

Subject: Elia consultation on the input data for the study on adequacy and flexibility needs of the Belgian electricity system  
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## Introduction

Elia is organizing a public consultation on the input data for its study on adequacy and flexibility needs in the Belgian electricity system. The deadline for this consultation is the 11<sup>th</sup> of February, 2019.

FEBEG welcomes this consultation and would like to thank Elia for creating this opportunity for all stakeholders to express their comments and suggestions on the input data for the adequacy and flexibility study. The comments and suggestions of FEBEG are not confidential.

## Comments and suggestions with regard to the set-up and the methodology of the study

### *FEBEG welcomes the new adequacy and flexibility study*

The adequacy and flexibility study of Elia is considered as very important for the Belgian energy sector – and for the Belgian society as a whole – as the study will be a **crucial element in the ongoing discussions on the implementation of a capacity remuneration mechanism** in Belgium.

For this reason, FEBEG welcomes this consultation on the input data and – more generally – the update of the adequacy study that will be broadened with a study on the flexibility needs in the Belgian electricity system.

### *FEBEG supports the study on the flexibility needs*

FEBEG sees the added value of identifying the flexibility needs in the Belgian electricity system for the same time horizon as the adequacy needs: this study will create **more transparency and visibility on the flexibility needs which is valuable information for market participants as well as for investors**.

Nevertheless, FEBEG is wondering what the real objective of this part of the study is. Is it the objective to provide visibility to guide market participants and investors in their decision-making or will Elia propose concrete recommendations and actions? If so, what kind of recommendations and actions? Will the results lead to certain choices in the design of the capacity remuneration mechanism or to the development of new products in short term markets? FEBEG would like to call upon Elia **to be prudent and to carefully consider possible recommendations or actions** in order to avoid to launch a new debate or controversy on the energy mix that would delay the implementation of a capacity remuneration mechanism.

### *FEBEG regrets that there's no consultation on the methodology*

FEBEG clearly appreciates this consultation on the input data for the adequacy and flexibility study, but regrets that there's as such – at least in this stage – no consultation on the methodology that will be used for the study while the part on the identification of the flexibility needs is new.

On the adequacy part:

FEBEG understands that the methodology for the adequacy study is **in line with the methodology used for the determination of the volumes of the strategic reserve** (including some improvements as mentioned in the task force organized on 24<sup>th</sup> of January, 2019). Yet, FEBEG is wondering if the methodology is in line with the one of ENTSO-E?

On the flexibility part:

The study on the flexibility needs in the Belgian electricity system is new, and also quite innovative at European level. FEBEG welcomes this initiative and wishes to support Elia in this undertaking. In this respect, FEBEG considers it **valuable that market parties would receive more detailed insight on the exact methodology that will be used and that they would be able to contribute to the development and improvement of the methodology**. Will Elia at some point consult on the methodology for the determination of the flexibility needs?

***FEBEG would like to point to recent evolutions in the Clean Energy Package***

FEBEG would like to draw the attention of Elia to the recent evolutions in the Clean Energy Package in terms of adequacy assessment and reliability standards in the framework of the implementation of a capacity remuneration mechanism. For instance, the national adequacy assessments should contain the central scenario of ENTSO-E.

**Comments and suggestions with regard to the input data**

***Comments and suggestions on the hypotheses***

Renewables capacity

FEBEG observes optimistic assumptions in terms of development of renewable capacity, especially wind and PV, in the study: the capacity will double at the 2030-horizon. FEBEG understands that these assumptions are based on expressed political ambitions and that the construction of this capacity will for a large part depend on the support mechanism in place.

**These optimistic assumptions raise a lot of questions and doubts.** Are the figures in line with the most recent figures as published in the different climate plans? What are the expected system costs for these scenarios? What are the expected costs for the according grid development? What about the needs, opportunities or constraints with regard to the repowering of these assets after a certain years of operations?

For the abovementioned reasons, FEBEG considers it valuable to adjust the base case or **to at least add sensitivities with less renewables** capacity (e.g. 150 % increase of wind and PV capacity by the end of 2030).

Battery and market response capacity

FEBEG also observes **very optimistic assumptions on the evolution of batteries and market response capacity**. In this context, it is important to first point out the following elements.

- FEBEG would like to highlight that – due to technical and operational constraints – the duration (MWh) is crucial when talking about available capacity for batteries and market response.

- FEBEG also understands that these assumptions are again based on expressed political ambitions. However, at this stage, there is no support mechanism in place – as this is the case for renewables – to boost the development of such capacities. FEBEG does not believe that the expected market conditions will be sufficient to trigger such amount of new capacity in the short and medium term.

FEBEG understands that the battery and market response capacities – together with gas-fired power plants – will constitute the structural block. However, FEBEG is of the opinion that **a substantial part of this capacity increase could actually only materialize when a support mechanism – such as a capacity remuneration mechanism – would be implemented** in Belgium at that horizon. For this reason, the hypothesis related to storage and market response should be reviewed: only the capacity that would be developed based on market conditions, could be used as input in the modelling. FEBEG has the impression that – both for batteries and market response – the methodology compared to the study 2017–2027 changed on that matter as the hypotheses taken in the previous study did not include such a growth that most probably will not materialize under current market conditions without support.

FEBEG also wants to point out that it is **up to the market to decide on an efficient mix of technologies that will constitute the structural block**. Unless specific measures are concretely being put in place by authorities, the market will decide on the technology mix. **In other words, the adjusting variable of the structural block should not be limited to gas-fired power plants.**

#### Foreign capacities

FEBEG would also like to suggest Elia **to carefully model the available capacity in neighboring countries in the short and medium term**: FEBEG observes changing energy policies across Europe (e.g. recent announcement of the coal phase-out in Germany, next to other coal phase-outs announced). For this reason, Elia should be prudent in assessing the expected contribution of foreign countries to the security of supply of Belgium in case of simultaneous scarcity situations at CWE level (in combination with the constraints on the grid). **At the minimum, Elia should model a scenario with reduced thermal capacity in Germany, France and the Netherlands.** According to FEBEG, the level of dependence of imports is rather a political decision – as it has many macro-economic impacts – and a question of coordination between TSO's. Elia should be very explicit on the risks for the system associated with a high level of dependence on imports. Elia could also list the indirect impacts (e.g. macro-economic impacts) of such a choice with the cooperation of the Federal Planning Bureau for instance.

#### Detailed information on capacities

In the framework of the consultations on the input data for the determination of the volume of strategic reserves, Elia provides a list with units – by technology – constituting this capacity. Could Elia not provide similar information in the context of this consultation?

#### *Adjustment of the base case and proposed sensitivities*

FEBEG is of the opinion that **the base case should certainly be modified with regard to the volumes of batteries and market response that are taken into account**. Market conditions will not be favorable enough to attract the proposed volumes of batteries and market response: these volumes will only be reached with the implementation of a capacity remuneration mechanism. Therefore, the hypothesis related to storage and market response should be **adjusted downwards: only the volume of capacity that is estimated to be developed based on the expected market conditions, can be used as input** in the modelling of the adequacy and flexibility study. On top of that, FEBEG wants to remind that a **capacity remuneration mechanism will need to be technology-neutral**: it will be up to the market to determine the most efficient mix that will constitute the structural block. The structural block will thus

consist of storage, market response and generation: **it is conceptually not correct to limit the structural block to a remaining volume of gas-fired power plants.**

FEPEG considers the assumptions and hypotheses for the adequacy and flexibility study as very optimistic. **Therefore, FEPEG proposes to adjust the base case in the direct of more realistic assumptions or to – at least – consider to include the following sensitivities:**

- reduced renewables' and CHP capacities (assuming only part of the political ambitions will realized)
- reduced installed thermal capacity in neighboring countries due to evolutions in national energy policies (taking into account the announced coal and nuclear phase-out);
- slightly different evolutions of the electricity demand (& peak demand).

The abovementioned proposals for sensitivities are based on a first analysis of the information made available during the consultation on the input data. **FEPEG therefore wants to preserve the right to propose additional sensitives** in function of modifications to the final input data or in function of the results of the adequacy and flexibility study.

### *Detailed comments and suggestions on the input data*

#### Methodology

On the 34 historical scenarios used:

- Are these scenarios available for PV, wind and demand? Since markets are highly interconnected and will be even more in the future, these scenarios should also be available for the other countries modelled.
- Does Elia take into account the climate change phenomenon into account? A new (set of) climatic conditions could be simulated.

On the estimation of flexibility needs: are the data available with a 15 minutes granularity for all countries modelled? This question is also valid for the estimation errors in function of the time to real-time.

At the moment, there are no flexibility studies published in other countries. How does Elia take the neighboring countries into account? What is the mechanism of the borders and the timing of borders?

#### Renewables:

On PV: for clarity purposes, could Elia provide a split of the installed capacity per region?

On biomass: what are the units behind the individually modelled biomass? There are still many uncertainties on prolongation of green certificates' regime both in Wallonia and Flanders.

#### Interconnectors:

What is the 'simplified flow-based method' and how does it differ from the actual flow-based method? How does it impact the results compared to ATC and to the flow-based method? What is the added value?

How will the new article 14 of the Electricity Regulation – part of Clean Energy Package – and in particular the 70 % of thermal capacity that must be available for the market on the day-ahead timeframe, be implemented in the study? How to cope with potential internal and cross-border congestions that must be solved with redispatch and curtailment? It is not because the flow-based domain is bigger that the feasible market clearing point can reach the edges of this domain.

For the flexibility study, the cross-border capacity that is considered is the left-over of the day-ahead capacity. This approach is less precise than what is done today operationally. Shouldn't Elia consider a more advanced approach for defining the intraday cross-border capacity (at least in line with the current practices, or foreseeing the arrival of the flow-based intraday capacity calculation)?

Does Elia plan to benchmark the results of the modelling and forecasting with real situations, e.g. flows during system stress.

CHP:

The capacity level of CHP by 2030 – thus including prolongation of some large CHP's – is quite uncertain given the reduction of green certificates. What is the reasoning behind these stable figures?

Market response:

What is the reasoning behind the strong increase of market response, especially at the 2025–30 horizon? Is Elia sufficiently confident that this capacity will come to the market given the expected evolution of the electricity prices?

Will Elia cross-check of the level of market response observed this winter, also considering that some exceptional measures have been taken that may not re-materialize under normal market conditions? FEBEG also suggests to look at the time between activations and the impact of rebound effect.

Batteries:

What is the reasoning behind the important increase in the development of batteries? Is Elia sufficiently confident that this battery capacity will come to the market given the expected evolution of electricity prices?

In addition, what is the costs behind this development of new batteries if their development is not triggered by the market? What would be the market design to enable such investments? What is the impact of peak/off-peak spreads?

Total electricity consumption:

What are the forecasts of peak demand (MW)? This is crucial data which has not been listed in the excel file. With the increasing share of heat pumps and cooling systems (and expected more extreme weather conditions), the peak demand could increase more than the energy consumption. Will Elia make sensitivities on the demand curves?

Has Elia aligned with the scenarios from ENTSO-E? Is there a consistency between demand scenarios across countries (cfr. regional adequacy assessments will be needed to get approval from DG COMP)? Which demand profiles will be used, e.g. sourced from ENTSO-E?

Fuel/CO<sub>2</sub>:

What are the yearly CO<sub>2</sub> emissions obtained in the 10-year-exercise? Will Elia make a sensitivity with the introduction of a carbon price in other countries (above the existing EU-ETS)?

Investment assumptions:

The values for the CAPEX are not pertinent in the framework of an adequacy study. However, they will be needed when considering how to solve the identified adequacy issues.

FO rates:

It would be valuable to integrate the statistics observed in 2018 in the data set. Should DSM not also have a forced outage? How exactly is the number of FO rate used in the model? What about maintenance and planned outages: how are they modelled?

How is the forced outage rate modelled in the other countries (e.g. nuclear in France)?

Source for other countries:

What are the data used for the capacity available in neighboring countries? Do they integrate recent announcements on coal phase-out (e.g. Germany)? How is regulatory uncertainty on nuclear and/or coal capacity taken into account?

Which scenario is used for France, e.g. the recently published PPE or the scenario used by RTE in the Bilan Prévisionnel (Ampere, etc.)?

Germany has 3 different reserves in place: the grid reserve (internal congestion), the climate reserve (lignite) and the capacity reserve (for addressing overall scarcity risk). How are these reserves considered in the modelling?

What are the assumptions on the cross-border contributions with non-modelled countries during stress events? What is the consistency with the assumptions of neighbouring TSO's (esp. for modelled countries)?

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