Minutes of Meeting Ad-Hoc TF "Adequacy & Flexibility Study" January 22, 2019

MEETING LOCATION: ELIA, KEIZERSLAAN 20, 1000 BRUSSELS
MEETING DATE: JANUARY 22, 2019 - 14H00 UNTIL 16H00

LIST OF PARTICIPANTS

LAST NAME	FIRST NAME	ORGANIZATION
Buijs	*Patrik*	*Elia - Chairperson*
De Vos	*Kristof*	*Elia*
Van Thielen	*Elmo*	*Elia - secretary*
Verelst	*Martine*	*Elia*
De Clercq	*Bernard*	*Elia*
Feito-Kiczak	*Rafaël*	*Elia*
Hahati	*Bilal*	*Elia*
Jourdain	*Sigrid*	*FOD Economie*
Mouffe	*Ludovic*	*FOD Economie*
Aniaux	*Pauline*	*FOD Economie*
Gusbin	*Dominique*	*Federaal Planbureau*
Devogelaer	*Danielle*	*Federaal Planbureau*
Debrigode	*Patricia*	*CREG*
De Waele	*Bart*	*CREG*
Ferlito	*Davide*	*EDF*
Georis	*Bruno*	*Engie*
Maes	*Guillaume*	*Engie*
Harlem	*Steven*	*FEBEG*
Gilbert	*Donald*	*Restore*
Van Bossuyt	*Michaël*	*Febeliec*

Agenda

- *Context of adequacy and flexibility study*
- *General Scenario Set-Up*
- *Adequacy Methodology*
- *Flexibility Methodology*
- *Public Consultation*

Introduction

The chairperson (Mr. Patrik Buijs) opened and introduced the meeting. The purpose of this meeting was to introduce the taskforce into the methodology for the 10 year adequacy and flexibility study. The methodologies for both aspects were discussed. The chairman indicated that the flexibility study is a new concept, which is why it will be discussed in more detail compared to the adequacy methodology which builds further on the current practice. The final point is on the ongoing public consultation on the input data for the study.

Context of adequacy and flexibility study

Elia (Mr. Bernard De Clercq) presented the context in which the adequacy and flexibility study will take place. The last study with a similar scope dates from April 2016 and received a lot of public feedback. The DG Energy of the FPS Economy in particular organised a public consultation on that study and formulated several recommendations. One of those recommendations was to perform this study on a regular basis, in casu every two years. The new legal obligation introduced in 2018 imposes such a study on both adequacy and flexibility outlooks for the next 10 years, with a first publication in June 2019 and to be repeated every two years afterwards.

The legal obligation requires Elia to cooperate with FPS Economy and Federaal Planbureau and to coordinate with CREG. It does not impose further stakeholder involvement. Nevertheless, in line with other methodologies and the way of working, it was decided to facilitate stakeholder interaction. The methodology and the data for the base case scenario have been discussed with FPS Economy, CREG and the Federaal Planbureau. Elia now wishes to develop the base case scenario, subject to public consultation, before executing the studies and presenting the results. Febeliec indicated that they would have wanted to be involved in establishing this methodology as well and stated that Elia could have included more parties than the legally obliged ones.

No questions from the TaskForce were noted for this point.

General Scenario Set-Up

Elia (Mr. Rafaël Feito-Kiczak) presented the envisaged time horizon and relevant parameters taken into account for this study.

Febeliec asked if ALEGrO was taken into account in 2020 or not. Elia explained that the model simulates winters and ALEGrO will be included as of winter 2020-2021.

Febeliec asked if Market Response comprises Demand Response as well as emergency generators (diesels). Elia confirmed this is the case.

FEBEG asked how sensitivities were determined. Elia responded that they would take into account suggestions from the public consultation. There is no merit in unlimited sensitivities, but Elia wishes to take into account sensitivities identified as key sensitivities, in accordance with FOD, CREG and Federaal Planbureau.

Febeliec commented that price will also need to be a sensitivity to be taken into account for the flexibility part. Elia explained that the economic assumptions are also part of the public consultation.

Febeliec pointed out a difference in nuclear capacity on the long term (up to 2050) forecasted by the European Commission and the International Energy Agency or political announcements of member states. This impacts the parameters taken into account. Elia stated that they use the Mid-term

Adequacy Forecast as a basis and supplement this with the most recent information through public sources and bilateral alignment. Differences between sources could be taken into account through sensitivities.

Engie requested to clarify "countries modelled in detail". Elia explained that it was necessary to model direct neighbours as well as their neighbours because they influence their ability to export to Belgium. Engie asked why this cannot be achieved through assumptions on import capacities. Elia clarified that a correct modelling requires a view on the real capacity for Belgium to import, which is achieved through detailed modelling of several climate years. Engie stated that Elia should be prudent in the use of the word "detailed" modelling, as this might imply details on the assumptions made for non-neighbouring countries as well. Elia recognized that the level of detail for these countries is lower than the direct neighbours, but emphasized that these assumptions are becoming more and more the standard in Europe. Elia also pointed out that this is the same approach the has been applied already before and used in European adequacy assessments

Febeliec asked how Elia plans to include evolutions like the CORE region market and Brexit. Elia responded that Brexit is not clear as of yet and the model considers CWE with flow-based up until now but this could be extended to a wider region if needed. Evolutions in key parameters will be considered. Elia emphasizes the importance of flow-based modelling due to Belgium's position in the European grid but also stresses that this kind of flow-based modelling for long-term studies is still under development. Elia will ensure transparency on the chosen parameters.

Adequacy Methodology

Elia (Mr. Rafaël Feito-Kiczak) presented the evolutions in the adequacy study, since last conducted in 2016.

Febeliec commented that 100 MW granularity might not be small enough, especially in the 0-100 MW range. Elia responded that this granularity results from a consideration of the level of detail versus the required calculation time and technical limits of the model. It is to be assessed whether the 0-100 MW range requires a lower granularity. Elia also mentions that on previous occasions it has demonstrated with quantitative outputs that going below a 100 MW thresholds would go beyond the precision that could be reached with this kind of modelling.

EDF asked if storage also includes residential sources. Elia confirmed this is the case: small scale storage includes for example home battery systems and vehicle to grid. EDF asked if the use is optimized economically in the model. Elia confirmed that this is the case.

Febeliec asked to clarify how HVDC links in non-meshed grids are modelled. Elia explained that they will be NTC-based. Elia does not see any difference in operation between DC and NTC AC lines compared to flow-based interconnections. What is important is the forced outage rates (for the DC links in non-meshed grids) because there is no second path for the flow (which is taken into account in the NTC capacity in AC meshed grids). DC links in meshed grids (e.g. ALEGrO) account for outages by taking into account the impact of an exchange over an HVDC interconnector on all CNEs directly during capacity allocation, as described in the evolved flow-based methodology.

EDF asked to clarify if the production model is per unit. Elia stated to have a per unit model for Belgium and neighbouring countries and Entso-e data (which is also per unit but aggregated per type and age) complemented with supplementary available data for the other countries if relevant.

Flexibility Methodology

Elia (Mr. Kristof De Vos) presented the new flexibility study methodology.

Engie asked if there is a feedback loop from the flexibility study to the adequacy study. This was later in the presentation confirmed to be the case.

Febeliec pointed out that there is a relation between means used in Day-Ahead (generally managed by the market) and means available in Real-Time (generally managed by the TSO) and that these are communicating vessels. Elia confirms and explains that the distinction between TSO- and market flexibility will no longer be made in the study (total flexibility need will be based on variability and prediction errors of the residual demand).Therefore the flexibility need will always be the same regardless of whether means are deployed for market or TSO needs. Febeliec responded that the blocks in the example are in that case not representative. Elia took note of this remark.

Febeliec wished to clarify which forecasting reference will be used for the error, because BRP forecasts could level each other out. Elia stated it would require the system forecast error and thus use the TSO forecasting errors. Febeliec comments that forecasting tools might improve and will probably do so as well in the future. Elia stated that they will deliberately not go too far back in time for reference data and that the caclulation allows for a prediction of forecasting improvements. It is also possible to filter out certain outliers in the historical forecast errors, though this should be considered carefully.

Engie commented that, whereas Day-Ahead and Real-Time imbalances are the responsibility of the BRP and TSO respectively, in Intra-Day there is no clear attribution of responsibility for balance. Elia responded that this was relevant in the old approach where the split between TSO and Market flexibility was made, but the combined flexibility need in the new model will be the same regardless of responsibilities. It is illustrated that the TSO balancing products are a subset of the flexibility services defined in this methodology.

Febeliec commented that the example takes demand as a given and asked if this means that only generation capacity is considered to be flexible. Elia stated that the identified need can be fulfilled by DSR as well or other types of capacity. Febeliec commented that the demand is however fixed in the example, regardless of price. FSP Economy responded that the monte-carlo years in the model determine the drivers for electricity demand and production (e.g.: temperature, wind,…) and therefore the price in Day-Ahead, which is the starting point of the model. The Intra-Day flexibility need can then be fulfilled by production means as well as DSR. Febeliec responded that the example is then too production-focused in its wording and should be changed. Elia took note of this remark.

Febeliec asked to clarify how the different types of flexibility would be used for balancing. Elia responded that "slow flexibility" is in the Intra-Day timeframe, "fast flexibility" is close to real time (for which the time period relates to the one of FRR) and "ramping flexibility" (for which the time period relates to aFRR) is in real time.

EDF asked to clarify how the distributions on forecasting errors are constructed and used. Elia responded that they start from historical forecasting errors and are extrapolated taking into account potential future improvements and upscaling for increased volumes. This is done per technology and a 3-sigma scenario (99,9%) should be covered by flexibility means. Febeliec commented that Elia should then avoid taking additional margin in the end to avoid overdimensioning. Elia agreed on this point, but equal care should then be taken in not underestimating in the base hypotheses (e.g.: by overly filtering outliers).

Febeliec asked how CHP is modelled in flexibility. Elia explained that large scale CHP is based on the known data (Pmin/Pmax) of those units and are modelled individually in the adequacy model. Small-scale is determined based on historical data (those units are must run with a profile). It is assumed that the large scale CHP units could go to their maximum output to cover adequacy and flexibility. The associated thermal process is not modelled, but Elia is open to suggestions for these assumptions.

EDF comments that the start-up costs will determine the real dispatching decisions of units for flexibility. Elia confirmed that start-up cost is considered in the simulations.

FEBEG asked to clarify how interconnections are taken into account. Elia responded that assumptions are made on what flexibility interconnections can provide, though the liquidity in other markets is difficult to estimate outside of scarcity periods. Engie asked if this means that it is determined as the difference between the NTC and DA clearing, only taking into account slow reserves. Elia stated that in addition to this, reserve sharing is taken into account as fast flexibility.

Febeliec asked if stakeholders can comment on the numerical data in the public consultation. Elia confirmed this to be the case, preferably by referring to public references or with solid argumentation.

Febeliec commented that CHP is only one category and it does not show a lot of growth. Elia responded that this in accordance with the most relevant available data sources and welcomes potentially more representative alternatives. Febeliec further indicated that newer CHP's could have different characteristics than the existing ones considered in the methodology and stated that both additional growth and the effects of this change in characteristics should at least be present as a sensitivity in the study.

FOD asked if over-firing of power plants is taken into account. Elia stated that this is not the case, but they are open to suggestions from the market on how to model this. EDF stated that this is rather exceptional.

Febeliec commented that diesel generators – as emergency generators as well as other generator groups – as a technology is missing and considers it to be a relevant flexibility provider. Elia commented that it is present in some decentralized sources and is possible to be modeled in the adequacy study so sensitivities are possible on this as well. Febeliec commented that there is however no mention of a model for diesels in flexibility categories. This point was noted by Elia and it is open to public consultation. Federaal Planbureau stated it to be not very relevant given the 2030 targets on decarbonization. Febeliec replied that decarbonization is not an objective of this study and that the limited number of running hours for diesel should not be very constraining. Engie stated that diesel is more a last-resort flexibility source.

Febeliec asked if there are any planned measures to ensure sufficient flexibility. Elia stated that a first step is identifying the need for flexibility. Afterwards a discussion can be started on how this need will be met. Depending on the results, Elia may prepare some recommendations and, more generally, the study can serve as useful input in the broader debate.

FOD asked if limited storage capability is also modeled. Elia confirmed this is the case: both pumped storage and small-scale storage are modeled with limits on their storage capacity.

Engie asked what the impact is of the clean energy package and the 70% cross-border capacities. Elia stated it is considering to take into account the 70% availability, though it is not determined yet at this point how this should be done. Febeliec commented that Elia has an investment plan including extended interconnections in place and this can be used.

Public consultation

Elia (Mr. Rafaël Feito-Kiczak) presented the scope and the documentation of the ongoing public consultation on the input data for the base case scenario of this study.

Febeliec stated that three weeks of public consultation is very limited to make profound analyses supporting suggested inputs. Elia took note of this concern and responded that the study is subject to a legal calendar. Additionally, this method will continue to evolve for every iteration.

Febeliec asked if there will be a link between the strategic reserve and this consultation. Elia confirmed that mostly the same parameters are relevant for strategic reserves as for the adequacy and flexibility report. Where relevant and available, for some aspects updated assumptions are taken into account.

Febeliec stated that CHP shows no growth and finds it not representative. Elia stated that CHP is included in the structural block and could be complemented with CHP sensitivities. Available data do not show a lot of additional projects after 2021. If market parties have more information on concrete new CHP projects, they are more than welcome to provide this information during the public consultation.

Febeliec stated that 1300 MW of market response for 2018 seems low given the reality and the ongoing winter. Elia refers to the last iSR taskforce, where it was decided that Elia would publish the new results of the update of the market response study sooner to allow discussing these results and potential next steps with the TaskForce. Febeliec formally requested Elia to either include the results in the flexibility study or explain in the report why they were not taken into account and how this reflects on the results.

Febeliec stated that the linear growth of electricity consumption is an overestimate compared to historical data. Elia considers the current data source as the best available solution and invites Febeliec to share alternative sources that could be taken into account.

Closing

The chairperson closed the meeting by thanking all parties for the constructive discussion and kindly invites all parties to participate actively in the public consultation as this also covers aspects not consulted upon in the past.

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