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OPINION OF THE AGENCY FOR THE COOPERATION OF ENERGY REGULATORS No 16/2013

of 18 July 2013

ON THE DRAFT REGIONAL LISTS OF PROPOSED ELECTRICITY PROJECTS OF COMMON INTEREST 2013

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[1], and, in particular, Annex III.2(12) thereof;

HAVING REGARD to the favourable opinion of the Board of Regulators of 17 July 2013, delivered pursuant to Article 15(1) of Regulation (EC) No 713/2009 of the European Parliament and of the Council of 13 July 2009 establishing an Agency for the Cooperation of Energy Regulators[2],

WHEREAS:

(1) On 14 June 2013 the draft regional lists of proposed projects of common interest (PCIs) falling under the categories set out in Annex II.1 of Regulation (EU) No 347/2013 were submitted to the Agency for the Cooperation of Energy Regulators (the Agency).

(2) Those draft regional lists were submitted to the Agency together with the minutes of the meeting of the decision-making bodies of the Regional Groups of 13 June 2013 and without any opinions of Member States concerning electricity proposed PCIs, which Member States may present to the Regional Groups, pursuant to Annex III.2(9) of the Regulation (EU) No 347/2013.

(3) The assessments and evaluations by National Regulatory Authorities (NRAs), in line with Annex III.2(7) of Regulation (EU) No 347/2013, following a "checklist template" prepared by the Agency (see Annex II) contribute to the present opinion,

HAS ADOPTED THIS OPINION:

1. On the process for establishing the draft regional lists of proposed PCIs

1.1 Preparatory phase

[1] OJ L 115, 25.4.2013, p.39.
[2] OJ L 211, 14.8.2009, p.1.

Since March 2012, preparatory work for the identification of PCIs was carried out and convened by the European Commission. *Ad-hoc* Working Groups were set up and tasked with the establishment of draft regional lists of proposed PCIs. The *ad-hoc* Working Groups were seen as forerunners to the Regional Groups.

The approach adopted during this work was anticipatory, with the objective to implement a PCI selection process on the basis of the following key elements which were also incorporated into Regulation (EU) No 347/2013, namely:

- regional cooperation on infrastructure;
- engagement of Member States, NRAs, Transmission System Operators (TSOs), the European Commission, the Agency, the European Network of Transmission System Operators for Electricity (ENTSO-E) and other project promoters, in each region;
- identification of draft regional lists of PCIs with the help of an assessment methodology (scoring point system), intended to measure the contribution of the projects to market integration, competition and system flexibility, sustainability and security of supply.

1.2 *Ad-hoc* Working Group activities

The activities of the *ad-hoc* Working Groups were carried out in line with the schedule presented in the following table[3]. The *ad-hoc* Working Groups convened regularly from March 2012 until April 2013.

Month or period	Main activities
March 2012	First meeting, discussion of the draft terms of reference for the *ad-hoc* Working Groups
May/June 2012	Second meeting, discussion of the questionnaire for collecting project information, identification of weighting values for criteria
July 2012	First round of submission of project applications and questionnaires Public consultation by the European Commission Third meeting, discussion of the methodology
September 2012	Fourth meeting, first results from project assessment and discussion
November 2012	Fifth meeting, results of eligibility assessment and discussion
January/February 2013	Sixth meeting, results of scoring assessment, presentation of the evaluations and assessments of NRAs, discussion
April 2013	Seventh meeting, identification of proposed projects of common interest, names, grouping and competing projects

The Agency notes the difficult circumstances under which the *ad-hoc* Working Groups had to work, and the valuable work produced by them. This work progressed while, *inter alia*:

[3] There were occasional differences in specific regions. The work of the ad-hoc Working Groups for smart grid projects had a different timeline (with six meetings), but a similar overall approach.

- *ad-hoc* Working Groups were being settled and terms of reference for work were being prepared;
- there was not a consistent database of data for the electricity projects; and
- the cost-benefit analysis (CBA) methodology under Article 11 of Regulation (EU) No 347/2013 was under development by ENTSO-E, in cooperation with the European Commission and the Agency[4].

The Agency also notes that the selection process was designed and implemented under strict timing requirements and sometimes fluctuating provisions[5] of the draft Regulation (EU) No 347/2013.

1.3 Regional Group activities

After the entry into force of Regulation (EU) No 347/2013 establishing the Regional Groups, a consultation of stakeholders was carried out at the Electricity Regulatory Forum ("Florence Forum", 16 May 2013), a "Stakeholder Consultation (environmental) on the draft regional PCI lists" event[6] was held on 5 June 2013 and a meeting of the decision-making bodies of the Regional Groups took place on 13 June 2013.

1.4 Main conclusions and recommendations

Notwithstanding the difficulties encountered during the anticipatory selection process, the Agency acknowledges the merits of the establishment of this process and of terms of reference and roadmaps which allowed the draft regional lists of proposed PCIs to be available soon after the adoption of Regulation (EU) No 347/2013.

In particular, the Agency believes that the experience of the *ad-hoc* Working Groups processes in the current round (which, for instance, included common timelines for the electricity *ad-hoc* Working Groups) should be taken into proper consideration when defining the rules of procedures of the Regional Groups[7] and the deadlines for application and provision of data by project promoters for future selection rounds. In that respect, the Agency sees that the electricity Regional Groups should aim at jointly defining common rules of procedures and common timelines. The Agency calls on the European Commission to play a key role in ensuring common approaches and cross-regional consistency between the Regional Groups. The Agency will also strive for cross-regional consistency between the

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[4] ENTSO-E, "ENTSO-E Guideline for Cost Benefit Analysis of Grid Development Projects, Draft 12 June 2013".

[5] E.g. the criterion on cross border relevance in Article 4(1)(c) was still significantly different with respect to its final formulation till Autumn 2012. C.f. Note from General Secretariat of the Council of the European Union to Delegations, "Draft Regulation of the European Parliament and of the Council on guidelines for trans-European energy infrastructure and repealing Decision No 1364/2006/EC and amending Regulations (EC) No 714/2009 and 715/2009", 5139/6/12, REV 6, 6 September 2012.
http://register.consilium.europa.eu/pdf/en/12/st05/st05139-re06.en12.pdf
In the same draft version of Regulation (EU) No 347/2013, the role of the Agency and of NRAs did not yet correspond to the final provisions of Regulation.

[6] http://ec.europa.eu/energy/events/20130529_stakeholder_regional_pci_lists_en.htm

[7] According to Article 3(2) of Regulation (EU) No 347/2013, each Group shall adopt its own rules of procedure.

different Groups and will ensure, when relevant, the exchange of information on work representing an interregional interest.

The Agency also appreciates the efforts of the *ad-hoc* Working Groups and the Regional Groups to ensure adequate involvement of stakeholders and transparency, *inter alia* via a public consultation[8] in June 2012, via a stakeholder consultation at the 24th Electricity Regulatory Forum[9] in May 2013, activities under Annex III.2(5) of Regulation (EU) No 347/2013 and via public information events[10] and presentations. The Agency recommends continued effort on broad stakeholder involvement and the provision of adequate transparency about the work of the Regional Groups.

2. On the criteria and other methodological aspects for establishing the draft regional PCI lists

2.1 Data consistency and the role of the ENTSO-E Ten-Year Network Development Plan

Consistency across regions is a specific focus of this Opinion. The only source of 'uniform' data[11] available for the current selection process was the ENTSO-E Ten-Year Network Development Plan (TYNDP) 2012[12]. However, even these data were not fully comparable for some projects[13]. Furthermore, the TYNDP was not prepared for and aligned with the data requirements of the PCI selection process. Regretfully, datasets were occasionally incomplete; particularly lacking some monetised aspects of benefits for the majority of projects.

Data provided for non-TYNDP projects were more difficult to compare directly, because the promoters of these projects could not use ENTSO-E databases and software tools to generate figures for their projects. However, the choice of tasking ENTSO-E to assess non-TYNDP projects having applied for selection allowed the completion of the dataset within the tight time constraints of the process. Yet, the increase of Grid Transfer Capacity (GTC) by some projects was assessed without taking into account internal network constraints.

The Agency considers that the future approach in which the TYNDP is the sole basis for all PCIs will promote data consistency. The Agency recommends that ENTSO-E continues to align the desired datasets, and that further discussions take place on how non-ENTSO-E

[8] http://ec.europa.eu/energy/infrastructure/consultations/20120620_infrastructure_plan_en.htm
[9] However, the draft regional lists of proposed PCIs submitted for consultation contained rather limited information on the proposed projects, therefore it could have been difficult for some stakeholders to form their opinion.
[10] E.g. Information Day on the process of identifying Projects of Common Interest in energy infrastructure, 17 July 2012. http://ec.europa.eu/energy/infrastructure/events/20120717_energy_infrastructure_infoday_en.htm Grid Information Day - Discover the trans-European energy infrastructure for tomorrow, Sustainable Energy Week, 25 June 2013.
[11] However, even the TYNDP data was only clearly consistent at cluster level.
[12] 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
[13] Already in its opinion on the ENTSO-E Ten-Year Network Development Plan 2012, the Agency suggested an additional column indicating the type of investment items (overhead line, underground line, substation) and thus avoiding bundling different elements in a single "investment item".

promoters can present their projects on a consistent basis with TYNDP projects. Detailed recommendations are provided in Section 2.5.

2.2 Consistency, clustering and grouping of investment items

First, it is important to build a common understanding about "clustering", for which the Agency first refers to ENTSO-E definitions. According to the ENTSO-E "Frequent Answers and Questions ENTSO-E Cost Benefit Methodology", *an investment is an individual equipment or facility, such as a transmission line, a cable or a substation.* According to the ENTSO-E draft CBA methodology, *a TYNDP project (i.e. "TYNDP cluster") is defined as a cluster of investment items that have to be realised in total to achieve a desired effect. Therefore, a project consists of one or a set of various investments. An investment should be included only if the project without this investment does not achieve the desired effect.* Therefore, taking also into account the THINK definitions[14], in this Opinion "clustering" refers to the presence of significant positive interactions between complementary investments. On the other hand, when the added value of one investment is decreased by the presence of another one, i.e. those investments are competing, "grouping" is proposed.

The issue of consistency in the TYNDP 2012 clustering approach across Europe flowed through to the current selection process. The *ad-hoc* Working Groups had to face significant difficulties in selecting individual PCIs from quite wide TYNDP clusters. In its Opinion on ENTSO-E TYNDP 2012[15] the Agency appreciated the clustering of single investments into projects of pan-European significance to highlight the interdependence of investment items and to provide a more global view of proposed investments necessary to meet the energy policy requirements. However, the Agency also regarded further development of the clustering methodology as essential for the provision of a consistent clustering approach throughout Europe, and recommended that ENTSO-E provides further details on the importance of an investment item and its possible impacts on the whole cluster.

The current PCI draft regional lists are partly composed of clustered investments (TYNDP projects) and of single non-TYNDP projects. This difficulty, which affects comparability of projects, should be solved in the future selection rounds, whereby the TYNDP will be the sole basis for the selection of PCIs.

The current PCI selection round also highlighted the need to specifically assess the case of competing projects at the same border (see Section 3 of this Opinion for specific information on competing projects). From a methodological point of view, the Agency notes that, when presenting their assessments of projects, the NRAs of the North Seas group proposed to "group" some of the competing projects between the UK and Ireland and, thus, clearly identifying their competing nature. Detailed recommendations are provided in Section 2.5.

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[14] THINK, "Cost Benefit Analysis in the Context of the Energy Infrastructure Package", Final Report, January 2013. http://www.eui.eu/Projects/THINK/Documents/Thinktopic/THINKTopic10.pdf

[15] http://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Opinions/Opinions/ACER%20Opinion%2006-2012.pdf

2.3 Cross-regional consistency of application of criteria and assessment methodology

The Agency notes the intention of the *ad-hoc* Working Groups to develop an assessment methodology for the first PCI selection process, which strived to use common criteria across regions in line with the approach finally taken by Regulation (EU) No 347/2013. This methodology ("scoring point system") is summarised in Annex I of this Opinion.

At the same time, the Agency notes that the scoring point system adopted in the current selection process assigns subjective weighting to the specific evaluation criteria. Further, the criteria adopted in the scoring point system have entailed double counting of project impacts, for example:

- grid transfer capacity is accounted for both in the security of supply and in the RES integration criteria;
- RES integration is also accounted for in the socio-economic welfare indicator.

The Agency also notes that a full monetisation of costs and benefits was not undertaken by the *ad-hoc* Working Groups. In August 2012, the Agency suggested to include project costs[16] more appropriately in the PCI selection process, as they are a necessary element from a regulatory point of view. The Agency considers that the missing cost dimension in the scoring point system constitutes a significant drawback in the current selection process.

However, the Agency also positively notes that this scoring point system has not been used by *ad-hoc* Working Groups neither by Regional Groups so far in the current selection round for the purpose of discarding projects from the draft regional lists. Indeed, some projects have been discarded on the basis of general eligibility criteria in Article 4(1) of Regulation (EU) No 347/2013, while other projects have been withdrawn by promoters. According to Annex III.2(14) of Regulation (EU) No 347/2013, the use of ranking for discarding projects is still possible for the European Commission if the total number of proposed PCIs will exceed a manageable number.

Finally, the Agency notes that the assessments and evaluations performed by NRAs did not make use of the *ad-hoc* Working Groups' scoring point system and adopted instead a "checklist template" approach (summarised in Annex II of this Opinion), which included a simplified evaluation of costs and benefits.

With the aim of achieving a manageable number of PCIs on the Union list, Regulation (EU) No 347/2013 indicates that the "PCI status" can be a limited resource. If the allowed number of PCIs is a substantial limitation, the Agency would suggest that a net benefit figure is used

[16] The Agency suggested in August 2012 the following concrete adaptations to the draft methodology:
- To avoid double counting, by using a combination of socio-economic and security-of-supply indicators.
- To monetise the security-of-supply indicator, by multiplying the value of lost load and the variation of expected energy not supplied with and without the project.
- To take GTC and RES integration aboard just as a part of the social welfare indicator, because using them as separate indicator would be superfluous and distort the evaluation.
- To use investment cost figures - available - for a balanced approach resulting in a net benefit assessment.
The aforementioned suggestions were the basis for preparing in October 2012 the "checklist template" for NRA assessments and evaluations.

in the selection of PCIs. This approach would allow the PCI selection process to achieve a greater net benefit, compared to the possible alternative of using the benefit-cost ratio. On the other hand, the benefit-cost ratio could also be considered as the adoption of a net benefit figure could lead to inappropriately wide clusters, because promoters might attempt to increase the net benefit, e.g. by including more investment items in a cluster or by merging two potentially independent clusters.

2.4 Level of maturity of projects

Annex III.2, Point (1), Regulation (EU) No 347/2013 stipulates that promoters of a project potentially eligible for selection as a PCI shall submit an application to the Group that includes, for projects having reached a sufficient degree of maturity, a project-specific cost-benefit analysis.

In the Agency's view, a "sufficiently mature" project is a project which has a sufficient level of i) certainty of the expected costs and benefits and ii) knowledge about the factors affecting expected costs and benefits and their ranges. The Agency also believes that it is up to project promoters to provide evidence about the degree of maturity of their projects, by submitting a project-specific CBA that demonstrates reasonably narrow ranges of probable values for costs and benefits.

For future selection rounds, the Agency deems necessary to define (as far as possible) when a project is to be considered as mature[17]. For instance, "under consideration" status in the TYNDP is a strong indication that a project is not yet mature. For this kind of projects, the priority would be to complete the feasibility studies, in order to eventually reach a level of sufficient maturity. The Agency deems that the "highest possible priority" conferred to this kind of projects in the regional investment plans and in the national development plans, according to Article 3(6) of Regulation (EU) No 347/2013, should be intended as a high priority for undertaking further studies.

For future selection rounds, a simplified selection process could be considered for not-yet-mature projects applying for selection. The data collection phase and the monitoring processes could also be simplified, in order to have a manageable total number of PCIs, even with more non-mature projects in the Union list. When these projects reach sufficient maturity, they will need to be fully reassessed in the next PCI selection round.

2.5 Main conclusions and recommendations

On data consistency and the role of the ENTSO-E TYNDP

A consistent project assessment needs a proper data base. The Agency therefore recommends that work be continued by ENTSO-E to further improve the suitability of TYNDP assumptions and modelling for use in PCI selection, as the TYNDP will be the sole basis for PCI selection. Stakeholders, including NRAs, should be involved, in order to ensure the

[17] Before further investigations on the concept of maturity, the level of maturity would correspond to the actual submission of a project-specific CBA either for the purpose of PCI selection (Annex III of Regulation (EU) No 347/2013) or in the process of investment requests (Article 12 of Regulation (EU) No 347/2013).

quality and consistency of data inputs, featuring among others consistency in electricity and gas scenarios. The Agency also considers that the robustness of future PCI assessments will be improved by sensitivity analyses, for which the assumptions and results are presented in a transparent manner.

The Agency recommends that data collection is improved by using revised questionnaires for project promoters (which could be developed on the basis of the checklist template in Annex II of this Opinion), aimed at getting additional information (especially on benefits) to the data presented in the TYNDP. This seems particularly relevant for collecting the results of sensitivity analyses. The Agency also considers that supporting information and material proving the maturity of a project will improve the selection process.

The Agency considers that matching the regional groups of the ENTSO-E System Development Committee (or at least the ENTSO-E Regional Investment Plans) with the Regional Groups set out by Regulation (EU) No 347/2013 would be worthwhile to ensure consistency in future selection rounds.

Finally, the Agency recommends that Regional Groups minimise the time gap between the finalisation of the ENTSO-E TYNDP (corresponding to the time when the Agency issues its opinion on it) and the adoption of the Union list. A time span of eight months should be a target for the next PCI selection round.

<u>On consistency, clustering and grouping of investment items</u>

The Agency recommends a consistent clustering approach to be applied throughout Europe in the TYNDP and subsequently for the PCI selection round. Details on the importance of each investment item for the expected benefits to be delivered by the cluster to which the investment item belongs should be clear before one or more investment items are proposed as PCIs. In the Agency's view, the eligibility, the cross border impact, the costs and (to the extent possible[18]) the benefits, should be assessed in a first step for each investment item having applied for selection.

Given the limited consistency of clustering across Europe so far, the Agency suggests that the 2013 Union list is only considered at the level of each individual PCI. This is without prejudice to project-specific CBAs, which are expected to prove the truly complementarity of PCIs inside clusters, in line with the draft version of the ENTSO-E CBA methodology and with the Agency's recommendations.

In cases where projects are competing, the Agency expects ENTSO-E to develop a specific assessment of cross-border capacities, as already recommended in the Agency Opinion on the ENTSO-E TYNDP 2012. The aim should be to identify a target value (MW) for the additional transfer capacities at cross-border boundaries[19]. When a target capacity has been

[18] It is acknowledged that the evaluation of benefits for each item inside a truly complementary cluster may be complex and time consuming. Thus, the rules based on GTC proposed by ENTSO-E in the draft CBA methodology are seen as a positive step to achieve a more consistent clustering approach across Europe.
[19] The target capacity value (MW) would correspond to the amount of new capacity that can be built with a positive cost-benefit balance.

identified at a border and its value is below the expected increase of cross-border grid transfer capacity from all projects, it would make sense to define a specific treatment ("grouping") of competing projects, in order to avoid building some less beneficial interconnection capacity[20].

The Agency believes that this recommendation, together with guidance for inclusion of third party projects in the ENTSO-E TYNDP[21], would provide an appropriate balance between TSO-promoted and third-party-promoted projects in the next PCI selection rounds.

On cross-regional consistency of criteria

The Agency considers that clear, transparent and quantified/monetised criteria for the selection of PCI from the TYNDP list are crucial requirements from a regulatory perspective.

The Agency looks forward to a consolidated methodology for CBA being developed and agreed for the next PCI selection round. Such methodology shall be based on the ENTSO-E CBA methodology pursuant to Article 11 of Regulation (EU) No 347/2013 and be complemented by project-specific features. The Agency recommends that the Regional Groups will not refer to any "scoring point system" and will work on monetised costs and benefits being explicitly used in future selection rounds. This will also allow objectively to test the criterion in Article 4(1)(b) of Regulation (EU) No 347/2013 ("the potential overall benefits of the project [...] outweigh its costs, including in the longer term").

The Agency recommends that, in future selection rounds, the indicators "benefit-cost ratio" and "net benefit" of each proposed PCI are presented, stemming from a CBA that is as fully monetised as practicable[22].

The Agency recommends that a common discounting method, in line with the guidance to be provided by the CBA methodology, including a common discount rate, a common time reference (present year) for discounting, a common time range of analysis shall be applied to enable a fair comparison of PCIs in future selection rounds.

On the level of maturity of projects

For the first Union list of PCI, the Agency recommends that prospective promoters of PCIs who wish to access some form of Union financial assistance work seriously towards proving the maturity of their projects by providing project-specific CBAs in line with Article 12(3)(a) of Regulation (EU) No 347/2013 by the submission time of their investment request (i.e. by 31 October 2013). The Agency also believes that the project-specific CBA should be in line

[20] When presenting their assessments of projects having applied for PCI status to the ad-hoc Working Groups, the NRAs of the ACER North Seas mirror group proposed to "group" some of the competing projects proposed between the UK and Ireland.

[21] According to Annex III.2(5) of Regulation (EU) No 347/2013, the European Commission shall issue guidelines on criteria to be applied by ENTSO-E when developing the TYNDP, in order to ensure equal treatment and transparency of the process. The Agency expects that such guidance will significantly benefit from the current ENTSO-E procedure, which was developed in cooperation with stakeholders, the European Commission and the Agency.

[22] The Agency already made a proposal for increasing monetisation of effects over time in the "Agency position on the ENTSO-E Guideline to Cost Benefit Analysis of Grid Development Projects", 30 January 2013.

with the draft methodology published by ENTSO-E on 12 June 2013 and could include additional analysis on benefits in line with Regulation (EU) No 347/2013 and with the Agency's recommendations[23].

The Agency finally recommends that the concept of sufficient maturity is further investigated by the Regional Groups, with a view to considering - as far as possible - simpler and faster selection and monitoring processes for projects which are not yet sufficiently mature.

3. On the draft regional lists of proposed PCIs

3.1 Views expressed by Member States on the draft regional lists

After consideration of the minutes of the meeting of the decision-making bodies of the Regional Groups of 13 June 2013, the Agency understands that five projects having applied for selection were lacking support from Member States to whose territory the projects relate. If lack of support will be confirmed, according to Article 3(3)(a) of Regulation (EU) No 347/2013, the projects cannot be in the regional list to be adopted by the decision-making body of the relevant Regional Group. The five projects are:

- Norway-United Kingdom interconnection between Sima or Samnanger (NO) and Peterhead (UK);
- France-Spain-United Kingdom interconnection between Western France (FR), Gatica (ES) and Indian Queens (UK);
- Spain-United Kingdom interconnection between Gatica (ES) and Indian Queens (UK);
- Spain-United Kingdom interconnection between Mougas (ES) and Plymouth (UK);
- hydro-pumped (seawater) storage in Spain–Mougas.

3.2 Overview of the draft regional lists

The draft regional lists of proposed electricity PCIs were prepared by the following Regional Groups:

- Northern Seas offshore grid (North Seas);
- North-South electricity interconnections in Western Europe (West);
- North-South electricity interconnections in Central Eastern and South Eastern Europe (East);
- Baltic Energy Market Interconnection Plan in electricity (Baltic);
- Smart grids deployment (Smart Grids).

The draft regional lists are composed of 125 proposed electricity projects of common interest, as summarised in the following table.

[23] Recommendations and a list of 11 benefits were provided in the "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

Group	Proposed PCIs		
	Electricity transmission	Electricity storage	Smart grids
North Seas	23	3	
West	27	5	
East	49	4	
Baltic	10	2	
Smart grids			2
Total	**109**	**14**	**2**

The draft regional lists have been prepared by the Regional Groups after assessing 284 projects (see table[24]).

Group	Projects having applied for selection		
	Electricity transmission	Electricity storage	Smart grids
North Seas	45	3	
West	49	14	
East	143	5	
Baltic	19	2	
Smart grids			4
Total	**256**	**24**	**4**

About cross-regional differences, the Agency notes that, since the beginning of the current selection round, the *ad-hoc* East Working Group has been characterised by:

- a larger number of applications compared to other *ad-hoc* Working Groups (e.g. as of October 2012, 143 out of 256 total transmission projects having applied for selection);
- a higher level of clustering compared to other *ad-hoc* Working Groups (in the NRA list of eligible projects in January 2013, the ratio between the number of investment items and the number of clusters was about 4 in this *ad-hoc* Working Group compared to an average value around 1.5 in the other *ad-hoc* Working Groups);
- a larger number of internal projects (32 internal projects and 17 interconnections in the draft regional list of proposed PCIs), compared to other ad-hoc Working Groups (27 internal projects and 33 interconnections).

This constituted one significant difficulty for the assessments.

The Agency positively acknowledges the limitation of the electricity transmission draft regional lists to projects with clear/significant cross-border nature, compared to the large number of projects having applied for PCI status, which included projects with limited cross-border relevance[25].

[24] The number of transmission projects corresponds to the information received by the Agency in October 2012. However, 14 transmission projects were already withdrawn at that time and other changes (such as the change of priority corridor) affected a few projects.

[25] It is remarked that the NRAs' assessment and evaluation concluded in January 2013 focused on 168 transmission projects, compared to the 256 transmission projects having applied for selection. Other projects have been considered ineligible at first check.

The Agency deems important that the Union list provides sufficient transparency and clarity on the investment items inside each PCI[26], in the few cases where such approach is adopted (see groups of "lines" in Annex III of this Opinion). Such an approach would also facilitate the monitoring of the implementation of PCI.

The Agency acknowledges the work done by the Regional Groups to present some proposed PCIs in the "North Seas" and "West" draft regional lists at a more disaggregate level (compared to the TYNDP 2012 investment items). This is the case of proposed PCIs belonging to TYNDP investment items 21.81, 43.A90, 90.136 and 92.146. In general, the Agency commends the efforts of involved stakeholders to face the difficulties due to large TYNDP clusters.

3.3 Electricity smart grids

The draft regional lists of electricity smart grids PCIs were prepared by the respective Group covering all Member States[27]. The preparatory work of the *ad-hoc* Working Group benefited, *inter alia*, from previous activities on identification of performance indicators and benefits carried out by the Smart Grids Task Force, the European Commission Joint Research Centre[28] and by the European Regulators Group for Electricity and Gas[29].

The *ad-hoc* Working Group (Smart Grids Task Force Expert Group) prepared the "Definition of an assessment framework for projects of common interest in the field of Smart Grids"[30], which helped consistency in the application of project promoters and in the evaluation phase. The directly involved NRAs contributed to the *ad-hoc* Working Group work by providing project evaluation and assessment on the basis of a common format prepared by the Agency and NRAs.

Two electricity smart grid projects out of four having applied for PCI status are included in the draft regional list. Taking into account the assessment and evaluation made by NRAs, the Agency believes that the draft list of electricity smart grids PCIs deserves inclusion in the 2013 Union list of PCIs. The Agency recommends that prospective promoters of electricity

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[26] According to the definitions in Articles 2(3) and 2(4) of Regulation (EU) No 347/2013, a project of common interest means one or several lines, pipelines, facilities, equipment or installations falling under the energy infrastructure categories.

[27] Annex I(10) of Regulation (EU) No 347/2013, priority thematic area "smart grids".

[28] V. Giordano, I. Onyeji, G. Fulli, M. Sánchez Jiménez, C. Filiou, "Guidelines for conducting a cost-benefit analysis of smart grid projects", JRC reference report, 2012, http://ses.jrc.ec.europa.eu/sites/ses/files/documents/guidelines_for_conducting_a_cost-benefit_analysis_of_smart_grid_projects.pdf

[29] ERGEG, "Position Paper on Smart Grids - An ERGEG Conclusions Paper", Ref: E10-EQS-38-05, 10 June 2010. http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/CEER_PAPERS/Electricity/2010/E10-EQS-38-05_SmartGrids_Conclusions_10-Jun-2010_Corrigendum.pdf

[30] After work starting in March 2012, the report was published in July 2012. http://ec.europa.eu/energy/infrastructure/consultations/doc/20120720_electricity_smartgridsassessment_framework_sgtf_eg4.pdf

smart grids PCIs who wish to access some form of financing work towards completing project-specific CBAs[31].

3.4 Electricity storage

The draft regional lists of electricity storage PCIs were prepared by the four *ad-hoc* Working Groups North Seas, West, East and Baltic. In line with the request by the European Commission in September 2012, no assessment and evaluation have been presented by the involved NRAs to the aforementioned Groups. As a consequence of the lack of a draft CBA methodology for storage, of limited quantified information available on the beneficial impact of proposed storage PCIs and of the lack of NRA assessment, the Agency is not in a position to assess and provide an opinion on the draft regional lists of electricity storage PCIs.

3.5 Electricity transmission

3.5.1 Electricity transmission: the treatment of TYNDP and non-TYNDP projects

The electricity transmission projects having applied for selection have been classified by the *ad-hoc* Working Groups as "TYNDP" and "non-TYNDP".

The break-down of TYNDP and non-TYNDP proposed PCIs for each draft regional list are displayed in the following table.

Group	TYNDP proposed PCIs	Non-TYNDP TSO-proposed PCIs	Non-TYNDP third-party-proposed PCIs
North Seas	13	0	10
West	26	0	1
East[32]	43	3	3
Baltic	9	1	0
Total	**91**	**4**	**14**

The Agency believes that specific attention (see recommendation on "grouping" in Section 2.5) is needed where projects are proposed both by transmission system operators and by third party promoters on the same border. The 14 projects proposed by third party promoters[33] involve United Kingdom (in 10 cases), Ireland (8), France (3), Greece (2), Italy (2), Austria, Cyprus, Israel and Switzerland. A summary is presented in the following table[34].

[31] According to Article 14(4) of Regulation (EU) No 347/2013, smart grids PCI shall be eligible for grants for works, if projects generate significant positive externalities and lack commercial viability.
[32] The East draft list includes one project with competing project promoters. It is counted in the table as one non-TYNDP third-party proposed project.
[33] This definition includes the case of a TSO and third parties as promoters of the same project.
[34] The proposed project Norway-United Kingdom interconnection between Sima or Samnanger (NO) and Peterhead (UK) is not included in the table (see section 3.1).

Border	Number of third-party projects	TSO projects on the same border
IE-UK	8	No (1 TYNDP project IE-UK "under consideration" applied for PCI status)
FR-UK	2	Yes
AT-IT	1	Yes
CH-IT	1	Yes
CY-GR-IL	1	No
GR	1	Yes

3.5.2 Electricity transmission: main conclusions and recommendations

The Agency, while taking into account the difficulties encountered during the preparation of the draft regional lists of PCIs (as highlighted in the previous sections) and some methodological weaknesses of the process, believes that, on the basis of the overall positive assessment and evaluation made by NRAs with regard to projects having applied for the PCI status, the draft regional lists of electricity transmission PCIs merit adoption as the 2013 Union list of PCIs.

To help overcome the potential ambiguity about clustering, degree of maturity, costs and benefits and other aspects of some projects included in the draft PCI regional lists and without prejudice to the provisions about information and publicity in Article 18 of Regulation (EU) No 347/2013, the Agency suggests that, soon after the 31 October 2013 deadline for investment requests, the 2013 Union list is complemented by the following additional information on each individual PCI:

- the level of maturity[35];
- the status of the project[36];
- the expected commissioning date;
- the expected costs, with degree of certainty indicated;
- the expected benefits, with degree of certainty indicated;
- the indicators "benefit-cost ratio" and "net benefit"[37].

The corresponding information for projects in the draft regional lists (as far as available to the Agency in the current selection round) is presented in Annex III of this Opinion.

[35] Before further investigations on the concept of maturity, the level of maturity would correspond to the actual submission of a project-specific CBA either for the purpose of PCI selection (Annex III of Regulation (EU) No 347/2013) or in the process of investment requests (Article 12 of Regulation (EU) No 347/2013).
[36] The TYNDP adopts five different statuses: under consideration, planned, design and permitting, under construction and commissioned.
[37] For calculating these indicators, a common discounting method seems necessary. As initial proposal for providing additional information on electricity PCIs in the first Union list, the Agency would deem reasonable Frontier's short-term approach with a common discount rate of 4% based on European Commission "Impact assessment guidelines", a common time range of 25-years lifetime for all projects and a common reference year (present year) for discounting.

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The Agency notes that all PCIs will be fully reassessed in the next PCI selection round (expected in 2015), in line with Regulation (EU) No 347/2013, and recommends that this assessment will follow the suggestions provided in this Opinion, without prejudice to the PCI status of projects included in the first Union list which will remain fully in force until a new Union list is adopted.

The Agency believes that, with respect to future PCI selection rounds, the European Commission should clarify in the Delegated Act what stability measures beyond those in Article 5 of Regulation (EU) No 347/2013 are available to project promoters, if a project will no longer be in the PCI Union list.

Done at Ljubljana on 18 July 2013.

For the Agency:

Alberto Pototschnig
Director

Annex I – The "scoring point system" used in the *ad-hoc* Working Groups

The *ad-hoc* Working Groups adopted a scoring point system based on the following specific evaluation criteria:

1. Grid transfer capacity at border (from 10 up to 30 points)
2. Social and economic benefit (from 10 up to 30 points)
3. Integration of renewable energy sources (RES) (from 0 up to 30 points)
4. Security of Supply (from 10 up to 30 points)
5. Flexibility (from 10 up to 30 points)
6. Bonus points for interconnection projects in countries that have not yet reached the 10% interconnectivity target (10 points)

The values of indicators for criteria 2, 3, 4 and 5 were derived from the TYNDP "colour-code" indicators. The other values were obtained on the basis of information on grid transfer capacity increase (GTC) provided by the promoters, in conjunction with an ENTSO-E table of existing GTCs[38].

The same criteria were consistently adopted across regions, with different weightings for the four electricity priority corridors, as presented in the table below.

Evaluation criterion	North Seas	West	East	Baltic
1 Grid Transfer Capacity	18.7	18.9	26.8	25.8
2 Socioeconomic benefit	15.3	18.9	15.7	14.7
3 RES integration	38.0	38.8	32.3	36.0
4 Security of supply	14.0	11.7	12.6	11.8
5 Flexibility	14.0	11.7	12.6	11.8

[38] ENTSO-E, NTC Values winter 2010-2011.

Annex II – The "checklist template" for the preparation of NRAs assessments and evaluations

The Agency promoted a consistent approach in the NRA assessment[39] of electricity projects having applied for selection, by defining a common interpretation of the work to be carried out in the PCI selection process, along the lines set out by the European Commission and taking into account the Agency's and NRAs' (expected) duties according to the draft Regulation (EU) No 347/2013.

For the purposes of both identifying potential sources of inconsistency and carrying out evaluation of the European added value[40] of projects having applied for selection, on 18 October 2012 the Agency prepared draft checklists (separately for electricity and gas).

The checklists were intended as a template to ease the tasks of:

- Assessing the quantity and quality of available data for each project having applied for selection and whether essential data is available (data check);
- Helping focus the discussion on whether a project having applied for selection met the general and specific criteria as specified in the draft Regulation (EU) No 347/2013.

The checklist templates have been prepared bearing in mind the following general and technical principles:

- Apply similar approach for electricity and gas, with some differences in recognition of the specific features of these two energy sectors, in particular the different stage of development of TYNDPs and of cost-benefit analyses;
- Limit the technical information needed for filling out the checklist to data which was generally already available via TYNDP, Regional Investment Plans, and questionnaires;
- Make the checklists straightforward and short, so to minimise the time required to fill them out;
- Accompany the online version of the checklists by informative notes, to provide highlights on each field in the lists, particularly about the criteria of the Regulation (EU) No 347/2013 and the sources of information.

The structure of the checklists included four parts:

- Respondent(s);
- Project information;
- Opinion on criteria;
- Overall assessment.

[39] The approach was also consistent (to the extent possible and appropriate) with the NRA assessment of proposed gas PCIs. For more details, see the Agency opinion on the draft regional lists of proposed gas PCIs 2013.

[40] The wording "European added value" was in line with the draft version of the Regulation (EU) No 347/2013 presented in the note 5139/6/12, REV 6, 6 September 2012.

With regard to the general criteria in Article 4(1) of the Regulation (EU) No 347/2013, the electricity checklist included the assessment of the Member States involved and of two pass/fail tests:

- The increase (at least 500 MW) of grid transfer capacity across a cross-border section (to be identified by the respondent)[41];
- The voltage of the transmission equipment, being compliant with minimum voltages in Annex II of the Regulation (EU) No 347/2013 (220 kV or more for lines, 150 kV or more for cables).

With regard to Article 4(2) of the Regulation (EU) No 347/2013, for electricity, the ENTSO-E TYNDP 2012 identified impacts and benefits, along with measurement rules, for dealing with the three specific criteria of the Regulation (EU) No 347/2013 (market integration, competition and system flexibility, security of supply and sustainability). Correspondingly, Part III of the checklist adopted a simplified approach, taking into account TYNDP indicators.

[41] Although the 500 MW limit for significant cross-border impact does no longer constitute an eligibility criterion under Article 4(1) of the Regulation (EU) No 347/2013 for projects crossing the borders of two Member States / European Economic Area country, its use in the assessment still favoured, by a simplified and immediately applicable approach, the identification of projects with higher European added value.

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Part I: RESPONDENT(S)				
1. Responding NRA (country): _____ 2. Mutually agreed answer on behalf of (countries) _____				
3. Envisaged cooperation with NRAs (depending on impacted countries, see Q17, Q20) ***SD***: _____				
Part II: PROJECT INFORMATION				
4. Title of the project (project name in EC tables): _____				
5. Project code (EC project number without letters - do NOT insert TYNDP numbering): _____				
6. Type of project: Non-TYNDP ☐ TYNDP ☐ 7. Commissioning date: _____				
Part III: OPINION ON COMPLIANCE WITH CRITERIA				
8. Corridor: Baltic ☐ East ☐ North Seas ☐ West ☐ None ☐				
9. Belonging to a corridor (yes if Q8 is not "none")		**Yes**	**No**	
10. If transmission line, voltage: _____ kV 11. If line, at least 220 kV?		Yes	No	Lack
12. If transmission cable, voltage: _____ kV 13. If cable, at least 150 kV?		Yes	No	Lack
14. Equipment for safe, secure, efficient operation (describe): __15. Equipment?		Yes	No	Lack
16. Category of the project (yes if one yes in Q11 or Q13 or Q15)		**Yes**	**No**	**Lack**
17. Greater GTC increase on which border (only MS-MS borders)? ____ 18. How much? _____ MW				
19. Is the greater GTC increase (Q18) at least 500 MW?		Yes	No	Lack
20. Other borders (MS-MS or MS- 3rd countries) impacted (indicate borders) ? ____ 21. How much variation (increase/decrease) of GTC at other borders? ____ MW				
22. Cross-border impact of the project (yes if Q19 yes)		**Yes**	**No**	**Lack**
23. Cost of project? _____ M€				
24. Reduction of generation and transmission costs (socio-economic welfare SEW)? _____ M€/year				
25. Contribution to security of supply (reduction of expected energy not supplied EENS)? ___ MWh/year 26. Value of lost load VOLL (if available country by country indicate a weighted value): _____ €/MWh				
27. Is yearly SEW + (EENS x VOLL) greater than cost divided by 15?		Yes	No	Lack
28. If Q27 no, is there any evidence of project benefits greater than costs?		Yes	No	Lack
29. Cost-benefit of the project (yes if one yes in Q27 or Q28)		**Yes**	**No**	**Lack**
(@30-36) Fill only if it is a TYNDP project and if it is not assessed at investment level – Otherwise not applicable "NA"				
30. Cluster (see EU TYNDP Annex I) no. _____ 31. Investment item no. _____				
32. Cost of TYNDP cluster? _____ M€ 33. Benefit of TYNDP cluster? _____ M€/year				
34. Are yearly cluster benefits greater than cluster costs divided by 15?	NA	Yes	No	Lack
35. Are interdependencies of items in cluster properly explained? ***SD***	NA	Yes	No	Lack
36. Cost-benefit of the cluster (yes if Q34 yes and Q35 yes)	**NA**	**Yes**	**No**	**Lack**
37. Were costs and benefits assessed during year 2011 or 2012?		Yes	No	Lack
38. Assumptions on other projects in the impact area consistent with TYNDP?		Yes	No	Lack
39. Is methodology for evaluating costs and benefits consistent with TYNDP?		Yes	No	Lack
40. Are Q38 & Q39 assumptions & methodology supported by documentation?		Yes	No	Lack
41. Assumptions of the project (yes if Q37+Q38+Q39+Q40 all yes) *SD*		**Yes**	**No**	**Lack**
Part IV: OVERALL ASSESSMENT				
42. Consistent application of criteria [yes if Q9 + Q16 + Q22 + (Q29 or Q36) + Q41 are all yes]		**Yes**	**No**	**Lack**

Legend: Lack=lack of data, NA = not applicable *SD*: please provide short description in narrative format.

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Annex III - Information on projects included in the draft regional lists

The following information for the draft regional lists of proposed transmission PCIs (as far as available[42] to the Agency in the current selection round based on the ENTSO-E TYNDP 2012 information and on the NRA assessments and evaluations), is presented:

- the status of the project;
- the expected commissioning date;

Northern Seas offshore grid (North Seas)

Code	PCI	Status of PCI in TYNDP 2012	Expected commissioning date
1.1.1	Zeebrugge (BE) - vicinity of Richborough and Canterbury (UK)	Planned	2018
1.1.2	Two lines Dungeness - Sellindge - Canterbury (UK)	Planned Planned	2019/2020 2014/2015
1.2	Two offshore hubs connected to Zeebrugge (BE)	Planned	2016
1.3.1	Endrup (DK) - Niebüll (DE)	Under consideration	2017-2025
1.3.2	Brunsbűttel - Niebűll (DE)	Under consideration	
1.4.1	Kasső (DK) - Audorf (DE)	Under consideration	2015-2020
1.4.2	Audorf - Hamburg/Nord (DE)	Design and permitting	
1.4.3	Hamburg/Nord - Dollern (DE)	Design and permitting	
1.5	Endrup (DK) - Eemshaven (NL)	Design and permitting	2018
1.6	La Martyre (FR) - Great Island or Knockraha (IE)	Under consideration	2025 approx
1.7	Cotentin (FR) - vicinity of Exeter (UK)	Not in TYNDP 2012	n.a.
1.8	Tourbe (FR) - Chilling (UK)	Under consideration	ca2020
1.9	Coquelles (FR) - Folkestone (UK)	Not in TYNDP 2012	2015

[42] Legend: n.a. not available.

Code	PCI	Status of PCI in TYNDP 2012	Expected commissioning date
1.10	Wilster (DE) - Tonstad (NO)	Design and permitting	2018
1.11	Co. Offaly (IE) - Pembroke and Pentir (UK)	Not in TYNDP 2012	2017
1.12.1	Coolkeragh - Coleraine hubs (IE) - Hunterston station, Islay, Argyll and Location C OWFs (UK)	Not in TYNDP 2012	2016
1.12.2	Northern hub, Dublin and Codling Bank (IE) - Trawsfynyd and Pembroke (UK)	Not in TYNDP 2012	
1.13	North West Ireland (IE) - Midlands (UK)	Not in TYNDP 2012	2017
1.14	Glinsk, Mayo (IE) - Connah's Quai, Deeside (UK)	Not in TYNDP 2012	2017
1.15.1	Irish midlands (IE) - Pembroke (UK)	Not in TYNDP 2012	2017, 2018, 2020
1.15.2	Irish midlands (IE) - Alverdiscott, Devon (UK)	Not in TYNDP 2012	
1.15.3	Irish coast (IE) - Pembroke (UK)	Not in TYNDP 2012	
1.16	Kvilldal (NO) - Blyth (UK)	Design and permitting	2020

North-South electricity interconnections in Western Europe (West)

Code	PCI	Status of PCI in TYNDP 2012	Expected commissioning date
2.1	Westtirol - Zell-Ziller (AT)	Partly under construction	2020
2.2.1	Lixhe (BE) - Oberzier (DE)	Design and permitting	2017
2.2.2	Lixhe - Herderen (BE)	Design and permitting	2017
2.2.3	Upgrade of Zutendaal substation (BE)	Design and permitting	n.a.
2.3.1	Aubange (BE) - Bascharage/Schifflange (LU)	Under consideration	2017
2.3.2	Phase-shifting transformer in Schifflange (LU)	Under consideration	2017

Code	PCI	Status of PCI in TYNDP 2012	Expected commissioning date
2.4	Codrongianos (IT) - Lucciana (FR) - Suvereto (IT)	Planned	mid term
2.5.1	Grande Ile (FR) - Piossasco (IT)	Design and permitting	2018
2.5.2	Trino - Lacchiarella (IT)	Under construction	2015
2.6	Santa Llogaia - Bescanó (ES)	Under construction	2014
2.7	Aquitaine (FR) - Gatica (ES)	Under consideration	approx. 2020
2.8	Phase-shifting transformer in Arkale (ES)	Design and permitting	2016
2.10	Osterath - Philippsburg (DE)	Under consideration	long-term
2.11	Brunsbüttel-Großgartach - Wilster-Grafenrheinfeld (DE)	Under consideration	long-term
2.12.1	Border area (DE) - Meiningen (AT) - Rüthi (CH)	Planned	long-term
2.12.2	point Rommelsbach, Herbertingen, Tiengen, point Wullenstetten, point Niederwangen (DE) - border area DE-AT	Planned	long-term
2.13	Niederrhein (DE) - Doetinchem (NL)	Design and permitting	2016
2.14	Woodland (IE) - Turleenan (UK)	Design and permitting	2017
2.15	Srananagh (IE) - Turleenan (UK)	Under consideration	2020
2.16	Thusis/Sils (CH) - Verderio Inferiore (IT)	Not in TYNDP 2012	2018
2.17.1	Airolo (CH) - Baggio (IT)	Under consideration	mid term
2.17.2	Upgrade of Magenta substation (IT)	Under construction	n.a.
2.17.3	Pavia - Piacenza (IT)	Planned	long Term
2.17.4	Tirano - Verderio (IT)	Planned	long Term
2.18.1	Two lines Alfena - Pedralva - Vila Fria (PT)	Planned Design and permitting	2017 2014-2015
2.18.2	Frades B - Ribeira de Pena - Feira (PT)	Design and permitting	2015-2016
2.19	Vila Fria - Vila do Conde - Recarei (PT) - Boboras - O Covelo (ES)	Design and permitting	2016

North-South electricity interconnections in Central Eastern and South Eastern Europe (East);

Code	PCI	Status of PCI in TYNDP 2012	Expected commissioning date
3.1.1	St. Peter (AT) - Isar (DE)	Design and permitting	2015-2017
3.1.2	St. Peter - Tauern (AT)	Design and permitting	2019
3.1.3	St. Peter - Ernsthofen (AT)	Under construction	2013
3.2.1	Lienz (AT) - Veneto region (IT)	Planned	long term
3.2.2	Lienz - Obersielach (AT)	Under consideration	>2022
3.2.3	Volpago - North Venezia (IT)	Design and permitting	mid term
3.3	Nauders (AT) - Milan region (IT)	Under consideration	long term
3.4	Wurmlach (AT) - Somplago (IT)	Not in TYNDP 2012	2015
3.5.1	Banja Luka (BA) - Lika (HR)	Under consideration	2020
3.5.2	Three lines Brinje - Lika - Velebit - Konjsko (HR)	Planned Planned Planned	2020 2020 2020
3.6.1	Vetren - Blagoevgrad (BG)	Not in TYNDP 2012	2017-2018
3.6.2	Tsarevets - Plovdiv (BG)	Not in TYNDP 2012	
3.7.1	Maritsa East 1 (BG) - N. Santa (EL)	Design and permitting	2018-2020
3.7.2	Two lines Maritsa East 1 - Plovdiv - Burgas (BG)	Design and permitting Design and permitting	2014-2016 2014-2016
3.7.3	Maritsa East 1 - Maritsa East 3 (BG)	Design and permitting	2014-2015
3.8.1	Dobrudja - Burgas (BG)	Planned	2016-2018
3.8.2	Vidno - Svoboda (BG)	Planned	2015-2017
3.8.3	Svoboda - splitting point Varna-Stupina (BG)	Planned	2015-2017
3.8.4	Cernavoda - Stalpu (RO)	Planned	2017
3.8.5	Gutinas - Smardan (RO)	Planned	2020
3.8.6	Gadalin - Suceava (RO)	Planned	2021

Code	PCI	Status of PCI in TYNDP 2012	Expected commissioning date
3.9.1	Žerjavenec (HR)/Heviz (HU) - Cirkovce (SI)	Design and permitting	2016
3.9.2	Lines Divača - Klece - Bericevo - Podlog - Cirkovce (SI)	Planned	2020-2025
3.10.1	Vasilikos (CY), Korakia, Crete (EL), Hadera (IL)	Not in TYNDP 2012	2016 (if start 2013)
3.10.2	Korakia, Crete - Attica region (EL)	Not in TYNDP 2012	
3.11	Six lines Vernerov - Vitkov - Prestice - Kocin - Mirovka - Cebin (CZ)	Planned Under consideration Planned Planned Planned Under consideration	2019 2021 2022 2018 2024 2024
3.12	Phase shifting transformer in Hradec (CZ)	Not in TYNDP 2012	2017
3.13.1	Lauchstadt - Meitingen (DE)	Under consideration	2022
3.13.2	Halle/Saale - Schweinfurt (DE)	Design and permitting	2018
3.14.1	Eisenhűttenstadt (DE) - Plewiska (PL)	Planned	2020
3.14.2	Krajnik - Baczyna (PL)	Planned	2020
3.14.3	Mikułowa - Świebodzice (PL)	Planned	2020
3.15.1	Vierraden (DE) - Krajnik (PL)	Design and permitting	2016
3.15.2	Phase shifting transformers in Poland	Design and permitting	2015
3.16.1	Gőnyű (HU) - Gabčikovo (SK)	Under consideration	2017
3.16.2	Velký Ďur - Gabčikovo (SK)	Planned	2016
3.16.3	Extension of Győr substation (HU)	Under consideration	2017
3.17	Sajóvánka (HU) - Rimavská Sobota (SK)	Under consideration	2017
3.18.1	Kisvárda area (HU) - Velké Kapušany (SK)	Under consideration	2021
3.18.2	Lemešany - Velké Kapušany (SK)	Planned	2018
3.19.1	Villanova (IT) - Lastva (ME)	Under construction	mid term

Code	PCI	Status of PCI in TYNDP 2012	Expected commissioning date
3.19.2	Fano - Teramo (IT)	Design and permitting	n.a.
3.19.3	Foggia - Villanova (IT)	Design and permitting	n.a.
3.20.1	West Udine (IT) - Okroglo (SI)	Planned	long term
3.20.2	West Udine - Redipuglia (IT)	Design and permitting	mid term
3.21	Salgareda (IT) - Divača - Bericevo region (SI)	Under consideration	mid term
3.22.1	Resita (RO) - Pancevo (RS)	Design and permitting	2015
3.22.2	Portile de Fier - Resita (RO)	Design and permitting	2016
3.22.3	Lines Resita - Timisoara - Sacalaz - Arad (RO)	Design and permitting	2022

Baltic Energy Market Interconnection Plan in electricity (Baltic)

Code	PCI	Status of PCI in TYNDP 2012	Expected commissioning date
4.1	Ishøj/Bjæverskov (DK) - Bentwisch/Gűstrow (DE)	Planned	2016-2018
4.2.1	Kilingi-Nõmme (EE) - Riga CHP2 substation (LV)	Planned	2020
4.2.2	Harku - Sindi (EE)	Under construction	2019
4.3	Estonia / Latvia / Lithuania synchronous interconnection	Not in TYNDP 2012	2020
4.4.1	Grobina - Imanta (LV)	Design and permitting	2018
4.4.2	Ekhyddan - Nybro/Hemsjö (SE)	Under consideration	2019
4.5.1	Alytus (LT) - LT/PL border	Design and permitting	2015 (2020 – second stage)
4.5.2	Two lines Stanisławów - Ostroleka - Olsztyn Mątki (PL)	Design and permitting Design and permitting	2020 2020

4.5.3	Kozienice - Siedlce Ujrzanów (PL)	Design and permitting	2020
4.5.4	Płock - Olsztyn Mątki (PL)	Design and permitting	2020

Smart grids deployment (Smart Grids)

Code	**PCI**	**Status of PCI in TYNDP 2012**	**Expected commissioning date**
10.1	North Atlantic Green Zone Project (IE-NI)	Not applicable	n.a.
10.2	Green-Me (FR-IT)	Not applicable	2019

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