WG Adequacy #12 - Meeting report

Thursday 28th October 2022

Meeting	
Date	28.10.2022
Organiser	James Matthys-Donnadieu

Participants		Attended
Baudhuin Serge	ENECO	☒
Benquey Romain	Centrica Business Solutions	☒
Bernard Pierre	Hartree Partners	☒
Boisseleau François	ENGIE	☒
Boustani Zackaria	FOD Economie	☒
Canière Hugo	Belgian offshore platform	☒
Catrycke Mathilde	ENGIE Benelux	☒
Chris Célis	ODE	☒
Coppin Xavier	ENGIE	☒
Criach Yanez Ramiro	NSIDE	☒
Debrigode Patricia	CREG	☒
De Changy Maxime	Fluxys	☒
De Waele Bart	CREG	☒
Dupont Benjamin	Essenscia	☒
Gerkens Benoît	CREG	☒
Harlem Steven	LUMINUS	☒
Herbreteau Sarah	CREG	☒
Huertas Hernano Daniel	N-SIDE	☒
Labar Christophe	Federal Plan bureau	☒
Laleman Ruben	ENGIE	☒
Mortier Jo	RWE Supply & Trading GmbH	☒
Robinson Laurence	LCP Delta	☒
Strosse Tom	ENECO	☒
Van Bossuyt Michaël	FEBELIEC	☒
Van de Keer Lieven	T-POWER	☒
Van den Bosch Sven	FLUVIUS	☒
Van der Biest Piet	SIEMENS	☒
Van Gijzeghem Francies	ABDE	☒
Verrydt Eric	BASF	☒
Waignier Jean-François	FEBEG	☒

Report			
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Function	PMO Adequacy		
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1. Agenda

- Welcome
- Public consultation on the methodology, the basis data and scenarios used for the study regarding the adequacy and flexibility needs of the Belgian power system for the period 2024-2034
- Next meetings

2. Minutes of Meetings

Disclaimer: The slides used as a support of the presentation are available online The minutes of meetings only cover the discussions that took place during the Working Group.minutes of meetings only cover the discussions that took place during the Working Group.

Context of the Adequacy & Flexibility study (timeline, process, regulatory framework)

No questions were raised on this part.

Methodology

General description

No questions were raised on this part.

Adequacy assessment

No questions were raised on this part.

Flexibility assessment

No questions were raised on this part.

Economic viability (incl. study by Prof. Boudt on the hurdle rates)

FEBELIEC is asking if Elia finds it normal that the hurdle premium is in most cases higher than the WACC (Weighted average cost of capital) - i.e., effectively more than doubling the return requested. Elia answers that it is in line with previous study and what was observed last time, especially for specific technologies. Elia specifies this is driven by the rate proposed by Prof. Boudt in the study. FEBELIEC argues that with the WACC some gearing is already taken (I.e., extra revenues are generated based on the gearing), but with the hurdle premium even higher, the return on investment becomes quite excessive. Elia answers that the justification of the ranges taken for the hurdle premium is clearly explained in the study itself and invites FEBELIEC to react on it in the context of the public consultation.

FEBELIEC is also asking a question regarding the following sentence on slide 27 “Considering that the market price cap can be increased over the lifetime of the investment, based on the observed prices in the simulation. Recent proposals (or future decisions) from ACER on the matter can also be taken into account;”. Particularly, FEBELIEC asks how Elia will take future decisions into account because normally only the past is investigated and not the future; a future decision cannot be considered because it has not been taken by definition. Elia answers that the assumptions will be reviewed, also at the beginning of year 2023, to consider the developments happening in the market (e.g., a future decision on the market price cap – as other decisions on other parameters). Elia answers that if such changes occur in January or February, it can be taken into account for the study. FEBELIEC is concerned about decisions

that will be included without legal basis. Elia answers to take the current legal basis, unless the legal basis changes before the simulations are done. Elia will start from the current price CAP that is 4000, which FEBELIEC criticizes as not being a legal basis.

ENGIE raises a question of clarification on the topic of multi-year investment loop. On a 12-year investment period there might be good and bad years but distributed on the lifetime of the asset. In that case ENGIE asks how Elia does consider the fluctuation of bad versus good years over time. Elia proposes for the remaining years to reach the lifetime limit, to duplicate the value of the last year (i.e., extrapolation of the last year). Elia adds that for the investment, the idea is to look at the whole asset lifetime to see if the internal rate of retention is positive over the period. For existing units Elia looks at 3 years of revenues, so if the first three years are not profitable, indeed the unit will be closed but can be reopened later. ENGIE's point of attention is to make sure that if there is an investment not profitable for 5 or 6 years at the beginning, but becomes pretty profitable, it is unlikely people will invest. Therefore, ENGIE says it is important the way the results are presented gives visibility on how the revenues will be distributed between the different time horizons. Elia notes the point.

FEBELIEC is asking how Elia will treat Picasso (hoping Picasso and Mary will be there looking at 2024) and marginal clearing, i.e., only looking at reservations will be a gross underestimation of actual revenues, that might lead to consider – especially new units- not viable while they are. Elia answers that the biggest issue related to balancing revenues is that it relies on historical data, however Elia has no available information on what the actual revenues from activation will be moving to marginal clearing. Then the second issue is the activation frequency, as it can be questioned the relevance of estimating the activation revenues. Elia answers that there is a two steps approach considered. The first step is to evaluate which technology could contribute to the different balancing services and to which extend they would be the actuals technologies used for these balancing services. Second step, for the technology which can contribute to the balancing services, Elia looks at which kind of revenues from reservation, can they actually see. FEBELIEC maintains that there is a bias with underestimation of revenues, with an EVA too conservative. Elia will take FEBELIEC's comment into consideration and welcome FEBELIEC to react with a proposition to a better estimation of the net revenues.

Detailed scenario assumptions

Study on residential and tertiary flexibility potential (DELTA-EE study): update and forecasts

FEBELIEC asks how, when, and where Elia will cover the topic of industrial flexibility. Elia answers that it is covered in the presentation on DSM shedding.

No other questions were raised on this part.

Forced outages study (N-SIDE)

Elia is introducing the study as well as the objective of the study performed by N-SIDE on Forced Outage rates.

N-SIDE is then presenting the methodology and results of the study.

FEBELIEC is asking how N-SIDE is taking into account the ageing of plants and the changes in efficiency over time (different outages and/or outages profiles). N-SIDE provides an average for all units regardless

of age. However, N-SIDE is mapping whether the units are new or old, these are reported in the report. N-SIDE also highlights that there are some drawbacks to make the distinction because in case of some technologies there are only a few units, which leads to not enough data to get reliable from a statistical point of view (ex: it is for example possible for CCGT's but not for pump storages due to less information available). FEBELIEC questions the use of an average outage rate for old and newer units, as well as per categories (cogens are all put in the same basket while there is quite a variety). Elia comments that 99% of the units are existing units in the model; making the distinction would then be marginal. Cogen are units generally smaller than 100 MW for most of them (bigger units are taken into account because their outage is reported), for which data are only available for Belgium and not neighboring countries; making the distinction then would be statistically irrelevant with only 2 or 3 units.

FEBELIEC also criticizes that looking at historical data, Elia also includes units that have closed, which also bias results in having more outages. Elia answers that the statistics is calculated based on produced power, meaning that the units that are not active anymore and closed one year ago may still have a big influence, but an unit closing five years ago would already have a marginal influence on the results. Elia also adds that the data used go back to 2015 (related to ENTSO-E publication), which limits the number of units that have closed. In addition, Elia adds that future simulations are done for the upcoming 10 years where the age of the current fleet will also be older.

ENGIE asks how N-SIDE considers the aging for the assets (ex: Drogenbos would be 40 years old in 2024, so very likely to be closed or refurbished) and how N-SIDE considers the CO2 limits that impact the availability of some units in the system. Elia answers that the AdeqFlex study is not a CRM study. In terms of installed capacities, Elia will take all existing units unless there is information on REMIT or an article 4bis that the unit will be closed. As a central scenario, it is proposed to not decommission any unit due to the CO2 limits because the unit could still stay in the market and not participate to the CRM. Such aspects will be treated in the economic viability part of the study where units will be removed from the market if they are not economically viable. Of course, the CO2 limits could consist of and be proposed as a sensitivity, although the CO2 threshold is not known either yet, upon Elia knowledge. Regarding the age, now, Elia proposes to consider the same value based on the historical, and does not consider any degradation for the future, nor an improvement for the age of the units. ENGIE states that REMIT is limited in time horizon (3 years). Elia does not have a view on the 20 years horizon and invites stakeholders to provide info in the context of the public consultation, also confidentially to include more details in the scenario. ENGIE will do.

Overview of the indicators proposed for next study

Elia finally presents the suggested indicators (FOR, Average duration of FOR) and welcomes any comments on the summary of the resulting forced outage indicators to be used.

FEBELIEC asks how N-SIDE only has 3 CHP units for other countries. Elia answers that these are the only units that are known and reported on REMIT, since other countries do not publish on REMIT platforms because of their smaller sizes.

FEBELIEC then asks how the outage distribution – looking at Elia data – is between small and large units. Elia answers that it represents the outage rate used for large units or individually modelled units, while for the smallest one, the historical/average profile is used.

Generation, storage & demand for Belgium

ELECTRICTY DEMAND AND DEMAND SIDE RESPONSE

Elia is presenting the general considerations with regards to Belgian generation, storage and demand, before N-SIDE presentation of the results.

FEBELIEC is asking if Elia will consider the impact of high prices after 25 august 2022. Elia has taken the price of yesterday's forwards as well as latest World Energy Outlook published yesterday by the IEA to derive the impact on electricity demand. This can obviously also be updated in January or February 2023 with the latest forecasts.

FEBELIEC is referring to the publication of the national bank today that is showing for the third quarter already first steps of recession in Belgium, with big impacts on industrial production and probably on consumption. Elia can include them after public consultation together with other developments.

ENGIE is asking a question with regards to the assumed evolution of EVs: whether company cars are private cars or also duty vehicles. Elia answers that it considers passenger cars only. ENGIE is then questioning the presence of more than 1,000,000 company cars in Belgium today. Elia answers that the data comes from FEBIAC – i.e., sum of both leasing and cars directly owned by companies. Elia also adds that 600,000 was the figure a few years ago, while it rises to about 1 million today.

With regards to the evolution of the total electricity demand for Belgium, ENGIE is asking if Elia finds similar values for peak demand – i.e., is it faster or lower. Elia notes the question and answers that Elia has not yet computed the values for peak demand (coming from the hourly electricity demand profiles for each climate year) but highlights that it can be found in the appendixes submitted to public consultation of the study the way hourly demand is computed. Elia needs first to define the first assumptions (electrification and associated profiles) to be able to compute the peak demand, that will depend on the profile to be used. Elia also published the ones for EVs.

ENGIE asks if the values computed for peak demand are not the most important adequacy wise. Elia answers that adequacy is not only driven fully by peaks.

FEBELIEC is asking a question about the step 3 in the computation of the proposal for DSR from existing industry/large clients (I.e., "Additional potential is submitted to EVA (capacity will be considered if economically viable"). Elia answers that the potential is divided in two: the one shown on slides 74 does not take into account the additional electrification from large clients and industry, which should be added on top of it. In other words, the graph represents DSR from Existing industries, but if there is an electrification, some flexibility can be included depending on the electrification rate. Besides, Elia agrees that the 25% maximum potential of the total peak load is considered for Existing industry/large clients, but this maximal potential could be higher in the future; although 25% is already considered a very high and optimistic value to contrast with existing literature (i.e., up to 21% on the total consumption of a country).

FEBELIEC also asks how Elia will handle the impact of new ones and the impacts on peaks. Elia answers to be first waiting for the finalization of the study on the industry to check in detail which processes, and which flexibility profiles can be assigned to the processes. FEBELIEC highlights that it will then not be part of the public consultation, however, the impact can be very high and should be tackled and covered

in an adequacy perspective. Elia says that it can be brought into a next WG Adequacy when ready to get feedback on the approach.

AVAILABLE GENERATION AND STORAGE

FEBELIEC is stating that for the proposal for future evolution of offshore wind, there is quite a big shift to be observed with different top levels between AdeqFlex 21 and 23 and asks Elia how they will tackle sensitivities on that topic. Elia answers that, as for all value given for the data set for Belgium, these are assumptions for baseline scenarios, and for all topics, sensitivities can be suggested via the public consultation. FEBELIEC asks more precisely why Elia pushes directly 2 years delay. Elia answers that it is based on what is published on FOD Economy website. RWE comments that there can even be more delays to consider; as it will be communicated in the coming weeks.

FEBELIEC also asks to update the proposal for future evolution trajectories for heat pump based on available information begin of next year. Elia agrees to adapt once the data from 2022 are available.

FEBELIEC asks whether the 0.2% of PV installation in Flanders after 2024 are existing PV installation or new one and if asks what it represents in kWh if it represents adding a battery capacity of the size of PV installation. Elia needs a confirmation. In these minutes, Elia can confirm that the proposal considers for each year, after 2024, an additional capacity equivalent to 0.2% of the existing PV capacity in MW.

RWE asks for confirmation that heat pumps boilers are integrated in heat pumps figures. Elia agrees but did not take yesterday's announcement into account. RWE states that it might be expected an increase in heat pumps boilers in the next years, since this is the thermal battery that seems interesting. That could lead to two alternatives: on one side, intermediate solution for the gas boiler, meaning more electricity consumption; on the other side it replaces electricity boilers today, meaning a decrease in demand. Then, RWE asks whether and how it has been taken into account in the methodology. Elia did not take that into account but can be included in the update of the projection. Yet, it is difficult to find data on the number of boilers, heat pumps, air-to-air and how people use them at home.

FEBELIEC reacts that by including so many heat pumps in absolute number, and the impact on peak load not being the same as average consumption currently seen, it can have an impact on the end of the curve; I.e., different profiles on the peaks. Elia answers that the profiles used for heat will also be published for consultation and are temperature dependent. Of course, with cold weather, heat pumps will contribute to the peak, but the question is how much flexibility can be taken from this.

FEBELIEC asks some specification about the proposal for future evolution for large scale batteries. The connection study shows projects to be realised in 2026 which explains the first part of the slope. Yet, FEBELIEC asks why the feasibility study leads to the slope toward 2029. Elia answers that for the feasibility study they don't have commissioning dates, then they split them linearly over the last time horizon. Elia does not consider any extra projects than the one in the database, because the number is already high. Elia also comments that it cannot be accounted that all feasibility studies will be realised in 2025. FEBELIEC criticises the fact that this approach makes look like no feasibility studies will be done in the next 5 years until 2029 anymore. Comment is understood, but otherwise the percentage should be changed; yet, at some points projects change of category. Elia assumes that not all categories will go to the next step.

FLUXYS comments that based on the presented slides, there is a significant increase of the flexibility provided by the customers, and asks if Elia consider more conservative scenarios where the activation of this assumed flexibility is not as good as in theory (e.g., problems with the devices, customers not letting their smart home systems optimize the functioning of the devices based on market signals (just overriding the system for any reason), delays in implementation of market signals for the public, etc.). FLUXYS considers it to be important for the quantification of the adequacy. Elia notes the point.

ENGIE asks with regards to the proposal for the Central scenario for the thermal fleet in Belgium, whether the data provided signifies that all other CCGT are on the market for ever without period of refurbishment. Elia answers that for the EVA – to be found in the slides and the methodology – Elia consider that older units (above 25 years) need refurbishment costs. For the younger units, Elia considers a fixed O&M. ENGIE asks whether refurbishment leads to some periods of unavailabilities. Elia answers that if the units are economical not viable, then it is considered closed. However, if the unit is economically viable with the refurbishment, the refurbishment takes place, and the unit continues. ENGIE highlight that the period of refurbishment is not taken into account. Elia agrees this is what is proposed.

FEBELIEC remarks that Elia includes 2 nuclear plants for Doel 4 and Tihange 3 and asks Elia if it is also included sensitivities with more nuclear plants given what the government has mentioned in official documentation. Elia answers to consider two units for the central scenario and look forward to any sensitivities requested by the market parties. ENGIE says that there will be official communication by end of the year but no official publication yet. On the opposite, T-POWER asks for sensitivities with less nuclear plants.

REFERENCE GRID AND XB CAPACITIES

Elia explains the methodology and principles followed to come to a proposition for the evolution of cross border capacity calculation parameters and assumed minRAM trajectories per countries until 2025, considering 70% for all countries as of 2026.

FEBELIEC also says that the 70% might also be too optimistic, since ACER only ruled a derogation of 70% on Sweden. Elia also specifies that the 70% does not need to be applied if the country has no other operational means to solve the situation – which has been addressed in the WG European Market design. Elia will follow up on this point.

FEBELIEC also states that it would be nice when Elia shows the results is to have an idea of the impact from going to standard to advanced hybrid coupling. Elia notes the point and suggest FEBELIEC to indicate it as a response to the public consultation. Elia can try to do that if time constrain enables it, since Elia specifies that calculating the flow-based domain takes already a lot of time.

FOD Economie raises some comments about some of the demand projections on the chat. First, about residential heat pumps, the numbers for 2030 would be of 0.7 [millions of units] instead of 1.14 according to exchanges with Regions (not taking into account RRs). Second, the EVs progression also would not be that quick: 1.71 [M units] for 2030 and 2.2 for 2050. instead of 1.91 and 2.7. Third, the Brussels public transports bus fleet is also studying the use of hydrogen for part of their fleet. Elia answers that the goal is to update the assumptions taken based on the work and values that will be used for the future NECP that needs to be ready in the coming months.

Economic parameters (investments costs & fuel/CO2 prices)

FEBELIEC is asking with regards to the proposal for fuel and CO2 prices whether after 2030, Elia is only taking a flat forecast. Elia answers that the value is interpolated between that 2030 from the WEO and the 2050 value.

FEBLIEC also asks whether Elia displays the average gas price and C02 prices over the years, not taking into account profiles and impacts on electricity prices, etc. Elia agrees and specifies that there is a seasonality impact that was modelled in AdeqFlex 2021 that might not necessarily be modelled in AdeqFlex 2023. FEBELIEC argues that taking an average price of 137.6€/MWh, Elia needs to consider that there are underlying very high prices and lower prices that likely impact the electricity consumption and the peaks (so demand response). Elia answers that it could be modelled but asks then what should be applied as intra-year profile; looking at historical data, there is kind of a seasonality for gas but not that significant. Elia takes the point;

Other countries

FEBELIEC is asking a general question to understand when Elia takes a cut off point when collecting the information announcement, knowing that the study will only be delivered at the end of June, and that something also needs to be delivered earlier in the framework of the LCT. Secondly FEBELIEC asks Elia to specify which announcements are considered (versus not). Elia answers that all the assumptions will be frozen by the end of the year. Regarding the announcements, Elia tries, for all countries to take the latest official announcement into account (ex for Netherlands, huge ambitions were provided in March for offshore wind, but the government announced some delays in July, which is integrated for the new trajectories). Elia specifies that it takes official announcements (as for instance Government), official studies (RTE bilan previsonnel), or ERAA 22 (data from 1 year ago adjusted). The objective is indeed to have scenarios that are as close as possible as the future reality and NECP that will be known by end of June 23.

FEBELIEC also highlights that a cut-off date at the end of January cannot include the consequences and repercussions of the current year. Elia needs to respond to the legal deadline (June) and political expectations on the rapport. Elia specifies that freeze is for sure for 24-25, but there might be some flexibility on the cut-off date for the other years.

ENGIE asks for transparency in the figures that will be assumed.

Finally, FEBELIEC remarks that he does not see anything related to ECUBE market response study as part as of the public consultation and asks Elia how the ECUBE market response study will be handled. Elia answers that the methodology has been fixed and the results presented. Besides, in previous WG in was stated that it is work for next year to redo the methodology that will be part of next year subjects and not as part of the AdeqFlex public consultation.

LCT scenario parameters

Elia asks stakeholders to make really explicit comments on the LCT public consultation and provides specifications in terms of CRM and LCT Functioning Rules timeline, on FEBELIEC's request.

3. Minutes of Meetings

The next meetings are currently foreseen on:

- Thursday 17th November 2022 pm
- Friday 16th December 2022 am
- Friday 27th January 2023 am
- Friday 17th February 2023 am

4. OoA

Elia makes an announcement regarding the shift of responsibilities within Elia and introduces Jan Voet as new manager of the Market department. The information is to be find on the Elia Website.