

# SWE TSOs assessment of public consultation responses on SWE long-term capacity calculation methodology proposal

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## 1. Introduction

This document answers the questions raised by stakeholders interested into the coordinated capacity calculation methodology for the long-term market time frames to be applied in the South-Western Europe Capacity Calculation Region (SWE). It contains the feedback from the formal consultation held via ENTSO-E website. Additionally, the questions and answers given during the consultation workshop held in Madrid on April 2<sup>nd</sup> 2019 have been included as an annex.

The participating TSOs for this methodology are Red Eléctrica de España, (ES), Redes Energéticas Nacionais, (PT) and Réseau de Transport d'Electricité, (FR). The following borders are considered: France – Spain and Spain – Portugal.

## 2. Questions and answers from the consultation via ENTSO-E website

From March 15<sup>th</sup> till April 15<sup>th</sup> 2019, SWE TSOs held a consultation on their long-term capacity calculation methodology proposal. During this consultation period, the opportunity was given to stakeholders to give their opinion on the methodology and to ask for details or improvements.

Please find below the questions anonymized and organized by topics, followed by the answers from SWE TSOs.

### 2.1. Transparency

In reference to transparency and publication of the relevant information towards market participants, it is considered that the detailed information used for the capacity calculation process and proposed measures to improve capacity calculation, such as the list of remedial actions, should be shared with market participants, not just with the regulatory authorities and ACER. Regarding the implementation of remedial actions, it is considered very relevant to ensure and to analyze whether all possible remedial actions have been taken into account to maximize the capacity.

**And**

Furthermore, it is also emphasized that transparency, which is not even mentioned in the main body of the proposal, is of utmost importance in the whole process of long-term capacity calculation, be it about input data, methodologies or results. In this respect, TSOs should not only fulfill legal obligations as indicated in the explanatory note, but also fulfill their role of market facilitators by providing market participants with all the information they need to understand and replicate the LT CCM. The level of transparency achieved in the CWE region for the flow-based CCM, even if not perfect yet, could be used as a benchmark. It is notably essential that the names of the CNECs are made public in a human-readable format, and that CNECs that restrict effectively the NTC are clearly identified.

**And**

It is believed that SWE TSOs should make available online a documentation describing the applied capacity calculation methodology, including full details on how all parameters of the capacity calculation methodology are set. This includes providing information on:

1. The Common Grid Model used for capacity calculation (including expected flows on all CNEs)
2. The full list of non-anonymous Critical Network Elements (or elements likely to limit cross-zonal capacities in case of CNTC) to be considered in capacity calculation
3. Operational Security Limits and Reliability Margins on all CNEs
4. PTDf or extent to which cross-zonal flows affect the CNE for CNTC
5. Full transparency on the GSK methodologies. We are opposed to vague elements such as “generic” GSK.

It is stated that a fully transparent and prescriptive methodology should be adopted. In addition, operational transparency on GSKs, i.e. the value per node and per hour.

According to the scope of this regional capacity calculation methodology, SWE TSOs will fulfill the legal requirements according to the regulated transparency policies. Additionally, a project team aimed at

improving the transparency of the capacity calculation concerning ENTSO-E members is already working on this subject. Future improvements of elements to be published to stakeholders will be studied with NRAs at a later stage.

In reference to Article 9.5 of the methodology, in accordance to Article 15 of FCA regulation and the referred Article 26 (5) of CACM regulation, the coordinated capacity calculator shall, every three months, report all reductions made during the validation of cross-zonal capacity to all regulatory authorities of the SWE region. It is considered that this report should also be shared with market participants.

**And**

Another concern regarding transparency is that the every three months report on reductions made during the validation of cross-zonal capacity is only shared with the regulatory authorities of the SWE region. We consider this report should also be shared with market participants.

The 3-month report will be sent to SWE NRAs, as requested in FCA Art. 15 (referring to CACM Art. 25)

The binding documents shall also mention that outages of all significant CNEs should be published in a timely and usable manner on ENTSO-E Transparency Platform, and that failure to do so shall be considered as a breach to the TSOs' transparency obligations.

Outages are already being published on ENTSO-E Transparency Platform following REMIT regulation and Commission Regulation on submission and publication of data in electricity markets, but anonymized when it is necessary to fulfill each TSO's national legal regulation.

After the capacity is validated for a bidding zone border, the total CNTC should be disclosed so that market participants can take updated values into account. The CACM and FCA Guidelines indeed foresee that "information on available capacity should be updated in a timely manner based on latest information".

In case of any national legal barriers to the disclosure of these elements, NRAs are urged to assess and report on them and to identify possible ways to overcome them.

SWE TSOs already publish the updated capacity values when available from the capacity calculation process, as stated in the Explanatory Note, chapter 6.

## 2.2. Coordination of capacity calculation process on the different SWE borders

The proposed methodology relies on an independent assessment of available NTCs on the France-Spain border and on the Spain-Portugal border (i.e. the calculated NTCs are not extracted from a long-term flow based domain, but merely represent the maximal changes in net positions on both sides of a given border, the exchange on the other border being fixed).

The implicit assumption behind this methodology is that every critical network element cannot be (significantly) influenced by the exchanges on both borders at the same time, but this hypothesis, which was also the reason for choosing a NTC rather than a flow-based approach for the short-term CC, is not formally checked. It is considered that TSOs should regularly report on the validity of this hypothesis (e.g. by reporting the zone-to-zone PTDFs for each border on constraining CNEs), and perform a systematic test of simultaneous feasibility of the calculated NTCs.

If this test is frequently negative, this would indicate that the hypothesis is not valid and that a change in the methodology is required; besides, it would allow to adjust NTCs, at least when the values corresponding to the likely market direction are not simultaneously feasible. Should TSOs maintain NTCs which are not simultaneously feasible, they should bear the associated risk and not be allowed to reduce allocated LTTRs.

SWE TSOs submitted a study to SWE NRAs proving that both borders are independent. On the other hand, triggering of countertrading in one border caused by the exchange level in the other one have not been reported so far at the time of writing.

In addition, the outcome of applying the CNE methodology selection for both France-Spain and Portugal-Spain borders results in disjointed sets of network elements without any common ones. CNE selection studies will be updated regularly, at least once a year.

## 2.3. Reliability Margin (RM)

Special attention should be paid to the correct assessment of uncertainties, especially in the long-term timeframe. In this respect, it is shown disconformity regarding Article 5(1) of the methodology which states that the LT CCM should use the same reliability margin as the day-ahead CCM. Since uncertainties about the state of the system are obviously higher in the long-term timeframe than in the short-term, this choice would lead to a systematic underestimation of the real uncertainty, which would have to be dealt, all other things being equal:

- either through the splitting rules, which are not meant to play this role and cannot be preempted by TSOs since they are governed by another not-yet-approved methodology pursuant to FCA Article 16, together with numerous market players, it is advocated that 100% of the capacity calculated in a given timeframe should be released to the market for this timeframe, without capacity reservation for further timeframes
- or through frequent remedial actions close to real time, with a potential reduction in the LTTR firmness if capacity reductions are used, because of capped compensations.

**And**

It is appreciated that SWE TSOs respect their obligations with regard to the FCA Guideline and align the methodology for the determination of the TRM for forward capacity calculation to that of day-ahead capacity calculation (as mentioned in article 5.1). However, concerns are still harboured with the DA TRM determination, which are carried over in the forward timeframe.

**And**

It is not quite clear whether the use in the methodology of a reference to day-ahead forecasts is a mistake or not. If so, article 5.2.2 should be changed to: “uncertainties which could affect capacity calculation and which could occur between SWE long-term capacity calculation and real time, for the market time unit being considered.” or “uncertainties which could affect capacity calculation and which could occur between SWE long-term capacity calculation and day-ahead capacity calculation, for the market time unit being considered.” If this is not a mistake, we would like the TSOs to clarify why uncertainties between DA and real time would determine the forward TRM.

The TRM covers two aspects: unintended deviations and uncertainties. Unintended deviations (due to frequency variation) are independent of the calculation time frame. Uncertainties in the forecast (generation, load, topology, etc.) could be higher for longer time frames.

SWE TSOs propose to start using day-ahead information because long-term scenarios (8 for annual calculation and 2 for monthly calculation) are not considered enough to build an accurate probability distribution. Besides, unplanned outages or modification of the planning after the forward capacity calculation is performed, could cause misinterpretation when comparing long-term with real time data. day-ahead data is less likely to have this inconvenient, since the time frame is closer to real time.

For these reasons, SWE TSOs decided to make use of the day-ahead methodology. For the time being, the percentile proposed in day-ahead methodology (percentile 95), pending the study results yet to be performed, could lead to a potentially independent RM. Thus, this subject will be further discussed along with NRAs.

Finally, please take into consideration that not all the capacity is offered for each long-term auction, according to SWE Splitting Rules proposal.

The Explanatory Note details that the uncertainties would be determined based on predefined thresholds of TTC (10% at the ES-PT border, 7,5% at the ES-FR border). Not only is this approach not detailed in the methodology itself, but we also consider it not properly justified: the application of any generic threshold is unacceptable unless such threshold is justified based on assessment of economic efficiency. The two lines provided in the explanatory document do not satisfy this requirement.

The mentioned predefined thresholds (10% at the ES-PT border, 7,5% at the ES-FR border) will only be used for a transitory period, while SWE TSOs do not have data from day-ahead calculation to apply the definitive TRM methodology.

Additionally, SWE TSOs do not expect to use the transitory solution for TRM, as the study with day-ahead CC data should finalize before long-term CC go-live.

It is observed that, so far, the SWE long-term CCM is the only CCM proposed by the TSOs that foresees reliability margins. All other long-term CCMs already on the table (Ireland-UK, Nordic and GRIT) foresee a TRM at 0. We would welcome further justification by the TSOs of the rather significant TRM that would be applied at the SWE borders for the forward timeframe.

Since in the day-ahead CCM a certain TRM is considered, SWE TSOs believe that at least the same TRM shall be adopted in long-term CCM due to the increasing uncertainties associated to long-term forecasts and deviations. Thus, a null TRM to be considered in long-term CCM was dismissed. Each CCR has very different specificities and use different methodologies that explain the RM values they use. Comparison is not appropriate.

The methodology itself does not detail for which lines uncertainties will be considered. In the (non-binding) explanatory note, the TSOs mention that “uncertainties will be evaluated from the impact on most relevant CNE elements on the interconnection”, those being “typically tie-lines and the nearest internal lines”. This is far from precise enough.

SWE TSOs will compare the flow for each calculation scenario in a subset of CNEs, which is obtained from a sensitivity analysis performed periodically, with the flow in real time situation. With all these data, an uncertainty probability distribution will be built. For the TRM study, only CNEs with an influence of a 10% are taken, to focus on the more relevant ones. The Explanatory note has been updated regarding this topic for the sake of clarity.

#### 2.4. Remedial Actions (RAs)

The intentions of TSOs regarding integration of costly remedial actions into the LT CCM are unclear, since Articles 8(9) and 8(10) only state that TSOs “may decide” to use costly remedial actions, the identification of the concerned remedial actions being “based on expertise and experience”. It is remarked that the use of costly remedial actions in the CCM, provided that operational security of the network as well as economic benefit are ensured, should be mandatory and not only optional for TSOs.

##### **And**

Costly remedial actions should be systematically considered in the capacity calculation, to the same extent that they are considered in coordinated security assessment. Where economically efficient, costly remedial actions should be taken in order to allocate the maximum of cross-zonal capacity to be offered to the market. Congestion “rents” and redispatch “costs” are both financial redistributions elements that should be considered on an equal footing in order to optimise regional welfare.

According to FCA (and CACM), it is not mandatory to use costly remedial actions. Nevertheless, SWE TSOs propose to have the possibility of using costly RAs when in compliance with legislation, and when economically efficient. Article 8(10) of the proposal gives details about how to perform a CBA to include costly RAs in the list of available RAs.

For instance, in the Portugal-Spain border, curative redispatching is currently being used in long-term capacity calculation to solve voltage phase angle difference constraints.

It is not well understood why costly remedial actions, such re-dispatching and countertrading, need to be economically relevant at Union level and not at CCR level as this methodology only applies to the SWE region. We understand that certain redispatch or countertrading actions may affect other CCRs, but as capacity calculation and remedial actions are only coordinated at CCR level, it seems unpractical to assess the economic relevance of remedial actions at EU level.

As long as costly remedial actions impacts the French price, it impacts not only SWE prices. We understand that from regulators point of view, welfare should always be calculated at union level.

## 2.5. Generation and Load Shift Keys (GLSKs)

The justification of the chosen approach for calculating GLSKs (especially for RTE) remains unclear. As for other CCMs, it is suggested that the selection of a methodology to calculate GSKs should aim at minimizing the FRMs. It would be insightful to check periodically that alternative GSK calculation would not lead to better results over a representative set of situations.

### **And**

Article 7 does not provide a harmonised methodology for GLSKs. Should TSOs think that local specificities prevent harmonisation of principles and methodologies, these specificities should be clearly explained.

In chapter 4.3 of the Explanatory Note an explanation regarding GLSK approach justification is given.

Concerning GLSK methodology harmonization, SWE TSOs' GLSKs are built taking into account the best forecast of generation and load patterns. Since these patterns are different for each systems, SWE TSOs studied the best solution that GLSK methodology offers, concluding that the approach presented in the CC methodology gives less uncertainties when it comes to foresee generation and load profiles than using the same GLSK approach for all SWE bidding zones.

In the mentioned case of France, it has more of a portfolio behavior of the market, having different big generators with the same price. It is then generally more efficient to represent the way the French grid will vary as proportionally to connected power plants which is the best estimate we have. Having a merit order GLSK with so many big groups leads to bigger error, thus would lead to higher TRMs.

## 2.6. CNEs and contingencies

The proposed methodology, although claiming in its Article 6(4) that "cross-zonal and internal exchanges are treated on the same level of importance, avoiding undue discrimination of one over the other" does not actually ensure this non-discrimination. Indeed, the same sensitivity criteria are applied for internal and cross-border CNECs in the selection phase, but the internal and cross-border flows on these elements are not treated on an equal footing (for example, a CNEC can be fully pre-constrained by internal or loop flows, leaving no room for additional cross-border exchanges). This could be mitigated by introducing

minimum RAM (Remaining Available Margin) on the CNECs, as is done for example today in the CWE flow-based CCM.

The chosen value of minimum RAM should be high enough to ensure a fair treatment of internal and cross-border flows, but low enough not to lead to massive remedial actions (as is expected with the application of the 70% threshold of the Clean Energy Package). For consistency, this approach should be implemented together with a future amendment of the day-ahead CCM, so that the same values of minimum RAM and/or a guarantee of the long-term allocated rights are applied in the short-term.

The Remaining Available Margin (RAM), is a concept that belongs to flow-based CC approach. SWE TSOs aimed for a CNTC CC approach due to the fact that the variation of the exchange in one border does not affect the other one. A technical justification study was delivered to NRAs.

SWE TSOs developed an objective CNEs selection methodology which does not discriminate between cross-border and internal network elements, as stated in Article 19(2) of FCA and Article 18(3) of CACM.

It is asked in which cases N-2 situations are taken into account in the considered contingencies. In particular, in reference to the presentation made by SWE TSOs about the parallel run for the day-ahead capacity calculation, that the issue of phase angle difference in N-2 situation can limit the NTC very frequently. It is questioned whether alternative solutions (e.g. investment in dedicated grid components) could be found to handle this problem more efficiently than through NTC limitations.

According to SWE TSOs' national security regulations, relevant N-2 situations (simultaneous tripping of double circuits that share pilons) are taken into consideration in the CC methodology. In addition, costly curative RAs will be used to handle voltage phase angle constraints as in compliance with FCA Article 14.

Furthermore, SWE TSOs are studying and building the necessary reinforcements to reduce the impact of this contingencies. Particularly, regarding the contingency that is limiting the capacity from Spain to Portugal direction, network developments aimed at reducing the voltage phase angle constraint are planned to be built in the following years.

Since the SWE CCM for day-ahead misses key elements in the determination of operational security limits and contingencies, these errors are reproduced for forward capacity calculation there is no explicit and detailed methodology for the selection of CNEs. The SWE DA CCM and the explanatory note for the SWE forward CCM mention that CNEs are network elements that are significantly impacted by cross-zonal trades. However, they do not give any indication of what "significant" means. The SWE DA CCM simply states that TSOs shall select critical network elements. So instead of describing a methodology it only gives the right to TSOs to select CNEs, and not even in a coordinated manner. This flaw in the SWE DA CCM is reproduced in the SWE forward CCM.

According to Article 6, the same methodologies for operational security limits and contingencies used in the SWE capacity calculation methodology for day-ahead will be used, in order to ensure the coherence between long-term and short-term capacity calculations. The approved D-2 CCM gives a mathematical definition of the CNE selection methodology and the thresholds to be used. Further information is given in the Explanatory Note.

In Article 6.1 it is stated that a sensitivity threshold of 5% will be applied for the monitoring of CNEs. This approach is deplored, as the application of any threshold, and in particular a generic threshold for all possible CNEC, is not acceptable unless such threshold is justified based on assessment of economic efficiency. Such justification is missing.

SWE TSOs have the obligation to propose capacity values that fulfill operational limits. A CNEC selection methodology was proposed to identify network elements with cross-border relevance. SWE TSOs took on a commitment with SWE NRAs to study the impact of increasing the threshold.

## 2.7. Time frames

It is understood from the Article 4 that capacities will be calculated on a yearly basis, and then recalculated again every month. It is asked about the repartition of capacity allocated at different moments within the forward timeframe in response to the consultation on a methodology for long-term capacity splitting.

As explained in chapter 5.1 of the Explanatory Note, in each calculation the capacity for each allocation time frame will be calculated. This means that:

- in the annual calculation, the output is a set of values for one year
- in the quarterly calculation, the output is a set of values for one quarter
- in the monthly calculation, the output is a set of values for one monthly

## 2.8. Capacity Calculation Methodology

The draft proposal should be more detailed in the description of capacity calculation methodology. It should also avoid reproducing some of the inconsistencies with the existing regulation already observed in the day-ahead and intraday CCMs for the region.

### **And**

Article 10 is supposed to detail the capacity calculation methodology for the forward timeframe but the article is rather a description of the process that follows the capacity calculation. The binding proposal should describe the capacity calculation methodology in detail. The articles notably fail to provide any of the details requested by article 21.1.b of the CACM Guideline referred to in article 10.3 of the FCA Guideline, including:

- (i) A mathematical description of the applied capacity calculation approach with different capacity calculation inputs
- (ii) Rules for avoiding undue discrimination between internal and cross-zonal exchanges to ensure compliance with point 1.7 of Annex I to Regulation (EC) No 714/2009
- (iii) Rules for taking into account, where appropriate, previously allocated cross-zonal capacity
- (iv) Rules on the adjustment of power flows on critical network elements or of cross-zonal capacity due to remedial actions in accordance with Article 25 CACM
- (vi) For the coordinated net transmission capacity approach, the rules for calculating cross-zonal capacity, including the rules for efficiently sharing the power flow capabilities of critical network elements among different bidding zone borders

(vii) Where the power flows on critical network elements are influenced by cross-zonal power exchanges in different capacity calculation regions, the rules for sharing the power flow capabilities of critical network elements among different capacity calculation regions in order to accommodate these flows.

Description of the calculation methodology is given in Article 10 of the proposal. It is further explained in the explanatory note. All mathematical descriptions are included in order to allow readers to understand how the calculation is performed. The methodology is described giving the same details as in the day-ahead CCM, which is approved by NRAs.

(i) and (iv) are covered by Article 10.

(ii) is covered in Article 6.

(iii) is not applicable in SWE methodology, as no previous allocated capacity is considered in CC.

(vi) is not applicable, as CNEs are different for each borders.

(vii) is not applicable, as the power flows on critical network elements are not influenced by cross-zonal power exchanges in other capacity calculation regions.

## 2.9. Implementation

It is appreciated to see a deadline set for the implementation of the forward CCM, but the deadline is seen rather far away in time. A deadline for implementation could be set and applied earlier.

The tools to be used in SWE CCM are the same used for the day-ahead CCM, although some specific functionalities for LT CC need to be implemented. The go-live date is proposed taking into account the time needed to develop and test the tools and the process.

Bilateral capacity calculations for long-term allocation time frames are already ongoing, so market agents can currently participate in the long-term allocation processes in SWE borders.

## 2.10. Wording

It is stated a strong opposition to TSOs starting to forecast “market behaviour”. We believe that it is not their role and that this endangers the principle of unbundling. Forward capacity calculation should solely be based on technical requirements. The behaviour of market participants should not influence in any way the quantity of forward capacity calculated and allocated, as it has no relevance to the operational security limits and contingencies at the moment of allocation.

We request replacing the terms “best forecast of market behaviour” by “forecast of load and generation profiles” in articles 7.2, 7.3 and 7.4.

SWE TSOs take into account the best forecast of generation and load patterns in the CCM due to the fact that they highly impact in the capacity calculation.

SWE TSOs accept to write “the best forecast of load and generation profiles” instead, in Articles 7.2, 7.3 and 7.4.

On an editorial note, it is suggested the deletion of the word “with” in article 10.8 to make sure that the sentence is fully understandable (change to: “The coordinated capacity calculator of the SWE Region shall provide the validated NTCs after application of the reliability margin defined in accordance with Article 5 for each bidding-zone border of SWE Region”).

SWE TSOs accept the suggestion.

## Annex 1. Questions and answers during the consultation workshop on April 2<sup>nd</sup> 2019

On April the 2<sup>nd</sup> 2019, SWE TSOs invited stakeholders to participate into a workshop where SWE TSOs presented their implementation plan and answered the questions that stakeholders could have.

Please find bellow the questions and answers that were given during the workshop.

Q1. Who is the entity responsible for merging the IGMs, to build the CGM?

The responsibility is for the TSOs. RSCs, like CORESO, will provide this merging service, as well as they provide also the capacity calculation service.

Q2. How do you make sure that the remedial actions that you use one year in advance will be indeed available closer to real time?

We will use the same types used for day-ahead, but we will not include for long-term remedial actions that have not been proved before in short-term. We cannot guarantee 100% the availability in real time, but we will include remedial actions that are normally taken.

Q3. When calculating reliability margin (RM), why do you use short-term data to assess uncertainties for long-term?

Details about how the temporary solution is calculated are requested.

Unintended deviations are independent of the time frame calculation. Uncertainties are not. We propose to use the same percentile than in short term because we want to give a good capacity forecast also for long-term. We have more risk than in short-term, but there is other place to cover this risk: the splitting rules. Not all the long-term capacity will be given for the corresponding long-term auction, according to the Long-term Cross-zonal Capacity splitting methodology proposal for SWE CCR.

Regarding temporary RM, the day-ahead SWE explanatory note says that it will be used until we have enough data to start using the definitive RM methodology. The temporary solution fits what today it is being done in SWE capacity long-term and weekly calculations. In any case, the temporary solution will probably not be applied in the long-term calculation, as we expect to have the RM methodology working before the long-term CC go-live.

Q4. It is problematic to cover the risk in the splitting rules, because it is other methodology, and because some market agents ask to have all the long-term capacity available for the corresponding auction. We would prefer to consider more reliability margin in the calculation, and to have all the available capacity for each auction.

We take note of your comment. The SWE long-term capacity calculation methodology proposal and the SWE capacity splitting methodology are completely coordinated in this sense.

Q5. Regarding Splitting Rules, we would like to know where you are in the process of establishing splitting rules. Why the splitting rules methodology was not submitted at the same time as long-term capacity calculation methodology?

Consultation for the establishment of splitting rules methodology started on April 1st. Documentation is available on the ENTSO-E website. Nevertheless, splitting rules methodology is out of scope in this workshop it can be treated at the end of the session if time allows to further treat this issue.

Q6. How do you see more broadly the development of long-term capacity calculation in the border?

We don't expect to have more allocation of capacity with the new methodology. There will be annual and monthly calculation on all borders. There will also be a quarterly calculation on the Spanish-Portuguese border.

Q7. Question regarding the GLSKs: could you please elaborate the justification on the explanatory note for the use of a proportional GLSKs by RTE? What is the link between the fact that French production is composed of 75% of nuclear power and the fact that you choose to use a proportional GLSK?

Market behavior leads to a stable generator set-up (generators connected or disconnected) on the surroundings of the border of the French-Spanish interconnectors. This stability in the generation combined with the fact that 75% of the production comes from nuclear power, leads to a proportional distribution of the changes of the production in France.

Q8. Could you please elaborate on the combination of the different inputs?

In the annual calculation, there are 2 scenarios per season. Operational security limits are defined per period of the year. Outages are defined for specific dates. Remedial actions availability can be different throughout the year.

Q9. Do you combine all operational security limits with all remedial actions or you do expert based of the most credible combination?

Long-term capacity calculation foresees to perform calculation on all combinations.

Q10. What scenario is used in the end for the capacity calculation output?

The output of the methodology is one value per calculation scenario. All calculation values will be given to the market for auction specification purposes. The capacity offered to the market will be defined by the splitting rules based on the set of calculations done during the capacity calculation process.

Q11. Question regarding outages: CGMM says that you are not allowed to take into account in your common grid model (CGM) outages that last shorter than the whole calculation period. Does it mean that you're also not allowed to use reduction periods in the products that you will be offering to the market? How do you deal with outages that are shorter than the whole period?

In the CGMs, we will not include outages shorter than the whole period for which each CGM is created, according to [CGM methodology for long-term capacity calculation](#). Additionally, outage planning will be one of the other inputs of the capacity calculation process, and it will be combined with other inputs in order to create a set of scenarios. TSOs coordinate outage planning to minimize capacity reductions. Regarding the possibility of using reduction periods, the splitting rules proposal states that the product offered for the auction might be defined for a whole period minus those days where the capacity is exceptionally reduced by an outage. This is defined in order to propose the maximum possible capacity to the market.

Q12. The justification for the reduction of capacity has to be given no matter how many TSOs ask for the reduction of capacity?

Both TSOs will have to justify. The final value defining capacity will be the minimum of the different capacities provided by different TSOs, and the corresponding justification will be associated.

Q13. Questions regarding the process: When you perform the calculation for one border, what is the level of exchange considered on the other border?

TSOs don't have the control of the initial exchange defined in the Common Grid Model. Since Common Grid Model is not ready, TSOs are using a model with 0 exchange on borders. When we perform the calculation on one border, we consider the level of exchange on the other border to be fixed at the value defined in the common grid model.

Q14. You make the assumption that there is no mutual influence of the borders on a given Critical Network Element be it inside or outside the CCR. It's a good approximation but not completely true. Do you perform in the end a simultaneous feasibility test of the different values of NTC?

SWE TSOs submitted a study to SWE NRAs providing that both borders are independent. We do not plan to perform simultaneous feasibility tests of results obtained on both borders. We consider that we have enough generation in all countries in order to satisfy exchanges defined during capacity calculation.

Q15. Can you give an update on the way CGM is developing? Market participants don't have information on the progress of implementation of CGM.

Our idea is to use regional models while we don't have CGM models. Starting September 2019, when we will have the first CGM models, we will run tests on the ENTSO-E models.

16. Regarding fallback procedures: why don't we use the M-1 value [for monthly calculation fallback]?

Hypothesis defined on different months are completely different. Example: generation, load, thermal limits, outages...

Q17. Regarding fallback procedures: What's is the risk of using the annual calculation [annual calculation fallback]?

Using the previous calculation covering same time frame is more accurate and secure than taking the previous month calculation.

Q18. Regarding transparency: market participants expect TSOs to go beyond transparency regulations. Market participants expect to have all data available in order to replicate calculation done by the capacity calculator. This replication is vital for price forecasting processes.

The proposal covers only legal obligations. Nevertheless, TSOs acknowledge the interest from market parties to have further access to calculation information. There is ongoing works at ENTSO-E level in order to propose the right level of information that market parties need for their forecast models.

Q19. Regarding sensitivity thresholds for the CNE: in the explanatory note, it's written that the thresholds would be equal of higher than 10%. In the presentation it's written that it will be equal to D-2, thus 5%.

If the explanatory note says that the threshold is 10% it's a mistake. It has to be corrected. The threshold defined for long-term is 5%.

**Remark post-workshop:** *The 10% sensitivity threshold mentioned in chapter 4.1.3 is for establishing a subset of the CNEs to compare their flows between day-ahead capacity calculation scenarios and real time in the RM methodology. 5% is the threshold proposed in both short-term and long-term capacity calculation methodologies to establish the whole set of CNEs, according to CNEs selection methodology.*

Q20. TSOs will be adapting the values of reliability margins. There's 2 studies to be performed in D-2. If they change in Day-Ahead they will also change in long-term? If the conclusions of the study is that the thresholds can change, do we expect the same change in long-term capacity calculation?

In the methodology, the percentage 95% has been specified independently of D-2 threshold. TSOs open the possibility to have different thresholds in D-2 and long-term. The decision will be made with regulators once the results of the study are available.

Q21. Could you give us an overview of the main differences of what's done today and what will be done tomorrow? About: CNEC selection, uncertainties, Remedial Actions,

We are converting bilateral procedures into a regional procedure. We are also optimizing procedures by performing one single calculation for all TSOs instead of having one calculation per TSO. Another improvement is the fact that we are making public the methodology for capacity calculation. The new methodology provides a harmonization for some methodologies such as the statistical approach for the Reliability Margin definition.

Q22. Regarding CNECs selection, what you do today is it already the way it's performed?

So far, each TSO used a sensitivity analysis to select CNEs and coordinate after with the neighbouring TSO. In the new methodology, TSOs improve transparency by publishing the methodology and apply a standardized regional approach.

Q23. Is the list of elements used today the same list that the one that will be used once the new methodology will be implemented?

Today, the list uses elements based on security analysis done in the past plus some elements added due to operational situations experience. The list will be reviewed. Some elements could be added or deleted when applying the new methodology.

Q24. Are you planning to include costly remedial actions (RA) or is it just a possibility that you don't really intend to use?

Currently we use very few costly remedial actions. Mainly curative RA in the ES-PT border in order to reduce the angle between 2 sub-stations. Regarding the long-term methodology, we are planning to use those that are used today. We won't be using remedial actions that are not used in short term. The number of costly remedial actions used in the calculation is very limited. If we plan to increase the number of costly RAs, they will be first be included in the short term time frames and then perform a check on the Cost Benefit Analysis.

Q26. Regarding the Clean Energy Package, the current proposal is not compliant with CEP requirements. How do you foresee the compatibility of this methodology with CEP? Will a new methodology be published?

We are still assessing the impact of the Clean Energy Package. CEP Article 16 mentions that methodologies will be based on requirements stated by CACM. Current methodologies are thus expected to be used after CEP implementation.

Q27. Although CEP refers to CACM, there is a number of new requirements not included in CACM (example: network element selection). How will these new requirements be taken into account? Will the methodology be updated and published? Since Long-term has not been implemented, we could update the methodology before implementing it.

We think that our methodology for element selection is objective and allows to asses if an element has an impact or not on a border. Thresholds may be discussed but the methodology provides an objective approach in order not to do any discrimination among elements. Discussions will be opened once the impacts are assessed. After this, if it's necessary, we will update the methodology.

We think that the impact of CEP needs to be assessed carefully and it will take some time. We do not want to stop ongoing implementation of the methodology at this state.