conversion of electrical energy to/from other energies is provided in Annex 6. However, an approach to evaluate storage projects is deemed necessary before the PCI selection in 2015. The Agency therefore recommends ENTSO-E to prepare a separate CBA guideline to be finalised by the end of 2014, aiming at identifying (after consultation with interested stakeholders) specific benefits which can be obtained by storage projects (e.g. the provision of ancillary services).

#### **3.2 The Agency recommends further developments regarding the Value of Lost Load (“VOLL”) before the PCI selection in 2015**

The CBA Methodology 2013 (p. 30) states that *“In reality the monetisation of system unreliability and security of supply using VOLL cannot be performed uniformly on a Union-wide basis”*.

The Agency agrees that there is no reason to use a uniform VOLL across Europe, as also confirmed by the widely varying values presented by ENTSO-E in Annex 4 of the CBA Methodology 2013. The Agency recommends that ENTSO-E, in cooperation with its TSO members, the Agency and NRAs, extends the mapping of country-specific VOLL values in Annex 4 to all European countries before the PCI selection in 2015.

### **4. Future updates and improvements of the ENTSO-E CBA methodology**

#### **4.1 The Agency expects ENTSO-E to collect feedbacks on the applications of the CBA Methodology 2013, in particular on the clustering rules**

The Agency expects ENTSO-E to put in place mechanisms ensuring the collection of feedback on the CBA Methodology 2013 from the ENTSO-E System Development Committee Regional Groups. This would allow a first update of the ENTSO-E CBA methodology, to be applicable before the TYNDP 2016 is prepared.

The Agency states again its expectations on how the CBA Methodology 2013 should be applied in the preparation of the TYNDP 2014:

- A consistent clustering approach is needed throughout Europe, with details on the importance of each investment item;
- Appropriate application of the TOOT methodology, including early identification of competing projects and consequent adjustments, is necessary to ensure equal treatment of TSOs' and third parties' projects;
- The robustness of the assessment shall be supported by sensitivity analyses, for which the assumptions and results are presented in a transparent manner;
- A transparent description of all tools and models used by the ENTSO-E System Development Committee Regional Groups for preparing the Regional Investment Plans and the TYNDP should be provided.

In particular, the Agency appreciates ENTSO-E's statements in the "CBA Methodology - Evaluation of Consultation comments" (p. 5) that the "influence" criterion (20%) and the "time limit criterion" (5 years) were introduced in order to avoid excessive clustering. The Agency believes that the clustering rules in the CBA Methodology 2013 will have to be carefully assessed by ENTSO-E with regard to their usefulness and impact for reducing excessive clustering in the TYNDP 2014.

In principle, clear guidance needs to be included for CBA of investment items within a cluster, i.e. allocation of benefits of a cluster to individual investment items within that cluster. If this is not the case, ENTSO-E should clearly indicate if the lacking identification of benefits for each investment item inside a cluster is a matter of optimising resources and whether the approximation of single-investment benefits being proportional to single-investment GTC increases is valid.

The Agency acknowledges the complexity for ENTSO-E and its TSO members of treating uncertainties on future system developments on the production and demand sides. This topic will require careful analysis by ENTSO-E for a possible update of the ENTSO-E CBA methodology to be applicable before the TYNDP 2016 is prepared. For the time being, the Agency suggests ENTSO-E to consider a time-differentiated planning approach that includes:

- evaluating long-term uncertainties mainly through scenario-based analyses; and
- evaluating near-term uncertainties mainly through sensitivity or probabilistic analyses.

#### **4.2 The Agency expects ENTSO-E to further quantify and monetise benefits before the TYNDP 2016**

The CBA Methodology 2013 (p. 29) identifies seven categories of benefits (the same already present in the TYNDP 2012) and notes that "*other benefits, such as benefits for competition, also exist. These are more difficult to model, and will not be explicitly taken into account*". The Annexes of the CBA Methodology 2013 provide further insights about:

- Impact on market power (Annex 1);
- Assessment of ancillary services (Annex 5);
- Environmental and social impact (Annex 7).

Furthermore, in “CBA Methodology - Evaluation of Consultation comments” (p. 15) ENTSO-E states that it will look into the issue of the impact of a new project on deferring generation investments.

On the basis of the draft versions of Regulation (EU) No 347/2013 and of the THINK report and the Frontier study, the Agency already suggested a list of 11 benefit components and a proposal for their treatment in future TYNDPs<sup>22</sup>. The Agency confirms this position. Clear, transparent, quantified and monetised criteria for the CBA methodology and for the subsequent selection of PCIs from the TYNDP list are crucial requirements from the regulatory perspective. It therefore calls on ENTSO-E further to quantify and monetise benefits, in particular concerning the reduction of future costs for new (avoided/deferred) generation investments and for ancillary services, before the TYNDP 2016 is prepared.

Done at Ljubljana on 30 January 2014.

For the Agency:



Alberto Pototschnig  
Director

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<sup>22</sup> Agency position on the ENTSO-E “Guideline to Cost Benefit Analysis of Grid Development Projects”, Table 2.



Publishing date: 31/01/2014

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