ENTSO-E Workshop on

"Assessing the future projects of European Interest - Cost Benefit Analysis Methodology"

Date: 19 November 2012
Time: 10:30h – 17:00
Place: ENTSO-E premises, Brussels

WORKSHOP MINUTES

0. Workshop's agenda

10:00	**Registration – Coffee**	
10:30	**Welcome**	**Gerald Kaendler** Convener Working Group European Planning Standards & Connection Codes
10:40	**Draft Energy Infrastructure Package and the Cost Benefit Analysis**	**Kitti Nyitrai** European Commission – DG Energy
11:10	**ENTSO-E activities on Cost Benefit Analysis: from the TYNDP to 2050 perspectives**	**Dimitrios Chaniotis** Manager System Development
11:30	**ENTSO-E Cost Benefit Analysis Methodology**	**Gro de Saint-Martin** Convener Drafting Team Planning Standards
12:10	**Round table**	**Panel**
12:30	**General discussion**	**All**
13:00	**Lunch**	
14:30	**Interactive session on specific topics (sub-groups discussion):** - **Socio-economic welfare, RES & CO2** - **Externalities (Value of lost load, environmental impact)** - **Grid transfer capability calculation and clustering** - **Building of scenarios & planning cases**	**Drafting Team Planning Standards Members**
16:00	**Coffee break (compilation of the discussions results)**	
16:15	**Presentation of the sub-group discussion results**	**The Sub-Group moderators**
16:45	**Conclusions of the workshop, next steps**	**Jean Verseille** - Chairman System Development Committee
17:00	**End of Workshop**	

1. Draft Energy Infrastructure Package and the Cost Benefit Analysis

Kitti Nyitrai (DG ENER) made a presentation on the new draft Energy Infrastructure package and the role of CBA under this context. The presentation can be accessed on the ENTSO-E website.[1]

Discussion:
Question from the audience: Are there any differences between the weighting criteria used by the regional groups of the EC?
DG ENER: Yes, there are some slight differences between the groups, which reflect different prioritites or urgencies from one Regional Group to another.

Question from the audience: What is the difference between the Projects of European Significance and Project of Common Interest (PCI)?
ENTSO-E: The Projects of European Significance are projects matching a set of technical criteria, selected for the TYNDP, while the Projects of Common Interest represent a subset of TYNDP projects, selected through a governance process in the Regional Groups. The present CBA methodology will be applied to both types of projects.

2. ENTSO-E activities on Cost Benefit Analysis: from the TYNDP to 2050 perspectives

Dimitrios Chaniotis (ENTSO-E) presented ENTSO-E's TYNDP 2012 results, the next steps for the TYDNP 2014, including the 2030 visions, and the link with the 2050 E-Highway. The presentation can be accessed on the ENTSO-E website.[2]

Discussions: No question was posed in relation to this presentation.

3. ENTSO-E Cost Benefit Analysis Methodology

Gro de Saint Martin (ENTSO-E) presented the overview of the draft ENTSO-E Cost Benefit Analysis that will be applied for the TYNDP and the PCIs. The methodology uses a multi-criteria approach similar to the one used in the TYNDP 2012 but with better defined and quantified indicators. The presentation can be accessed from the ENTSO-E website.[3]

[1] https://www.entsoe.eu/fileadmin/user_upload/_library/events/Workshops/CBA/121119-Presentation_CBA_Workshop.zip
[2] Idem 1
[3] Idem 1

4. Panel Discussion

Participants at the panel: ACER, EC, Florence School of Regular (FRS) and ENTSO-E

ACER reaction (Riccardo Vailati):

- ACER considers the multi-criteria approach of the TYNDP 2012 as a first step towards CBA. The overlapping in the quantification of the indicators must be avoided -> the new transparency with clear descriptions of each indicator in the new CBA methodology has clarified this issue, and is welcomed.
- Clustering requires clear criteria-> the new method is on the right way and should lead to smaller and more understandable clusters, but it could be difficult to implement in some cases.ACER will follow the implementation.
- ACER requests the contribution of invidiual investment to cross border GTC when this is relevant, and "labelling" of the GTC increase (internal or cross-border).
- PCI selection requires clear and objective criteria: quantification and monetisation contribute to less subjective selections. Regulators want ENTSO-E to quantify and to monetise as much as possible. ENTSOE: R&D plans could investigate how to monetise additional benefits, such as social and environmental indicator, socio-economic welfare at national level, monetisation of SOS and resilience, as well as the impact on generation investment.

Florence School of Reregulation reaction (Xian He):

- Described the THINK project- a Think tank hosting an Interdisciplinary Network to provide Knowledge support to EU Energy Policy Making[4]. The European Commission has asked the THINK project to provide a target methodology for CBA on transmission infrastructure projects.
- THINK's recommends that ENTSO-E's CBA should concentrate on a reduced number of monetised indicators. FSR recognise that not all relevant benefits might be easily monetised, but considers that maximum efforts have to be given to it, even if the results turn out less accurate.
- Discount rate should be common in Europe.
- Much consideration must be give to the baseline to be used for the assessment of the third party projects.

Discussions:

CESI appreciates the multi-criteria approach, which include all major benefits expressed with different metrics. However, in order to prioritise projects, the question is how to rank and weight apples and pears against each other (Social and economic welfare, SOS, CO2, social and environmental indicator, etc.). Has ENTSO-E considered looking at how robust the solution is changing the weights of the different indicators?

ENTSO-E: ENTSO-E considers that its mandate is to provide a reliable assessment of each benefit and cost, using metrics that are widely recognised and legitimate. This approach leads ENTSO-E to monetise for instance socio-economic welfare, losses and costs, but not security of supply. Indeed, the methodology recommended by the CEER has only been applied in a couple of countries. This assessment may then be used by Regional Groups as a solid and complete input into their discussion and weighting process.
DG ENER: The iterative approach proposed is a very good one. When you display all benefits, you build trust in the methodology. There is indeed a difference from the theoretical and the pragmatic approach. Since this CBA will be used for so many purposes, the present approach (a mixture of multi-criteria and

[4] It can be accessed at: http://www.eui.eu/Projects/THINK/Publicconsultation/Index.aspx

monetised indicators) is useful to gain the stakeholders' trust. In future the total monetisation of the project may be considered in the CBA methodology.

Florence School of Regulation: We need to monetise the most important indicators, not all of them. The SOS is very important and should be monetised. FSR reognises that a common European value is difficult to establish, but considers that nation-wide values should be used, since they are available in many countries. Moreover, the CEER has already defined a method to monetise the SOS (value of loss load -VOLL).
The FSR suggests a compromise through a two-step methodology: a preliminary ranking of projects which could be based on the monetised values only and a final ranking which would take into account political considerations. The ranking should be adjusted through a transparent process with the EC and ACER involvement.

ENTSO-E: There are two questions: what is the reliability of ranking based on values of lost load which have not been established with common methodologies (and are even not available at all in many countries)? Does this ranking on a reduced set of indicators give the full information that decision makers need?
DG ENER: Ranking is only a working tool, and will not be used mechanically. There will be no ranking in the PCI list, and the ranking will not be used for funding (no discrimination of projects).

Question from the audience: What is the purpose of CBA: TYNDP, PCIs, funding? How far reaching it is the CBA methodology?
ENTSO-E: The present methodology serves firstly to the TYNDP transparency and secondly to the PCI initial selection, but other inputs are needed for the final PCI list prioritisation (see DG ENER comment above). Additionally, according to the draft regulation the CBA may be used in the case of bilateral cost allocation agreements are not consensually reached.

Question from the audience: What about the CACM and the TYNDP? Do you ensure consistency for definition of price zones?
ENTSO-E: The CACM prescribes a calculation method, but we need to consider that CACM is not yet legal (the final version maybe different from the present draft).

Question from the audience: Why are PCI eligible for funding only if they are not commercially viable? What does commercially viable mean?
DG ENER: The legislation does not give any definition for the non-commercial viability. What can be understood is a project which is not bankable under the given regulatory framework; the project might have high social benefits spread along many countries but is not being recognised nationally by the NRAs (not willing to take the risk on the project). The EC also want to ensure that "first movers" get sufficient funding if expected social benefits are high.

Question from the audience: What is the background for limiting the PCI list to 100 projects?
DG ENER: This is an indicative number, but the reasoning behind it is the experience in the TEN-E, with more than 500 projects, hence providing no meaning to the PCI concept. This PCI process is repeated every two years, that means with the time this list of projects will increase.

Question from the audience: 3rd party projects assessment heavily depends on the available market and network data. How will the third party projects be assessed and when will the data be available for the promoters?
ENTSO-E: The visions for 2030 and the associated scenarios are already public. Related to the tools, the new regulation requires EC and ACER to be able to access them, but they will not be made public.
The assessment of the 3rd party projects will follow the same assessment path as the TYNDP projects. ENTSO-E will not discriminate or prioritise any project. Tomorrow ENTSO-E will hold a specific workshop on 3rd party projects discussion the associated procedure.

Question from the audience: Of 2050 scenarios of the EC, two of the ENTSO-E scenarios are not in line with it. If we base the CBA method on the wrong scenarios, aren't we going in the wrong direction?
ENTSO-E: ENTSO-E's reference scenario is the vision 4 (which is a top down "green revolution" in line with 2050). Other scenaros will be used for sensitivity cases. On 22 November ENTSO-E will hold a workshop on how we will derive the 2 top down scenarios for the TYDNP 2014.

Question from the audience: How is information on the retirement of the power plants considered in the CBA?
ENTSO-E: This information is collected and represented through scenario data. It deals with as external data, like location and volume of generation; the accuracy of the information is essential therefore your input is very valuable (e.g. through the consultation process)

Question from the audience: Do you consider the ancillary services in the CBA?
ENTSO-E: ENTSO-E recognises that this is an important issue. Transmission may indeed provide value for ancillary servcies. However, there is presently no European market for ancillary services, and no common methodology is available. At the present the CBA does not include a method on how to monetise ancillary services. The availability of data must be also considered. For the moment this is a topic for the R&D program, but the CBA methodology includes an annex presenting the issues around valuation of balancing services.

Question from the audience: Do you consider the FACTS and PSTs in the TYNDP, or only structural reinforcements?
ENTSO-E: Yes we do consider them in the TYNDP.

Question from the audience: Does the regulation foresee that a PCI which is not implemented by the project promoter in a given timeframe may be given to someone else? How is this managed in practice?
DG ENER: The EC may tender a project if it has a delay of more than two years. But the EC would look at the reasons, and would not tender a lost case. Projects can be withdrawn, or instance if it doesn't pass the CBA filter.

Question from the audience: In the case of competing PCIs over the same border, is it worth considering whether all projects could be treated as one project?
DG ENER: The projects would be treated in the same way, with the same internal clusters. The approach is non discriminatory. During the current transitional period, 3rd party projects for this time were assessed separately, but in the future, all projects will be assessed in the same way through the TYNDP process.

Question from the audience: Accelerating permitting will require modification of local legislation. Will PCI labels apply to the 3rd party?
DG ENER: Yes, we foresee that the proposals on the regulation will have an impact on the national legislation. Any PCI project (including the 3rd party ones) will be supported and have the same treatment.

ENTSO-E: What are the EC further steps on the environmental legislation? TSOs need to balance development of a project, to fulfil the EIA requests and to increase the public acceptance; therefore the TSOs are in the middle between the local and the EU legislation.
DG ENER: The EIA is a directive and depends on the national legislations implementation. The DG ENV has developed some guidelines to reduce the time for the cross border projects.

Question from the audience: The EIA takes one to three years, and projects sometimes last 20 years. The EIA doesn't delay the projects, but may have a positive impact. The problem is social acceptance. Regarding the PCI process how will ACER and the EC ensure a broader European view when selecting the 100 PCIs, and not from the national or regional view?
ACER: There is a role for the NRA and ACER to assure consistency within and across the regions.

ACER is presently working on a cross corridor cooperation methodology in order to support the NRAs for assessing the projects, but is up to NRAs to implement the top down approach.

Question from the audience: Is the process different for a project between Member States compared to a project between Member States and non-Member States/candidate Member States?
DG ENER: If the question related to Croatia, as a candidate member than the project will be equally treated. Other candidate Member States are treated as third country, and the PCI issue will be a part of access negociations. The Regulation is EEA relevant, so EEA countries will be treated as Member States from the moment that the Regulation is ratified.

5. Interactive session on specific topics (sub-groups discussion)

During the afternoon session, ENTSO-E split the participants in four smaller groups which discussed the following topics:

- Socio-economic welfare, RES & CO2
- Externalities (value of lost load, environmental impact)
- Grid transfer capability calculation and clustering
- Building of scenarios & planning cases

1. Socio-economic welfare, RES & CO2

The main issues discussed were the following:

- SEW calculation
    - Is cost-of-capital considered pre-Tax or post-Tax?

ENTSO-E: the cost of capital is pre-Tax.

- How is the inclusion of the benefit of retirement of old/inefficient plant and their impact on the new transmission considered?

ENTSO-E: The scenario(s) for generation present are a given; hence a delta of generation open / closed because of a transmission project does not arise.

- Do you include the competition benefits, of greater participation / liquidity in electricity markets?

ENTSO-E: Our CBA (base case) already assumes the electricity markets are perfectly competitive and cost-reflective; hence no further competition benefits can accurse. An annex to the CBA methodology explains the issues around competing benefits.

- Winners and Losers: Will the higher price paid by consumers in country A systematically offset the lower price paid by consumers in country B?

ENTSO-E: This will generally not be the case.

- How are internal re-dispatch costs considered?

ENTSO-E: The internal re-dispatching is considered, either in network studies which will directly assess the internal restriction, or more approximately in market studies, by down rating the GTC appropriately in the non- internally reinforced cases.

- CO_2 indicator:
    - Will you publish CO_2 prices used and give possible advice on the “desirable” (social) carbon price?

ENTSO-E: the CO_2 price used in our assessment will be made public. Related to the desirable CO2 price, ENTSO-E leaves to Regional Group the choice of “social “carbon values for sensitivity analysis.

- RES indicator:
    - How do you consider the two different RES indicators, “extra RES connected” in MW vs. “delta RES” in MWh?

ENTSO-E: The “connected RES” indicator is only used for specific RES integration projects. Friends-of-Super grid agreed with the ENTSO-E approach stating the “extra RES Connected” is one of the EC high-level targets for this whole activity.

2) Externalities (Value of lost load, environmental impact)

The following conclusions were raised in the subgroup:

- Regarding monetisation of lost load:
    - Consistency of methodology is essential (there is no value of monetisation if the methodology is not common)
    - However, final values do not need to be common, they could well be national
    - As a first step, national values could be published as an annex to the CBA, together with explanations of the differences in mehodology
    - An R&D programme is needed for application of a consistent methodology in VOLL assessment.

- Regarding environmental and social impact:
    - In order to keep the credibility of the assessment , TSO best practice should be used, monetisation is difficult
    - Some ideas to improve the methodology were expressed:
        - Factor in a percentage of underground cables
        - Learn from Transport sector (EIP)

  In conclusion, ENTSO-E’s sub-indicator approach is accepted. It could be based on distance, population etc…

3) Grid transfer capability calculation and clustering

The main discussions items were the following:

- How will CBA methodology be applied for 3rd party projects?

ENTSO-E: ENTSO-E will calculate the benefits for all the projects (including the 3rd party ones). The assessment process will be identical to all the projects irrespective of their promoter.

- How will the necessary internal reinforcement be considered for 3rd party projects?

ENTSO-E: Most of the time the internal reinforcement falls under the TSO responsibility. Until now, the 3rd party promoter came only with the interconnection project. 3rd party projects will be considered as TSO projects if they connect at the some point with the same capacity, in order to ensure equal treatment. If the connection point is different, ENTSO-E will provide the GTC increase based on internal network restrictions.

- How to calculate the increase in GTC of an internal investment that supports two cross-border investments?

ENTSO-E: The same rules apply.

The following conclusions were reached:

- EC suggested to clearly label the internal projects that have no cross- border project.
- The participants further suggested to present in the next TYNDP the GTC increase per investment
- The suggested ENTSO-E clustering criteria was perceived positive by the participants

4) Building of scenarios & planning cases

The main discussions were the following:

- Some participants emphasised the strong need of alignment between the 2030 Reference Scenario and the official 2050 energy goals, stating that the sensitivity scenarios should be aligned to other official goals/targets

ENTSO-E underlined that 2050 is a highly uncertain horizon. Future investments have an impact on consumers' bill, and should be based on realistic assumptions. Hence, ENTSO-E suggested considering the risk of policy failure and the provision of flexibility to meet a number of future outcomes while ensuring key deliverables such as SOS.

- Other participants considered that the number of scenarios only provides a 'simple picture' – lacking in complexity. There was a wish for more scenarios that could provide more complexity and variation while being non-restrictive – e.g. another y-axis such as a low/high CO2 level.

ENTSO-E recalled the necessity to consider the practicality of increasing the number of scenarios: it is already a complex process and the workload and resource requirement are high for ENTSO-E. There is a trade-off to be taken into account between realistic workload on the one hand and necessary diversity of scenario and horizons on the other hand. The challenge is indeed the accuracy versus the number of scenarios.

- There was also a concern that policy makers may value a project based on one vision, and that TSO and third party projects will not receive equal treatment – this view was also expressed in the morning session. The question of "how probable is one scenario versus another?" was raised. Should all the scenarios be treated equally or should the Reference Scenario get a greater preference?

ENTSO-E suggests keeping a reference scenario, to provide values of sensitivity analysis, but without weighting the macro-economic scenarios.
CESI advocated a scoring system for each scenario. No real consensus was reached within the subgroup on this issue.

- No discussion was held in relation to the planning cases – all discussion was based around the scenarios and horizons.

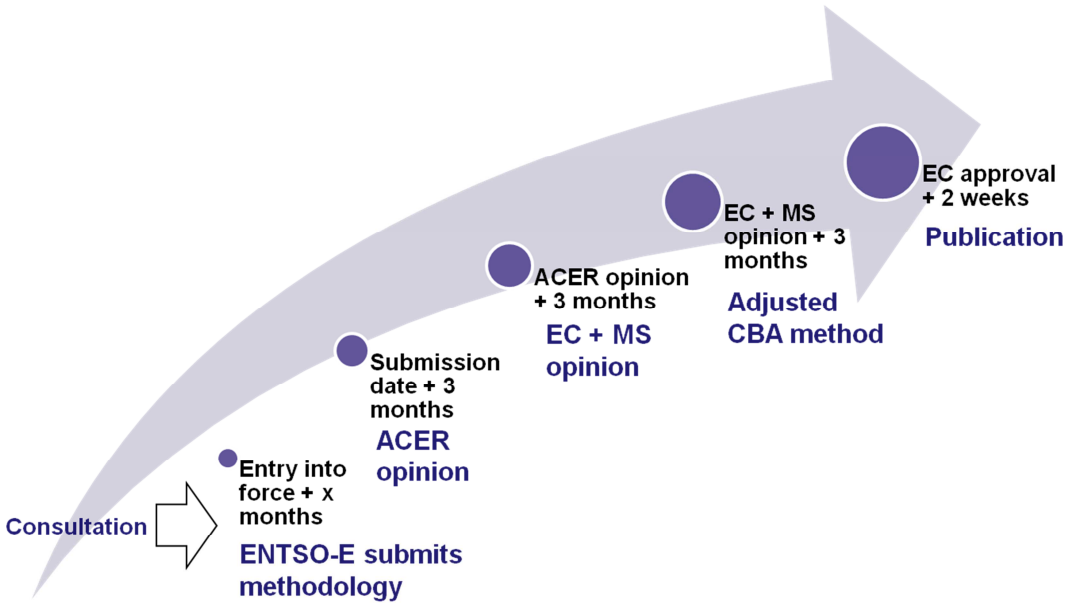
6. Next steps:

Jean Verseille concluded the workshop, underlining that the purpose of PCI selection is providing real and significant values in the perspective of building the future European Networks. He recalled that the details needed for Pan-European perspectives are different from the ones required for an investment decision, which will be more specific.

Question from the audience: How public will the assessments be? Will the market and network data be made available?

ENTSO-E underlined the necessity of keeping the confidentiality of some data. However, a study model will be made available by ENTSO-E.

The next steps of the CBA procedure are presented below.



7. Conclusion:

ENTSO-E would like to thank all the participants for their active participation and input. All the suggestions received during this workshop will be further analysed in the impacted ENTSO-E's working groups.
The comments that could be implemented in the present version will be considered. The remaining comments will be considered for the next update of the CBA methodology.

Note: all the presentations and the current meeting can be accessed on the ENTSO-E website at:
https://www.entsoe.eu/events/cba-pci-workshop/#c1167