ENTSO-E public consultation on background scenarios for the next TYNDP

Summary and assessment of stakeholders' comments

ENTSO-E AISBL • Avenue Cortenbergh 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

INTRODUCTION

In preparation of the ENTSO-E Ten-Year Network Development plan (TYNPD) for 2012 and in accordance with Article 10 of Regulation (EC) 714/2009, on 16 February 2011 ENTSO-E launched a four-week public consultation on the scenarios outlined in the ENTSO-E Scenario Outlook and Adequacy Forecast (SO&AF) 2011-2025. The consultation aimed at sharing with stakeholders at an early stage ENTSO-E's progress on the scenarios that will be the basis of the studies for the identification of investment needs on the Europeqn grid for the next ten years. More importantly, ENTSO-E anticipated to further refine its scenarios based on the stakeholders' feedback and improve its methodologies for this and the next editions of the TYNDP. The note below, summarizes the input of stakeholders and ENTSO-E's analysis of the feedback.

Besides the update of the "best estimate" scenario of TSOs, the main improvement of the input to the next TYNDP relates to the construction of the top-down scenario "EU 2020", built in accordance with the climate and energy policy objectives and national targets set in the National Renewable Action Plans (NREAPs) as well as the estimation of CO2 emissions, renewable energy share in supplying the electricity consumption and the enhancement of energy efficiency in the electrical consumption. These two scenarios are necessary in order to capture the main trends of the European electricity industry; the numerous "planning cases" that are derived from these scenarios and thoroughly studied in the TYNDP at a regional level are covering the most probable future snapshots of the system under those conditions that would require further transmission infrastructure.

The consultation ended shortly after the tragic events associated with the earthquake in Japan and therefore the potential impact on the nuclear industry in Europe has not been accounted, neither in the ENTSO-E scenarios nor in the stakeholders' input. Even today, following the decision for nuclear phaseout in Germany until 2022 and potentially in other European countries, the magnitude of this impact is under investigation by ENTSO-E. Uncertainties are still present concerning mostly the mitigating strategies that European countries will follow in order to maintain the course to the fulfillment of EU energy policy goals of security of supply, sustainability, and competitiveness. Because of these uncertainties, ENTSO-E shall continue to perform its studies on the consulted scenarios, a lengthy and intensive process taking place within the Association's six regional groups charged with delivering regional investment plans as the major components of the TYNDP. However, the most impacted regions shall perform additional "sensitivity" analyses in order to provide an assessment of how the system is affected. ENTSO-E shall communicate extensively on the methodology and results of these analyses by the end of 2011.

ENTSO-E presented the scenarios and its planning methodologies on a public workshop held on 10 January 2011; a second workshop is held on 15 June 2011 to focus on the market studies methodologies and the assessment of transmission projects. As it has already been the case in the Baltic Sea region, ENTSO-E will also organise regional workshops before the end of 2011 in order to give further insights and share results that are most pertinent at a regional level. The communication around the TYNDP will culminate in March 2012 with the release of the report for public consultation.

ENTSO-E acknowledges and thanks stakeholders for the effort they invested in providing feeedback for the consultation of the TYNDP scenarios; this feedback is the main vehicle for bringing improvements and transparency to the process. ENTSO-E shall continue to work closely with the Commission and ACER and regularly solicit the input of stakeholders in order to deliver the TYNDP as the main factual and methodological basis for energy policy and investment decisions in Europe.

ENTSO-E AISBL • Avenue Cortenbergh 100 • 1000 Brussels • Belgium • Tel +32 2 741 09 50 • Fax +32 2 741 09 51 • info@entsoe.eu • www.entsoe.eu

Stakeholder	Main Issue	Details	Answer Comment
Iberdrola	Coordinated analysis	The System Adequacy analysis is done in terms of RC-ARM. If positive, then there is no problem in the supply while if this parameter gives a negative figure, then it is supposed that the system will be in trouble. Considering this, scenarios A and B are based on the perception of each TSO on the evolution of the capacity net additions, the evolution of the demand and the needs to cover such demand. Thus, these scenarios are of the bottom-up type. On the contrary, scenario EU2020 is supposed to be of the top-down type. In this case, it would be desirable that the criteria used for the analysis would be coordinated and if possible, homogeneous. At least in terms of: type of demand forecast; methodology to calculate ARM needs (it is difficult to understand the logic behind a margin against seasonal peak load of 7GW in winter peak in Spain, with a peak demand of 49GW compared to a figure of 0GW for a winter peak demand of 57.4GW in GB); criteria for defining non-usable capacity; etc.	The EU 2020 scenario was based on the NREAPS and further refined through the communication between the ministries and TSOs. The mentioned differences (Spain and GB) are the result of different market approaches. When the assessment is made at a regional level or at ENTSO-E level a uniform criterion of 5% is used.
Iberdrola	Choice between Scenarios	Although the NREAP are to be considered in the TYNDP, it is critical that the rest of technologies are also properly considered, since they are needed for reliability purposes and also for making the amount of RES capable to be incorporated into the grid. Therefore, it may be the case that more than one scenario has to be considered to define the future grid development.	ENTSO-E evaluates three scenarios within SOAF. scenarios A&B reflect the TSOs views and scenario EU2020 reflects the political visions of future generation development/generation mix. Scenario B and scenario EU2020 will be taken into account as background scenarios for TYNDP 2012.

Stakeholder	Main Issue	Details	Answer Comment
EWEA	Wind power maximum upper limits	While much remains to be done to achieve the 20% target EWEA believes that it will be exceeded. Our analysis of the NREAPs has shown that renewable energy will meet 20.7% of the EU's energy needs in 2020, exceeding the EU's 20% target by 0.7 percentage points. For this reason, the top-down scenarios should not be perceived as the maximum upper limit for the TYNDP scenarios, but also allow for robustness as these targets might also be beat. For wind power, EWEA therefore recommends to use additional margins to ensure this kind of robustness in the top-down scenarios.	The purpose of EU 2020 scenario is to determine the generation outlook (renewable and conventional generation) that is necessary to reach the 2020 targets. This scenario does not impose any limitation with regard to further possible RES generation development.
EWEA	Changes of NREAPs and alignment of RES assumption of certain MS	EWEA urges ENTSO-E to take into account possible changes in National Renewable Energy Action Plans (NREAPs) and align the RES assumptions of certain MS:	The potential changes in the NREAP may be assessed by a series of sensitivity analysis once these changes are accessible. In the next SOAF 2012 this scenario might be updated as well.
EWEA	Take into account upcoming RES targets in Non EU member states	EWEA urges ENTSO-E to take these relevant RES targets in non-EU member states targets into account for their scenario development as soon as they are available.	Non-EU member states TSOs were also asked to provide similar information based on specific national targets for 2020 and was also taken into account if available. The potential changes in the RES targets of non- EU countries may be assessed by a series of sensitivity analysis once these changes are accessible.
EWEA	Energy Efficiency in Electricity Consumption	Underpin the expected impact of efficiency measures on electricity consumption: ENTSO-E considers in its top-down scenario a total consumption by 2020 of around 3220 TWh for the EU-27 including an overall drop of electricity consumption due to efficiency measures of almost 10% by 2020. However, neither the scenario tools of the European Commission nor the Member States plans are indicating such a	ENTSO-E estimation of 10% reduction in electricity consumption by 2020 is the result of comparing the additional efficiency scenario and the reference scenario in the NREAPS.

Stakeholder	Main Issue	Details	Answer Comment
		reduction in consumption on an EU level. In this context, it remains unclear why ENTSO-E has chosen in his Scenario Outlook such a reduction in electricity consumption and EWEA would welcome a clarification on this.	
EWEA	Wind power capacity upper limits	Take into account the amount of firm power provided by wind energy: An important issue for power system design is how much installed wind power capacity statistically contributes to the guaranteed capacity at peak load, the so-called "capacity credit". Due to the variability of wind, its capacity credit is lower than that of other technologies. Nevertheless, there is a certain amount of firm wind capacity, which contributes to the adequacy of the power system. Despite the real technical and physical capacity value of wind power, it is not yet regularly used for capacity planning and is not given a value in power markets. One of the barriers is the absence of a standardised accepted method for calculating capacity credit. EWEA therefore calls on ENTSO-E to develop and utilise a harmonised method for wind power capacity credit assessment in European generation adequacy forecast and the upcoming TYNDP, in order to properly evaluate the contribution of wind power to system adequacy. This would also constitute a basis for valuating wind power capacity in the future liberalised electricity market.	ENTSO-E assessed its wind generating capacity taking into consideration the national specificities. ENTSO-E welcomes a better cooperation with stakeholders in order to further develop the wind assessment in the ENTSO-E scenarios.
EDF	SO&AF Hypothesis and Results	The strong differences in assumptions concerning RES penetration which appear between scenarios B and EU2020 for several countries (Germany, Italy...) should be also more explained and more precisely described while defining scenario B compared to EU2020 scenario.	ENTSO-E presented the differences between the scenarios B and EU2020 in its SOAF in a special chapter on this topic. The detailed data of both scenarios were made available as annexes of the SOAF.

Stakeholder	Main Issue	Details	Answer Comment
EDF	SO&AF Hypothesis and Results	The use of scenario A for system simulation and evaluation of grid needs does not seem really consistent as it only illustrates a lack of capacity if no forward developments occur. It can't therefore be considered as representative of the future reality. It also considers very conservative hypotheses concerning the duration of nuclear plants operation, considering the objective of most nuclear operators (EDF, as others) to extend nuclear plants durations. The important decrease of nuclear capacity in this scenario is thus probably not realistic, notably if we consider the ambitious objectives of CO2 emissions' reduction, to which nuclear, as well as RES contribute.	The conservative scenario A is used to emphasise the gap between the firm communication from producers to the TSOs with regard to new commissioning and decommissioning of power units and future projections. This scenario incorporates the already firm declarations on commission and decommission of power plants. Its applicability is limited due to short term notice from the generators. This scenario is not used as a base for further grid development (it does not enter the calculations).
EDF	SO&AF Hypothesis and Results	Even if generation capacity appears sufficient for several years, some economic issues seem to be underestimated or not considered, which leads to a rather optimistic view of generation adequacy over the period: • On the one hand, the massive penetration of RES will imply, considering intermittency issues, a need for greater back up capacities. These back up capacities (ensured by new or existing plants) will however not exist without appropriate economic incentives. • From the same perspective, concerns related to a possible decommissioning of some existing power plants for non profitability matters should be taken into account by ENTSOE. The report should point out these major issues and check in some way that the scenarios are consistent with the economic reality of the players involved.	The ENTSO-E SOAF aims at assessing the generation adequacy using power values. It does not target the economic feasibility of generation assets. When TSOs are assessing the consistency of the scenario data these considerations are taken into account as they are better placed to perform this analysis taking into account the many specificities of national economies. The added value of an overarching European coordination of this assessment will be investigated by ENTSO-E and the input of producers' associations will be sought.

Stakeholder	Main Issue	Details	Answer Comment
EDF	SO&AF Hypothesis and Results	From a security of supply point of view, the report does not analyse precisely the interest of new interconnection lines for countries where capacity in excess is by far higher than their export capacity or for countries in the opposite situation, although computation of such indicators is suggested in the report. Some hypotheses on the current import/export capabilities of some countries seem also a little higher than expected. These hypotheses are based on the former UCTE transmission development plans.	The role of interconnectors and impact assessment on the grid will be evaluated in the TYNDP 2012 report.
EDF	Considerations about SO&AF Methodology	The adequacy reference margin (ARM), which should result from a risk analysis carried out for each Member State, should be more clearly defined. Indeed, the reference to a 5% margin for “a set of countries” gives poor insight on its calculation method. A more detailed consideration of the margins used for the different countries should therefore be made. Some comparison between results from this simplified formula and the more precise analyses that some European TSOs carry out through their own adequacy analysis should be led.	The 5% benchmark is only used at ENTSO-E level for a general adequacy assessment in SOAF. For national level each TSO’s assessment is taken into account. Each TSO consider the needs taken into account specific national electricity market characteristics. A more advanced assessment of adequacy is foreseen when using TYNDP market analysis in the TYNDP 2012.
EDF	Considerations about SO&AF Methodology	Inevitably, differences occur from one country to another for some information resulting from each TSO methodology (for instance, regarding wind power availability). EDF believes that these differences should be clearly and transparently identified, and whether retreated or integrated as uncertainties to ENTSOE level calculations.	ENTSO-E provides general guidelines which provide particular flexibility to TSOs for providing the data. In this way, ENTSO-E assessed its wind generating capacity taking into consideration each national specificity, which can be found in the national adequacy section. Besides, ENTSO-E is observing the evolution of the RES behaviour based on the regional experiences; this information might be adapted in regional market analysis. ENTSO-E welcomes further collaboration with stakeholders to improve the wind power availability of wind power.

Stakeholder	Main Issue	Details	Answer Comment
EDF	Considerations about SO&AF Methodology	Since interconnections allow to “import” capacity, this should lead to a lower need for capacity for each country than if it was isolated. Therefore, in a truly pan-European assessment of adequacy, the needs for a given country (in terms of RC and ARM) should be analyzed, taking into account the whole benefits of interconnections. The interest of interconnections in Europe through lower margin needs should be addressed in the report in a more detailed way.	The decrease in necessary grid capacity due to "import" capabilities of the lines will be assessed through the market studies in the TYNDP 2012. The SOAF 2011 does not identify investment needs.
EDF	Considerations about SO&AF Methodology	The data transmitted by TSOs should clearly and transparently be issued as well as the method used by ENTSO-E to compile these data (i.e.chapter 6).	The data are delivered by TSOs in accordance to generally constructed guidelines. Detailed information is available in the SO&AF excel sheets published with the SOAF 2011 report.
EDF	Considerations about SO&AF methodology	The indicator which tries to compute CO2 emissions reductions is too simplified to get to a relevant figure; the scope between minimum and maximum evaluations is too wide, as a consequence of not taking into account the impact of the evolution of the thermal mix of plants. This latter evolution is an important parameter to evaluate emissions reductions and has to be taken into account.	The commentator is correct in assessing the CO2 indicator and the relevant reservations are stated in the SOAF 2011 report by ENTSO-E; however the evolution of all plants is taken into account. The absence of relevant data make this assessment difficult and ENTSO-E will welcome stakeholders’ contribution to that.
EDF	Considerations about TYNDP 2012	As RES penetration is one of the major characteristics of the different scenarios, focus should be put on the impacts of RES generation on system adequacy: - Impacts on the load factor of conventional generation and other influences on conventional generation (taking into account that 1 MW of RES is not equivalent to 1MW of conventional power in regards to generation adequacy issues). - Impacts on needs for back-up generation.	SOAF report is based on a power assessment of the system adequacy. The RES variability and the influence on the conventional generation will be further analysed in the TYNDP 2012 market studies.

Stakeholder	Main Issue	Details	Answer Comment
IFIEC	Specific comments	Adopt evaluating the KPI reflecting CO2 emissions and RES for 2020 if feasible in all scenarios. On the other hand, it will be difficult to have a clear indicator that reflects the impact of energy efficiency measures on the global electricity consumption.	ENTSO-E acknowledges the possible improvements. However, the absence of relevant data make this assessment difficult and ENTSO-E will welcome stakeholders' contribution to that.
IFIEC	Specific comments	The load forecast values define the network and generation development in the electric power systems. For that reason it could be necessary to properly promote and valorize demand management in order to optimize future investments.	The load profiles included within the SOAF reports are taking into account the data related to demand side management available to each TSO. An assessment of demand side management at a European level will be possible when the ENTSO-E network code on connection requirements for demand will be in place (end of 2012).
IFIEC	Specific comments	From the IFIEC point of view, the new TYDNP 2022 and their scenarios must: have the right adequacy between generation and transport capacity. Each zone with congestion should have enough generation capacity to cope with expected disruptions/shutdowns guaranteeing security of supply for the consumers; optimize the cost of the new infrastructures, while targeting right competition within MS ; incentivize demand management as a way to maximize network utilization and reduce the need for additional transport and generation capacity. Demand management can be driven either by TSO (interruptibility) or by the market through modulation (industrials can negotiate and properly valorize their existing flexibility with generators).	ENTSO-E agrees with the objectives set by the commentator. The TYNDP provides data and the results of analyses; the transparency of this process and the feedback of stakeholders are the tools to achieving these objectives. The ENTSO-E SOAF 2011 presents the scenarios that will be used for carrying out further market and network studies within the TYNDP framework. An assessment of demand side management at a European level will be possible when the ENTSO-E network code on connection requirements for demand will be in place (end of 2012).
IFIEC	Specific comments	Although the energy policies are the responsibility of Members States, it would be useful if ENTSO-E could analyze additional scenarios with the objective of identifying actions and activities to improve EU electrical power systems efficiency. In particular, this would fit with the objectives in Scenario A. An analysis of the benefits gained from best practices will increase	The objective of the ENTSO-E SOAF is presenting the scenarios that will be used for carrying out further market and network studies within the TYNDP framework. The identification of energy policies is to be based on the TYNDP 2012 results, and the iterative process of publishing the TYNDP every two years will monitor the effect of these policies.

Stakeholder	Main Issue	Details	Answer Comment
		the value of the final result.	
IFIEC	Specific comments	The energy efficiency objective is an uncertain variable that it is not easy to model in the scenarios for the TYNDP 2012-2022. In critical situations such as during the present and recent financial crisis, it could be necessary to separate genuine improvements in energy efficiency from those due to the reduction in consumption as a consequence of the crisis.	The distinction between 'genuine improvements in energy efficiency' and 'reduction in consumption as a consequence of the crisis' can be made visible if this distinction is available for the underlying data. In scenario 2020 the consumption is mainly stipulated from the NREAPs, so the distinction mentioned is only known for third parties if stated explicitly in the NREAP. For the scenarios A and B the available information depends on the TSO. If stated, the information can be found in the national sections.
IFIEC	Specific comments	Equally, it could be necessary to consider a “worst case scenario” due to the multiple uncertainties existing nowadays: political instability in countries producing natural gas and oil, use of energy supplies as a political tool and the economical crisis remaining in several countries, where actions on energy saving and reducing EU dependence will be justified economically.	The aim of scenario analysis is to assess multiple scenarios to be prepared for various possible futures, but based on the average conditions. A grid assessment on these futures will be done in the TYNDP2012 on both SOAF scenarios. The assessment of additional (severe or worst) conditions is possible on the level of ENTSO-E regional groups in their regional adequacy analysis available in regional plans and partially also in TYNDP report.
IFIEC	Specific comments	Wind penetration is going to increase and as a consequence the reliability of the generation systems on any day will decrease. Scenario planning must therefore consider existing and future RES development so congestion areas can effectively cope with scenarios of peak load and low wind or vice versa.	The aim of scenario analysis is to assess multiple scenarios to be prepared for various possible futures without selecting a most probable a priori. A grid assessment on these futures will be done in the TYNDP 2012 on both SOAF scenarios. The variability of RES sources is taken into consideration in the TYNDP market studies.

Stakeholder	Main Issue	Details	Answer Comment
Eurelectric	Quality of the input data	In a number of cases, the growth of capacity does not appear to be justified or in line with the existing market realities. For examples, in some countries assumptions about active role of demand side response in accommodating non-dispatchable RES generation do not seem to take account of currently existing regulated prices that limit price sensitivity of the electricity demand.	The objective of SOAF scenarios is to represent different possible future developments. In the current SOAF and the TYNDP 2012 the scenarios are based on the NREAP visions (scenario EU20) and the best estimate of the TSOs (scenario B). Demand response reported in SO&AF are the contracts known to TSOs, as they are linked to system services contracts.
Eurelectric	Quality of the input data	Furthermore, significant differences in assumptions concerning RES penetration, which appear between scenarios B and EU 2020 for several countries (Germany, Italy, Spain3...) should be more precisely described and explained.	ENTSO-E provides general guidelines which provide particular flexibility to TSOs for providing the data. In this way, ENTSO-E assessed the RES generating capacity taking into consideration each national specificity, which can be found in the national adequacy sections.
Eurelectric	Quality of the input data	EURELECTRIC also suggests that the data collected by TSO's to elaborate the chapter 6 is to be published in a clear and transparent way, as well as the method used by ENTSO-E to compile it.	The data are delivered by national data correspondents in accordance to generally constructed guidelines. Detailed information is available in the SO&AF excel sheets published on the ENTSO-E website with the report.
Eurelectric	Coordinated analysis	Scenarios A and B are built bottom-up and are based on the estimates by each TSO about the evolution of the net generation capacity increase, demand and needs to cover such demand. The scenario EU 2020 is, on the other hand, following a top-down approach and is based primarily on assumptions of the member states. Therefore, it would be desirable that the criteria used for the analysis are coordinated and, if possible, made homogeneous, at least in terms of type of demand forecast, methodology to calculate ARM needs, criteria for defining non-usable capacity and so on.	The EU 2020 scenario was based on the NREAPS and further refined through the communication between the ministries and TSOs in order to be made appropriate for the construction of scenario EU 2020. The criteria are coordinated, yet a certain flexibility in the calculations for each TSO is a prerequisite in order to capture the many national specificities.

Stakeholder	Main Issue	Details	Answer Comment
Eurelectric	Economic basis for new generation capacity	In our view, the high level of RC-ARM does not seem to take into account how much of this capacity will be intermittent and unpredictable. Implicitly, RES capacity is treated as equivalent to conventional generation capacity in terms of system security. There is also a missing description of the future intermittency challenge, the multiple ramp ups which can occur due to non-dispatchable RES, and which request, at least up to 2020, for important flexible back-up capacity. In case of hydro power, RC-ARM seems to be overestimated in terms of ensuring security of supply for longer periods. In our opinion, taking into account the amount of hydro reservoir capacity is not sufficient to assess generation adequacy and should be complemented with information on the evolution of the water levels in the reservoirs over a long period of time.	Based on national characteristics the capacity factor for RES varies. A further assessment along with the system flexibility will be performed in the regional market studies for TYNDP 2012.
Eurelectric	Economic basis for new generation capacity	It is also unclear how in the EU 2020 scenario efficient energy-saving measures might make demand much lower than in scenarios A and B (see §6.13, last sentence under section “load”.)	Owing to the national policy reflected in the NREAPs, efficient energy-saving measures might not necessary reduce the peak load, but reduce the energy consumption. On the other hand, the use of demand side management may reduce the peak load, on the whole, this could lead to lower demand than in scenarios A and B.
Eurelectric	Economic basis for new generation capacity	So in our view, the presented data reflects an optimistic picture regarding the generation adequacy, but it does not provide any economic evidence that would guarantee that these generation capacities will remain available to the grid as they might not generate sufficient return on investment.	The ENTSO-E SOAF aims at assessing the generation adequacy using power values. It does not target the economic feasibility of generation assets. When TSOs are assessing the consistency of the scenario data these considerations are taken into account as they are better placed to perform this analysis taking into account the many specificities of national economies. The added value of an overarching European coordination of this assessment will be investigated by ENTSO-E and the

Stakeholder	Main Issue	Details	Answer Comment
			input of producers' associations will be sought.
Eurelectric	Impact on the grid	Furthermore, the report fails to draw preliminary conclusions about the need for the interconnection capacity as a result of the RES capacity expansion. In our view, the EU 2020 scenario vividly illustrates the need to dramatically increase the connectivity of the system in order to enable smooth integration of RES into the market. For example, the reported increase of storage and pump-storage hydro in the Alpine Region would probably need strong additional interconnections to be used efficient with the neighbouring markets. However, some country sheets do not explain how cross-border capacity will be added.	ENTSO-E is assessing the future grid/interconnection needs in its Ten Year Network Development Plan and Regional Investment plans which have the SOAF scenarios as input. RES are included in the SOAF scenarios and therefore in the future grid needs.
Eurelectric	Choice between Scenarios	The paper does not include conclusive remarks about which of the Scenarios appear to be the most realistic and will be used as a basis for grid investment decisions.	The aim of scenario analysis is to assess multiple scenarios to be prepared for various possible futures without selecting a most probable a priori. A grid assessment on these futures will be done in the TYNDP2012 on both SOAF scenarios and planning cases derived from these scenarios as well as potential regional variances.
Eurelectric	Choice between Scenarios	One should always bear in mind that growing shares of RES generation capacity are not automatically translated into the same shares of RES electricity generated due to the non-dispatchability of variable RES sources.	This concern is recognised and taken into consideration in the SOAF and in the subsequent TYNDP studies.
Eurelectric	Specific comments	EURELECTRIC and ENTSO-E wind capacity forecasts are more or less in line in terms of magnitude (more than doubling of capacity between 2010 and 2020). However, certain differences remain and a more detailed comparison of the country figures could be useful.	ENTSO-E acknowledges the positive statement of the commentator; the national forecasts are elaborated either on the best estimate of national TSOs (scenario B) or the NREAPs (scenario 2020). ENTSO-E looks forward to more detailed justification of the identified differences by the commentator.

Stakeholder	Main Issue	Details	Answer Comment
Eurelectric	SO&AF Methodology	EURELECTRIC would like to draw the attention to the fact that the ENTSO-E 2020 Scenario based on the data from the NREAPs does not include a comprehensive critical assessment of this input from the Member States. ENTSO-E makes only one comment to the quality of the data from the NREAPs that the Scenario EU 2020 being based on long-term topdown visions may underestimate the need for back-up capacity	The EU2020 scenario aims to show the political visions for year 2020, which are expressed in NREAPs. Therefore EU 2020 scenario was based on the NREAPS and further refined through the communication between the ministries and TSOs to define the data delivered in accordance to general guidelines, as NREAPS were based in energy instead of power values. It is acknowledged that sufficient back-up capacity is crucial for the safe operation of the system and this will be highlighted in the TYNDP 2012.
Eurelectric	Quality of the input data	For Spain, in the scenario B, a coverage index of 1.1 requires 6GW additional capacity. However, RC-ARM from 2016 is projected to be negative, implying problems in the system. These figures appear to be inconsistent and should be clarified.	ENTSO-E's RC-ARM criterion is similar but not exactly the same as the local criterion for Spain (IC=1.1); furthermore, the calculations behind those indexes are also not exactly similar. Not meeting one of the two criteria means that, in certain extreme situations, the system reserve and spare capacity margins might be reduced and the system could require electricity imports or the application of demand management measures in those situations.
Eurelectric	Quality of the input data	The methodology behind the figures on capacity margin of 7GW over a peak demand of 49GW in Spain compared to the figure of 0GW for winter peak demand of 57.4GW in UK is not fully clear.	ENTSO-E provides general guidelines which provide particular flexibility to TSOs for providing the data. In this way, the adequacy reference margin for each individual country is set by the respective TSO, taking into consideration each national specificity, which might be found in the national adequacy section.

Stakeholder	Main Issue	Details	Answer Comment
Eurelectric	Specific comments	On page 36 it is stated that non-RES HPP in the EU2020 scenario accounts to 70 GW and in the Scenario B to 71 GW. Figure 4.61 at page 61 points at a level of around 62 GW in the EU 2020 scenario. Figures at page 62-63 (figures 4.64, 4.65 and 4.69) are also different, with non-RES HPP totalling 79 GW in the EU2020 scenario and 84 GW in the Scenario B. The differences have been clarified in the bilateral contacts between EURELECTRIC and ENTSO-E and the relevant changes will have to be made transparent in the updated version of the paper.	The changes will be addressed in the SOAF 2012 report and taken into account for the studies in the TYNDP.
Eurelectric	Specific comments	Furthermore, in our view, the RES indicator should not be used as an interpretation that the proposed EU 2020 scenario is correctly dimensioned. Therefore, we are not convinced that based on the existing analysis one can draw a conclusion that the EU 2020 scenario is the right one to follow for grid investment decisions.	The RES indicator is a rough estimation and it is only intended to attest that the NREAPs are overall in line with the EU policy targets. In the TYNDP 2012 the scenarios will be further analysed to assess other possible outcomes.