

WG Adequacy #8

17 June 2022

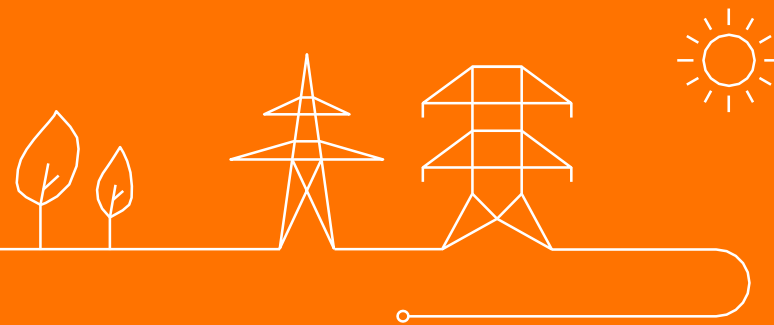


Agenda

- Welcome
- Minutes of Meeting WG Adequacy #7 (06.05.2022)
- Functioning Rules
- Flexibility Workshop : Introduction
- Yearly calibration of the Strike Price [E-cube]
- Calibration 27-28 : Consultation report
- Next meetings



Minutes of Meetings

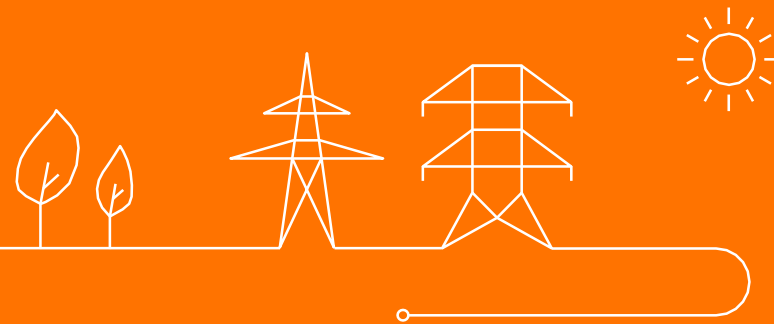


Minutes of Meeting

- **WG Adequacy #7 – 06.05.2022 : To be approved**
- *The MoM were sent on 03.06.2022. Some comments were received.*



Functioning Rules

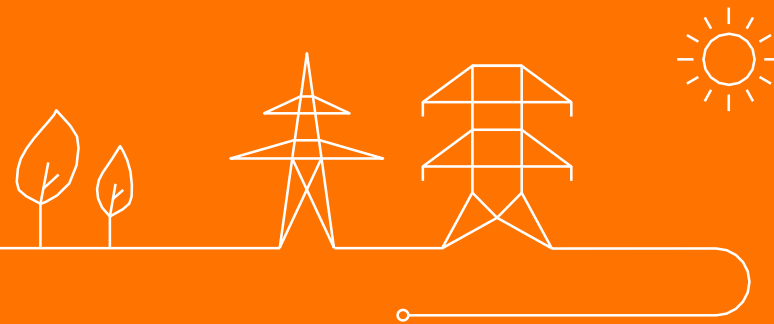


Status update on the Functioning Rules

- The CREG and ELIA have published V2 of the Functioning Rules on their website on 15/05/2022
- Thereupon, V2 of the Functioning Rules have been confirmed by Royal Decree
- The English translation
 - Has been finished by ELIA this week
 - Has been published on the website
 - Both a 'clean' and a 'track change' version



Flexibility Workshop



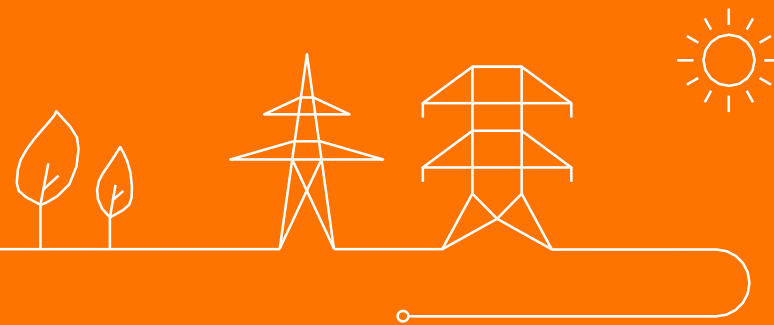
Save the Date - Flexibility Workshop – September 29th '22

Meeting objective: A good view for existing (and upcoming) grid users decision-makers to develop and valorize their flexibility (view on the principles, possibilities, benefits and way further)

- **13.30 – 14.00:** Welcome & coffee
- **14.00 – 14.15:** Presentation on the energy transition and flexibility opportunities
- **14.15 – 14.45:** Introduction on CRM Y-1 Auction & CRM Y-4 Auction
- **14.45 – 15.30:** Introduction of the Booths
- **15.30 – 17.00:** Interactive Booths by topic
 1. CRM Y-1 auction
 2. Balancing products
 3. Storage development
 4. Connection to Elia grid
 5. CCMD
 6. Authorities
- **17.00 – 18.00:** Closing - Finger foods and drinks + networking
- Timing & Location: on September 29th 2022 from 13.30 to 18.00 @ [Inside SQUARE \(square-brussels.com\)](https://www.inside-square.com)
 - Square Convention Center, Coudenberg 3 - 1000 Brussels



Yearly calibration of the Strike Price



Calculation of the initial strike price calibration for the CRM

Presentation document

Brussels, June 2022



The Strike Price is a key parameter for the Capacity Remuneration Mechanism. Its calibration is detailed in the Royal Decree Methodology from April 2021

STRIKE PRICE CONTEXTUAL DESCRIPTION

- In the context of Belgian future adequacy context, Belgium adopted in April 2019 an amendment to the Electricity Law to implement a Capacity Remuneration Mechanism (CRM). This mechanism offers, through auctions, a complementary revenue to market revenues for Capacity Providers. However, episodes of capacity scarcity in the energy market can result in events of very high prices. These very high price events could result in windfall profits for Capacity Providers already benefitting from the CRM complementary revenues.

- As part of a Reliability Option, the Strike Price is set as the upper price limit until which Capacity Providers from the CRM can earn energy market revenues. If the Reference Price (based on the price observed on a NEMO active in the day-ahead market in the Belgian bidding zone) exceeds the Strike Price, then all additional revenues made on the energy market from the Capacity Provider above the Strike Price are to be paid back by the Capacity Provider. The Strike Price is defined as “the predefined price that determines the threshold above which the Capacity Provider has to pay-back the difference with the Reference Price” ¹⁾.

- The aim of this presentation is to present the construction of the calibration curve used for the strike price calibration and to provide a short reminder about the methodology used to construct the calibration curve, as well as its corresponding strike price interval for the Y-4 auction related to the Delivery Period 2027-2028 (hereinafter referred to as “Y-4 auction”), according to the Royal Decree Methodology presented in article 27 §1 from the Royal Decree published on April 30th 2021 (hereinafter referred to as “Royal Decree Methodology”) ²⁾

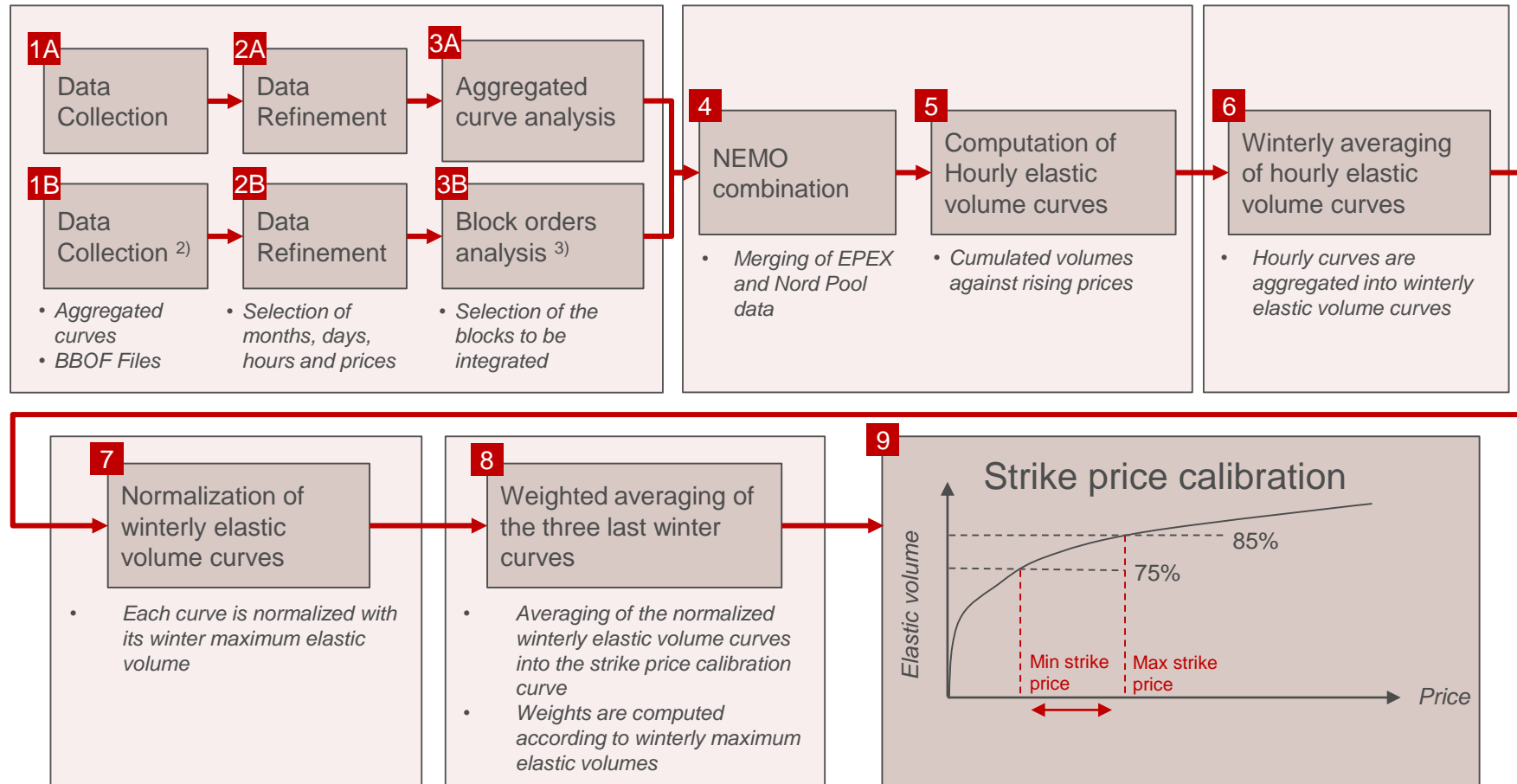
- The proposal of Strike Price from Elia must ultimately be calibrated in the strike price interval taking into account the criteria listed in article 27 §2 of the Royal Decree Methodology.

1) *Law on the Organisation of the Electricity Market (April 1999), art. 2, al. 1, 80°*. Accessible on http://www.ejustice.just.fgov.be/cgi_loi/change_lg_2.pl?language=fr&nm=1999011160&la=F

2) *Belgian Monitor (April 2021), p. 41179*. Accessible on <http://www.ejustice.just.fgov.be/eli/arrete/2021/04/28/2021041351/juste#LNK0008>

9 steps are required to construct the strike price calibration curve based on the elastic volumes collected from Day-Ahead markets datasets coming from both NEMOs active in the Belgian bidding zone

COMPARISON OF APPLIED METHODOLOGY AND STEPS OF THE ROYAL DECREE METHODOLOGY ¹⁾



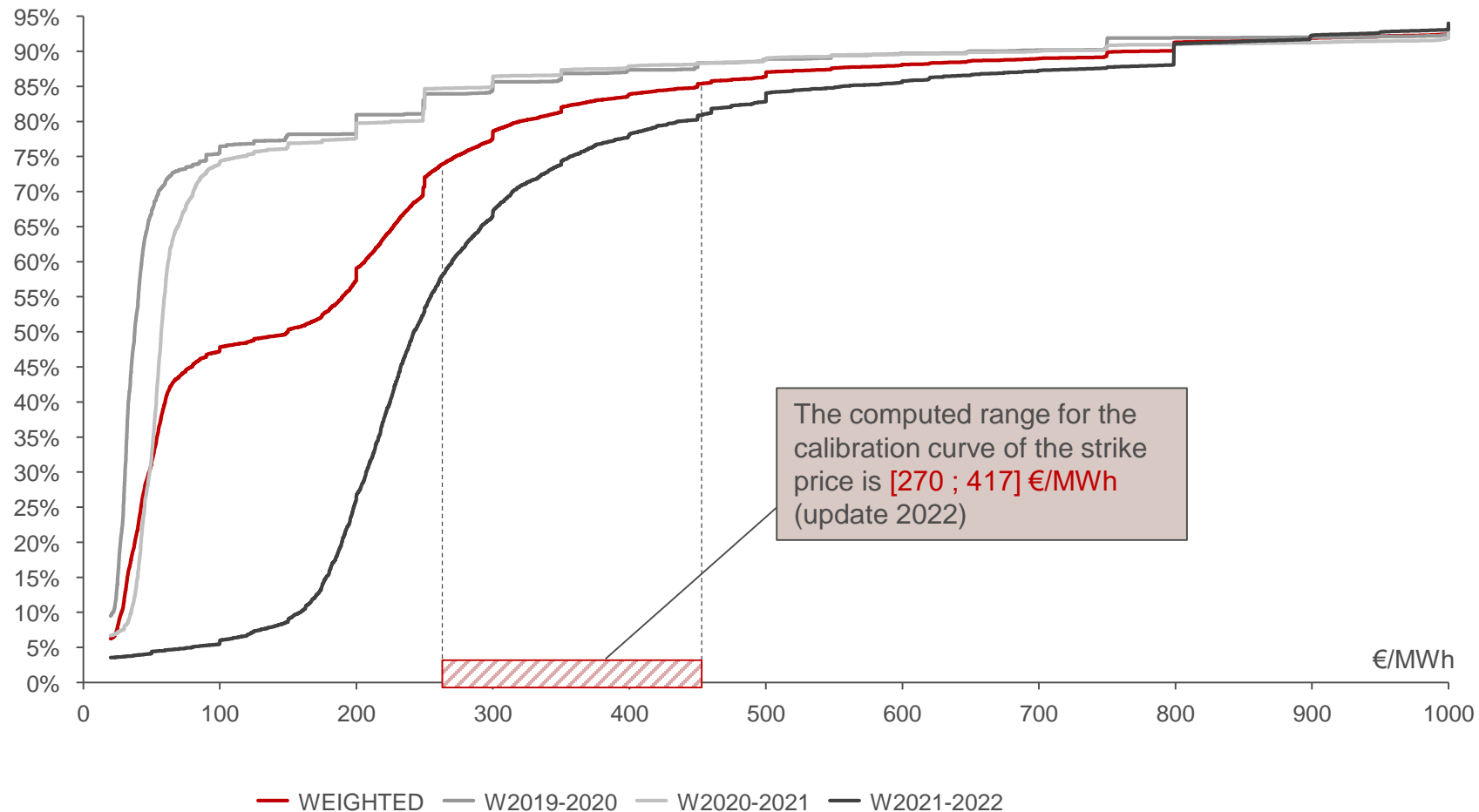
1) No changes in the methodology compared to 2020

2) For the first time, block orders were traded on Nord Pool Spot in W2021-2022. They have been added in the Strike Price analysis

3) No additional block order categories were created in 2020

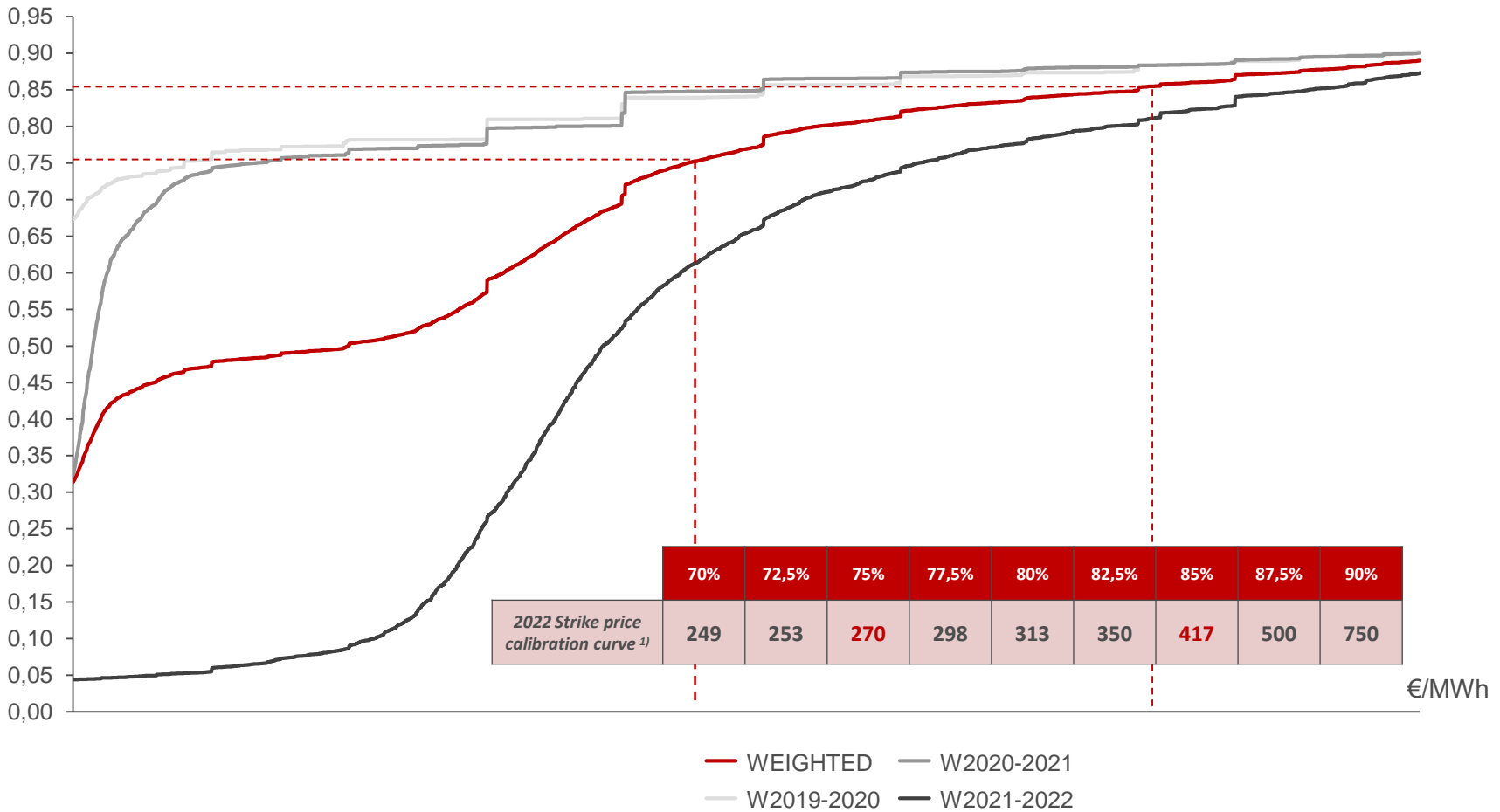
For the Y-4 auction, the application of the methodology leads to a [270 ; 417] €/MWh range for the strike price calibration curve

COMPUTATION OF THE STRIKE PRICE CALIBRATION CURVE AND ITS RANGE FOR THE Y-4 AUCTION [€/MWh] (2019-2022)



The elbow of the curve has substantially shifted in the past winter towards higher prices

PRICES ASSOCIATED TO DIFFERENT % OF ELASTIC VOLUME IN THE 2022 CALIBRATION CURVE AND FOR THE LAST THREE WINTER PERIODS [€/MWh] (2019-2022) – ZOOM ON THE RANGE 70-90% OF ELASTIC VOLUME NORMALIZED



Source: E-CUBE Strategy Consultants, data from active NEMO's

A detailed analysis of the 70 – 90% interval does highlight a large increase in prices for the 2027-2028 Delivery Period due to W21-22

PRICES ASSOCIATED TO DIFFERENT % OF ELASTIC VOLUME IN THE Y-4 AUCTION CALIBRATION CURVES AND FOR THE LAST FIVE WINTER PERIODS [€/MWh, 2016-2022]

	70%	72,5%	75%	77,5%	80%	82,5%	85%	87,5%	90%
<i>Delivery period 2027-2028</i> ¹⁾	249	253	270	298	313	350	417	500	750
<i>Delivery period 2026-2027</i> ²⁾	73	81	94	125	200	249	300	399	700
<i>Delivery period 2025-2026</i> ³⁾	70	80	95	125	200	249	300	450	750
<i>Winter 2021-2022</i>	300	313	335	355	391	434	494	591	799
<i>Winter 2020-2021</i>	80	89	116	198	230	250	299	385	699
<i>Winter 2019-2020</i> ⁴⁾	55	64	90	148	200	249	300	399	648
<i>Winter 2018-2019</i>	72	78	85	97	125	215	280	379	750
<i>Winter 2017-2018</i>	80	96	115	158	200	300	450	750	799
<i>Winter 2016-2017</i>	54	61	72	90	180	250	300	300	600

1) Computed from winters 2019-2020, 2020-2021 and 2021-2022, first integration of block orders from Nord Pool Spot

2) Computed from winters 2018-2019, 2019-2020 and 2020-2021

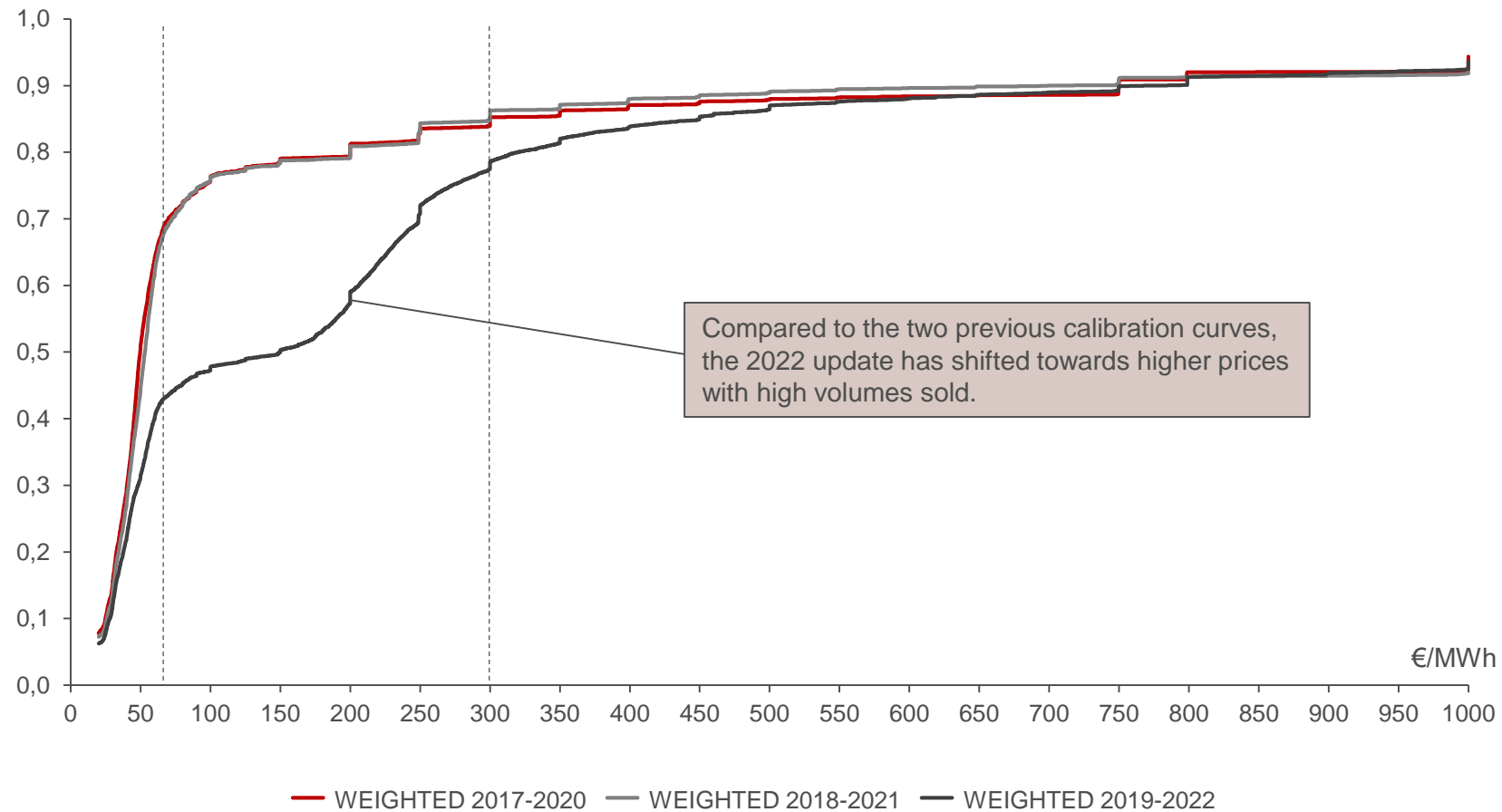
3) Computed from winters 2017-2018, 2018-2019 and 2019-2020

4) First integration of Nord Pool Spot's aggregated curves

Source: E-CUBE Strategy Consultants

The exceptional conditions in prices since last November have led to a shift in this year's calibration curve compared to the two previous iterations

CALIBRATION CURVES [€/MWh] (2017-20, 2018-21, 2019-22)



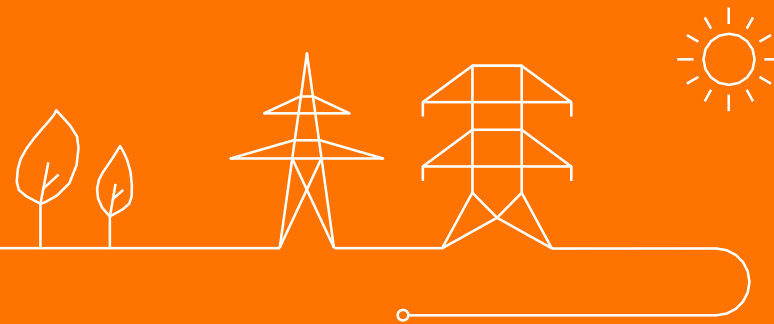
1) Computed without including the 2020-2021 winter period
 Source: E-CUBE Strategy Consultants

The interval of the strike price calibration is much higher compared to previous years

EXCEPTIONAL PRICES CONDITIONS W2021-2022

- The Strike Price has increased a lot in the winter 2021-22. This can mainly be explained by high electricity and gas prices.
- The average monthly electricity price on the Day Ahead market has been historically high in 2020.
- When looking at electricity day-ahead prices in the winter period, it can be observed that prices have even further increased: for the winter 2020-2021, the median was at 57,2€/MWh vs 236€/MWh for the winter 2021-2022 (+312%).
- Gas prices have also skyrocketed: the median was 100,3€/m³ in winter 2021-2022 vs 19,3€/m³ in winter 2020-2021(x5)/

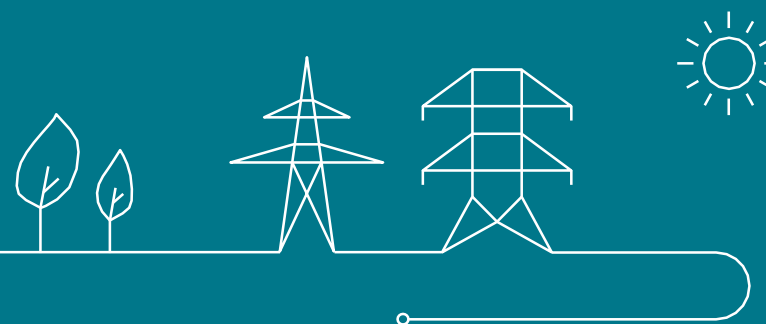
Calibration 27-28 : Consultation report



AGENDA

- Answer to stakeholder feedback
- Sensitivites
- Elia's recommendation
- Other parameters

1. Answer to stakeholder feedback



Overview of the received feedback

Elia would like to thank all the market parties for their contributions and for providing written feedback during the public consultation.

This presentation will provide a summary of the received feedback and Elia's answers. For a full view of the comments and answers, please consult the public consultation report that will be posted on the Elia website beginning of next week.

4 answers received from stakeholders

Public

- Febeliec
- Febeg
- Zandvliet Power NV

Partially confidential

- Engie



Comments

Febeliec

- Public consultation, as for all other adequacy related studies and analyses, only on input data and not on the applied methodology
- Does not agree with the proposed methodology.
- Would like more stakeholder involvement
- Wide range of comments and questions that it considers not (sufficiently) answered or resolved on the bi-annual Adequacy and Flexibility Study

Elia Answer

- Methodology determined in the Royal Decree for the CRM calibration.
- Additional information provided in the explanatory note of the public consultation
- Methodology of the Royal Decree discussed extensively (task forces, design notes, public consultations, RD proposals...) during CRM design phase.
- Public consultations on methodology for other adequacy studies are done: for Adequacy & Flexibility study, the methodology was also part of the public consultation. Detailed description in the study (§4.3).



Comments

Febeliec

Inconsistency in impact of war in Ukraine on scenario dataset. Impact not taken into account everywhere.

Febeliec

- Use of outdated data sources. Extra analysis on input needed.
- Would like that more than 1 scenario is analyzed.

Febeliec

Lack of data and sources making it nearly impossible to validate the assumptions.

Elia Answer

Impact of the war was taken into account as much as possible and with available information: through updated targets based on latest policies (REPowerEU), high fuel prices, economic impact and possible lower demand. Hard to assess due to lack of available publications. Purpose of specific questions asked to stakeholders.

Assumptions are based on the latest public data but updated as much as possible to reflect the current situation. Additional analysis will be performed for the next Adequacy & Flexibility study. The Royal Decree stipulates only 1 scenario will be chosen.

The document and Excel file submitted to public consultation contain large amount of data and sources. Additional clarification will be further provided in the public consultation report and in this presentation (a.o. with regards the trajectories).

Comments

Febeg

- Figures are too optimistic and not in line with actual evolution (especially for onshore, photovoltaics and biomass).
- Changing regulatory environment for the photovoltaics and the NIMBY-effect with the delaying effects of the appeal procedures .
- Welcome the adaptation for the offshore wind growth ambitions

Febeliec

- Impossible to assess (only aggregated numbers).
- Not enough detail provided. Trajectories missing.

Elia Answer

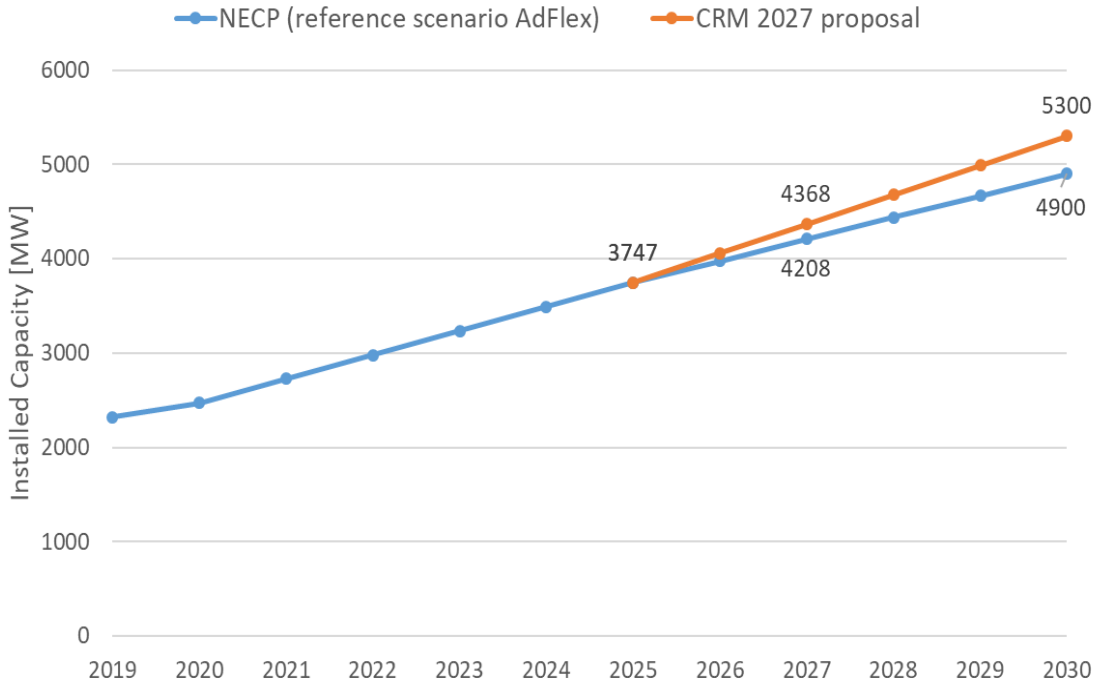
- For **PV** and **Wind onshore** capacity, additional insights on trajectories and sources are provided (see next slide)
- **Wind offshore** is in line with government plans.
- **For Biomass**, Elia proposes not to take into account any new capacity for the reasons brought forward and to therefore update the value **from 624 MW to 504 MW**.

Trajectories for onshore wind and PV provided in the consultation report (see also next slide).



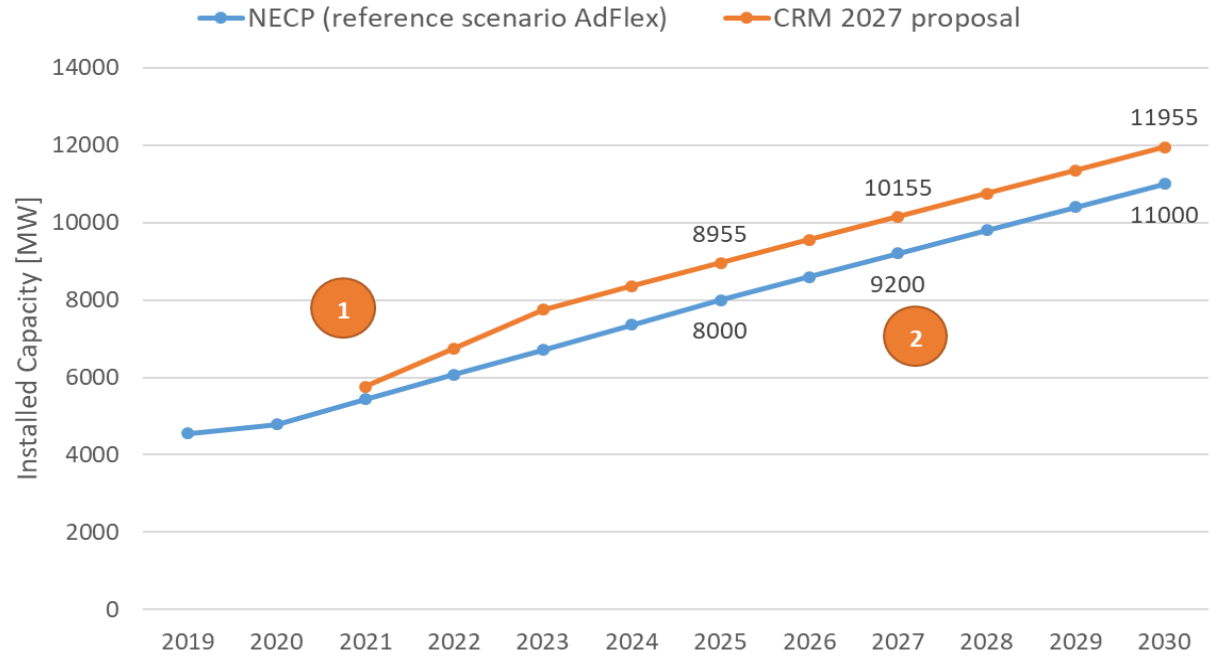
Feedback public consultation – Renewable

Evolution of onshore wind installed capacity



Increase of the installation rate after 2025 to reflect the values from the MIX scenario of Fit For 55 package.

Evolution of solar installed capacity



- 1 Increase of yearly installed capacity in the short-term based on latest available numbers and considering that the trend will last until 2023.
- 2 On the long-term, the same yearly installed capacity as derived from the NECP is kept.



Comments

Febeg

- Some thermal capacity is at risk of closing due to CO₂ thresholds.
- Changing CRM rules is detrimental to the investment climate.

Febeliec

- Lack of transparency on closure of power plants.
- No additional capacity considered in the period till 2028 beyond two CCGTs contracted .

Engie

The capacity of Saint-Ghislain should be 378 MW as published on the NordPool Platform.

Elia Answer

- The possible closure of thermal capacity is taken into account in a sensitivity.
- Elia invites stakeholders to react to the public consultation from the DG Energy of FPS Economie on trajectories for CO₂ limits in the framework of the Belgian CRM.

- Elia is limited by the legal procedure related to closure announcements of power plants.
- Extra capacity contracted in the first CRM auction and nuclear capacity were taken into account.
- Elia adds additional from preselected capacity types to its scenario if it doesn't reach the reliability standard.

Elia updated this in the scenario dataset.



Comments

Febeg

- Would like to know which type of projects are behind the increase in capacity.

Febeliec

- Finds there is a lack of a breakdown within categories.
- Not clear how diesel, emergency and process generators are taken into account.
- Impossible to identify periods in which certain categories are available (contribution to system adequacy).

Elia Answer

Only existing and concrete future projects from Elia's internal database taken into account. More detail provided in the consultation report.

- Only capacities without a CIPU contract are taken into account.
- **Waste** includes all incineration stations.
- **Biomass** includes all technologies where the fuel type is referred to as bio (IC engines and CHP).
- **CHP** category includes all units running on gas or steam (as biomass is included in previous category).
- **Diesel generators, emergency generators**, except the one referring to a fuel type categorized as “bio”, are included in the DSM shedding and shifting categories



Comments

Febeliec

- Regrets that no methodology is provided.
- Wants more information on the timing of forced outages.
- Wants forced outage rates to be calculated based on active plants only.

Febeg

- Surprised by the big variation in forced outage rates.
- Would like to see yearly forced outage rates.

Elia Answer

- The methodology is the same as for previous years and is detailed in the Adequacy and Flexibility study 2021. Additional information was also provided in the explanatory notes of this public consultation.
- Forced outages are assumed to be spread evenly across the year and that no planned outages occur during winter.

A year with high forced outage rates (2011) was taken out of the time-frame and a year with low rates was added (2021).

Elia agrees that **further analysis** on the spread and evolution of forced outages could be valuable and proposes to perform a profound analysis with an external consultant in the context of the next Adequacy and Flexibility study to better answer stakeholder questions.



Comments

Febeliec

- No specific preference for any of the proposed derating factors
- For **nuclear forced outages**, wants only events causing an outage which are relevant to a type of reactor to be taken into account.
- the outage rates should not be cumulated and pancaked as this would lead to a too conservative approach

Elia Answer

- Elia applied the same methodology as for other technologies and consider all event on the existing park.
- The long-lasting forced outage rate represents the risk of a potential future issue which can appear on a nuclear reactor. This risk is applicable on all types of reactor.
- The different outage rates proposed are independent from each other, meaning that they can be cumulated.
- Elia provided a full note in the framework of the explanatory note in order to take into account all the parameters that might affect the Belgian nuclear availability and its associated derating factor but has no preference on the choice to be made.



Comments

Febeg

- Thinks the assumptions of Elia are overestimated and not based on factual market evolutions.
- Thinks for **small & large scale storage** the market depth is not enough and the market conditions and regulatory framework are too uncertain.
- Thinks for **V2G**, the technological conditions will not be met and the added value for customers will not be sufficient.

Febeliec

- No methodology for volume determination provided.
- No explanation of the proposed growth paths for installed capacity per battery type given.

Elia Answer

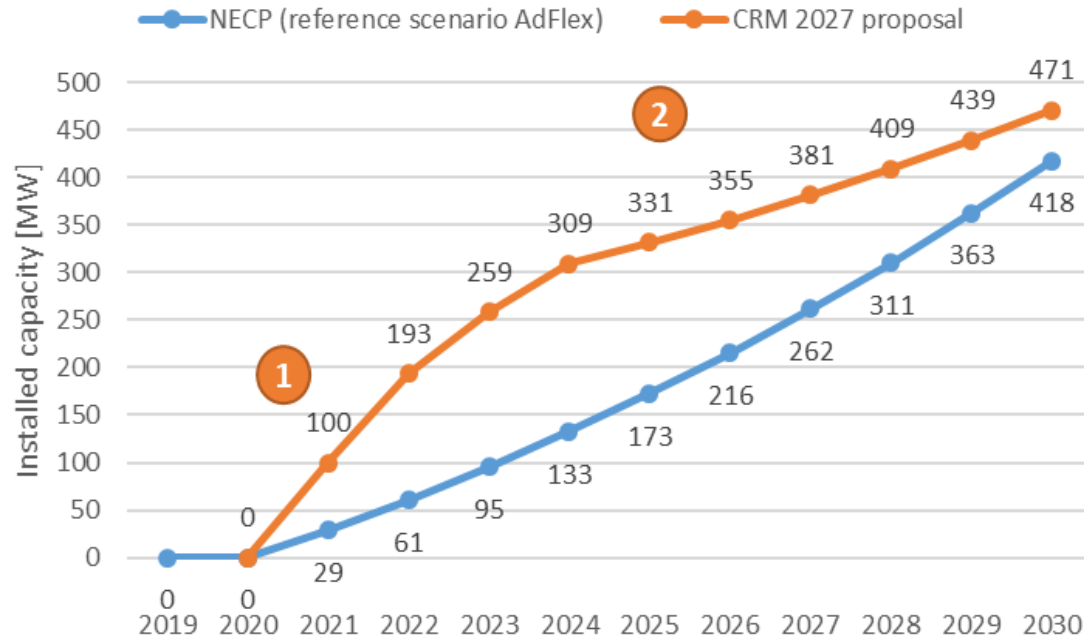
- For **large scale batteries** the same trajectory as in the Adequacy and Flexibility study is used. Current market conditions support this trajectory.
- For **small scale batteries** the trajectory has been shifted upwards due to observed higher installation rates in the recent past and better regulatory and market conditions. Additional information provided on next slide.
- For **V2G**, Elia agrees that the proposed value might be too high and therefore proposes to keep the value of the 2026 auction, being **129 MW instead of the initially proposed 242 MW**, in order to be take into account some delay in the current development of the technology.

Elia proposes to **further analyze** the future of V2G technology for the next Adequacy and Flexibility study to better answer stakeholder questions.



Feedback public consultation – Batteries

Small scale battery capacity out of market



- 1 Observed higher installation rates due to high electricity prices and subsidies expected to last until 2024
- 2 Slower growth expected after 2024



Comments

Febeg

- Wants to be consulted once the definitive numbers for electricity consumption are known.
- Wants the momentum for the energy transition and higher electrification to be taken into account

Febeliec

- Would like the growth curve to be provided.
- Opposes the proposed total and peak consumption because of the impact of the Ukrainian war and its economic effects.

Elia Answer

- New consumption estimations will be provided to the stakeholders once the study has been performed.
- Elia takes electrification into account through EV and HP penetration and industrial electrification.

- The proposed total and peak consumptions were not definitive and will be updated once the latest economic forecasts by the Federal Planning Bureau will become available.
- The consumption growth curve will be provided once the consumption estimations are updated.
- A sensitivity is proposed to include the impact of higher prices on the electricity demand.



Comments

Febeg

Thinks the market response capacity is too high and overly optimistic.

Febeliec

- Would like a more elaborate quantitative methodology to be used for estimating future DSM potential.
- Urges Elia to take into account voluntary demand response related to longer periods of high prices.
- Wonders how emergency generators are taken into account.

Elia Answer

- Elia takes into account the latest ambitions from the Energy Pact, updated with a higher DSM potential due to increased electrification.
- Since no updated quantified ambitions regarding DSM have been received or published by the authorities, Elia took this believing it is the best possible approach
- The impact of high prices on electricity demand will taken into account through a sensitivity (still to be quantified).
- Diesel and emergency generators are taken into account in the capacity of demand response.

Elia agrees that **further analysis** on the methodology for estimation of future DSM potential could be valuable and proposes to perform a profound analysis in the context of the next Adequacy and Flexibility study to better answer stakeholder questions.



Comments

Febeg

- Proposes to base the determination of fuel prices on those of LNG.

Febeliec

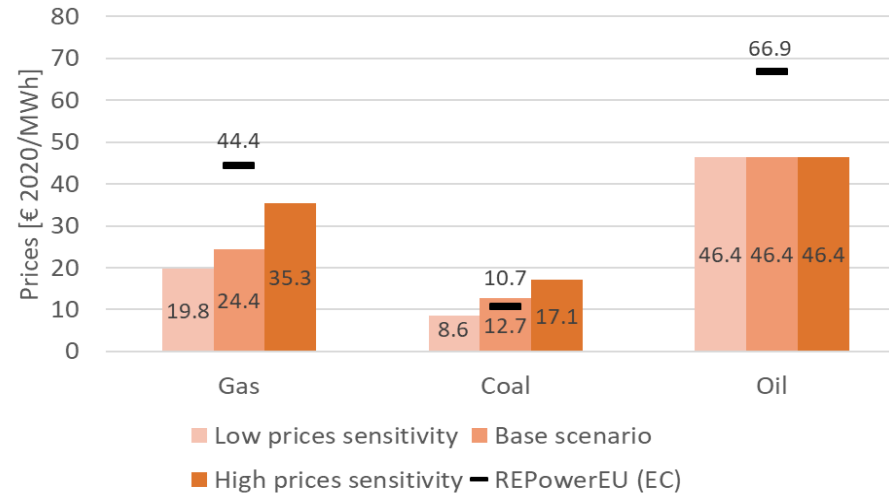
- Disagrees with the proposed prices as they are based on outdated WEO 2021 data and thinks the proposed prices are too low.
- Disagrees with the use of inflation for the calculation of energy prices and the applied inflation rates.

Elia Answer

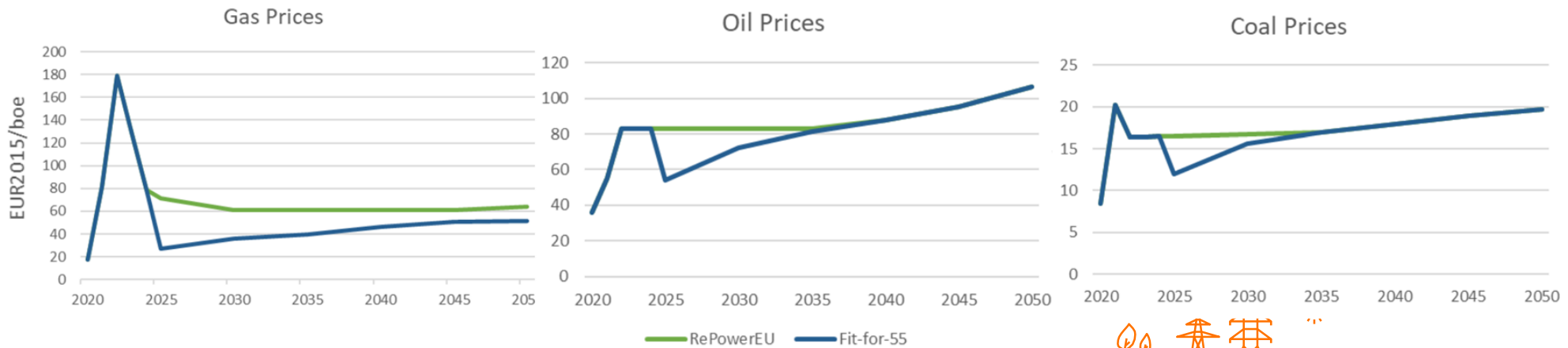
- Elia agrees that the WEO 2021 prices are outdated and thanks Febeg for the concrete proposal.
- Based on feedback from the previous task force, Elia looked for additional sources and **proposes an additional price sensitivity based on a recent European Commission document** on fuel prices trajectories between 2020 and 2050 for gas, oil and coal.
- Elia proposes to keep the same prices for CO2
- The inflation rates will be updated based on the latest data from the Federal Planning Bureau and are only used to reflect prices in €2020



Overview of proposed prices in € 2020/ MWh



European Commission proposed prices in € 2015 / boe



Comments

Febeg

- Considers it uncertain that the minRAM 70% rule will be achieved.
- Observation that derogations are still claimed by some countries, while for others action plans are put in place.
- Risk of non-achievement of this rule should be included in the reference scenario

Febeliec

- Agrees with the minRAM 70% proposal and opposes any value below 70.
- Misses information on the future grid configuration to assess cross-border capacities

Elia Answer

- Elia takes note of Febeg's feedback on the minRAM70%.
- Elia would however like to remind that the 2027-2028 delivery period is 2 years after the deadline for the implementation of the 70% minRAM requirement and current derogations and action plans are not necessarily representative for this future period.

- Elia takes note of Febeliec's feedback on the minRAM70%.
- The ERAA21 grid is used as basis and flow-based domains on the Core region will be applied.
- More specifically, the 'hybrid offshore grids' that are planned (such as Triton Link) are not to be considered for 2027-28 as the commissioning date is expected for later.

Comments

Febeliec

- Regrets that while balancing needs rise every year, balancing obligations for BRP's become less severe.
- Has questions on the inclusion of cross-border balancing capacity.
- Wonders why a distinction is made between the volumes for balancing capacity from demand response and other sources of flexibility.
- Wonders why the net revenues from the provision of balancing services as a revenue stream is not taken into account. Especially in case of scarcity situations, it can be expected that these revenues would increase

Elia Answer

- Elia relies on its best estimations to fulfill the legal requirements on the need to dispose of sufficient reserve capacity. The effect of the relaxation of the DA balance obligation on the system imbalance could be negative in case of massive wrong bets by the players, which Elia considers very unlikely thanks to the financial incentive that represent the Imbalance tariffs. Nevertheless, Elia analyzed and simulated a worst case scenario concluding that the impact of the relaxation of the DA balance obligation on the balancing capacity needs would be negligible.
- Elia reminds that full FRR needs need to be deducted from the assets modelled in Antares. Indeed, even if Elia is able to count on reserve sharing or non-contracted balancing energy bids to reduce its balancing capacity to be procured, this capacity still needs to be considered 'firm', i.e. availability is guaranteed



Comments

Febeliec

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- Wonders why the net revenues from the provision of balancing services as a revenue stream is not taken into account. Especially in case of scarcity situations, it can be expected that these revenues would increase

Elia Answer

- The split proposed by Elia is performed for modelling reasons, as the reserved capacity needs to be allocated to specific units (and therefore technologies) which are modelled in the economic dispatch simulations.
- There is a difference between net revenues and actual revenue streams. Indeed, it is very well possible that market parties make money from the provision of balancing services. However, Elia only considers the additional revenue on top of the market revenues for the calculation of the IPC since the market revenues are fully considered in the missing money calculation.
- Balancing services, and the revenues that come from them, serve vastly different purposes in terms of adequacy compared to the CRM. Balancing services aim to provide relatively small volumes to match supply and demand, whereas the CRM serves to close a gap of several GW. A lack of revenues from balancing services as such do not necessarily indicate that a CRM is not necessary, and vice versa.

Comments

Febeliec

- Wonders whether applying a linear interpolation with ERAA21 values is the best approach
- No update for some countries which could have a significant impact on the energy mix and cross-border flows in Europe (e.g. PL)
- Impact of war in Ukraine on the announcements made before

Elia Answer

- Elia based itself on all latest announcements.
- Data/Sources taking into account the war in Ukraine were not available for some countries.
- Elia takes note of Febeliec's comment and extend the scope of the analysis to Spain, Italy and Poland (see next slide)



Feedback public consultation – Other countries data

Countries	Proposed Updates				
	Lignite/Coal [MW]	Wind Onshore [MW]	Wind Offshore [MW]	Solar [MW]	Demand [TWh/y]
DE	10,700	74,300	22,000	137,200	623
FR	0	24,100	6,200	44,000	482
NL	2,671	7,800	11,500	26,900	143
GB	0	24,200	36,300	31,900	306
IT	0	20,700	1,300	56,200	340
PL	21,600	10,500	3,600	8,800	182
ES	0	49,500	0	50,700	271



Updates made to the initially proposed dataset

Thermal	Capacity updated from 386 MW to 378 MW for St Ghislain.
Biomass	Capacity updated from 624 MW to 504 MW.
V2G	Capacity updated from 242 MW to 129 MW.
Prices	Extra price sensitivity in line with European commission: gas 44.4€/MWh, coal 10.7€/MWh, oil 66.9 €/MWh
Other countries	Additional updates for coal/lignite, solar, wind onshore, wind offshore and demand for Poland, Italy and Spain.

Topics to further analyze in the context of the next Adequacy and Flexibility study

Forced
Outages

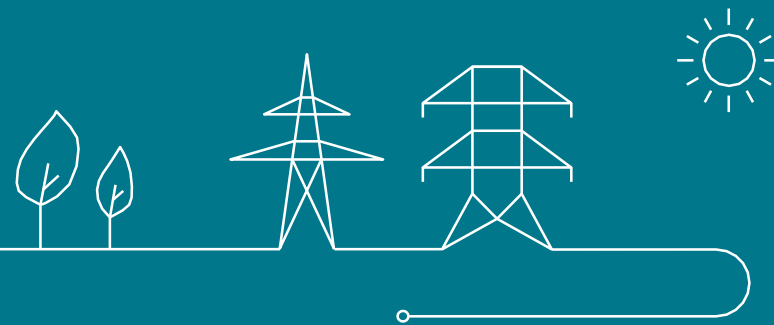
Analysis on the evolution and spread of forced outages in Belgium.

V2G

Analysis on the potential and evolution of batteries (including V2G) and DSM capacities in Belgium foreseen in the framework of the next Adequacy & Flexibility study.

DSM

2. Sensitivities



French nuclear availability

French nuclear availability 1

Decreased French nuclear availability in continuity of last year's reference scenario

Lower availability by 2 units on average during winter

French nuclear availability 2

Decreased French nuclear availability based on historical figures

Lower availability by 4 units on average during winter

French nuclear availability 3

Decreased French nuclear availability based on historical figures

Lower availability by 6 units on average during winter

French nuclear availability 4

Decreased French nuclear availability based on historical figures

Lower availability by 8 units on average during winter



French nuclear availability

Comments

Febeg

- Consider 8 units
- Historical observations (systematically below the forecast)
- French nuclear availability = major risk for Belgium security of supply
- Impact of corrosion phenomena

Febeliec

- CRM in place in France (ensures adequacy)
- NRAAs can only take into account national impacts and not those cross border

Engie

- At least 8 units should be considered unavailable on average during a winter
- “Generic” issues (corrosion, earthquake safety issue...) have kept EDF from reaching the declared availability levels
- EDF adjusted its production to lower values for next winters, below the historically generation (~400 TWh)



French nuclear availability

Elia Answer

Elia takes note of the different feedback received with proposal to take 0 or 8 units into account and the justification associated.

Sensitivity proposed in order for the Belgian authorities to cover themselves against lower nuclear availabilities in France. Such reasoning is compliant with article 3, §4 of the Royal Decree.

This sensitivity is based on multiple arguments:

- major overhauls foreseen to extend the lifetime of the fleet beyond 40 years;
- recent findings on corrosion defects would greatly impact the availability of all nuclear reactors in the coming years;
- the recent publication from RTE regarding the expected generation for next winters and looking at 2030 ;
- the vulnerability of the nuclear fleet to generic issues;
- the French TSO's report that they expect that the reliability standard would not be met in the coming 3 winters based on their reference scenario (prior to the latest announcement on corrosion defects) , despite the market-wide CRM implemented in France.



FB CEP rules

FB CEP rules

Non achievements of the CEP rules for 2027 to reflect the uncertainty on capacity calculation.
Fixed RAM 70% instead of 70% minRAM

Comments

Febeg

- High uncertainties on whether the ambition of minRAM 70% will really be achieved by 2027 in all countries
- A country-per-country approach could be applied to better capture the uncertainty

Engie

- Uncertainties regarding the compliance of the rule by 2027 (e.g. slow evolution in Germany)
- Proposal to implement some differentiation amongst TSO
- Elia assumption on a complete transmission grid availability in the winter period is also risky as it will increase internal flows on network elements

Febeliec

- Opposition to the inclusion of any sensitivity which would reduce the minRAM below 70% as this the minimum threshold



FB CEP rules

FB CEP rules

Non achievements of the CEP rules for 2027 to reflect the uncertainty on capacity calculation.

Fixed RAM 70% instead of 70% minRAM

Elia Answer

Elia first noted that none stakeholders proposed to consider the sensitivity with fixed RAM 70% and that Febeliec opposed to it explicitly. Indeed, the Delivery Period of this study is 2 years after the legal deadline for the rigorously application of the 70% minRAM requirement to all CNECs

Elia takes note of Engie and Febeg's proposals to consider an approach rather based on a country-by-country assessment than on a global criteria. Even though the proposal makes sense, it would require a lot additional work to implement it (which is not foreseen in Elia's current workload) and a lot of information/assumptions regarding the parameter to be considered for each country. Such sensitivity could be investigated to be assessed in the next Adequacy and Flexibility study.

For those reasons, Elia proposes to consider the base case with a minRAM 70% for the flow-based domains determination.



Uncertainties on Belgian thermal units

TJ closure

Closure of turbojets due to possible CO2 threshold
-158 MW

OCGT closure

Closure of both turbojets and old OCGT due to possible CO2 threshold
-511 MW

Comments

Febeg

- Should be considered due to the recent and upcoming review of the CO2 emission threshold to participate in the CRM
- May cause the closure of several units

Febeliec

- Under the current discussions on the crisis related to the Ukrainian war, a lot of realism and pragmatism has been shown to ensure that European adequacy is maintained under crisis conditions
- Removal of 500 MW seems extremely conservative and an overshoot



Uncertainties on Belgian thermal units

TJ closure

Closure of turbojets due to possible CO2 threshold
-158 MW

OCGT closure

Closure of both turbojets and old OCGT due to possible CO2 threshold
-511 MW

Elia Answer

- Regarding the regulatory framework associated, Elia follows the proposal from the DG Energy currently under public consultation.
- Regarding the opposite feedback received, Elia will propose in its recommendation to integrate partially this sensitivity: 50% of the total installed capacity of TJ and small-scale OCGT will be integrated in the model reflecting the potential risk of closure of those units, corresponding to 276 MW.



Prices and demand uncertainties

High prices

Maintain high prices in Europe

Higher fuel costs (35,4 €2020/MWh for gas and 17,1 €2020/MWh for coal) and lower average demand due to high electricity prices

Low prices

Back to low prices in Europe

Lower fuel costs (19,8 € 2020/MWh for gas and 8,6 €2020/MWh for coal)

Lower demand

Lower demand in Belgium due to high prices

Lower yearly consumption due to high electricity prices (already integrated in the high prices sensitivity)



Prices and demand uncertainties

Comments

Febeg

- some might put forward that the electricity consumption could be reduced due to the possible high electricity prices and collateral effects of the war in Ukraine

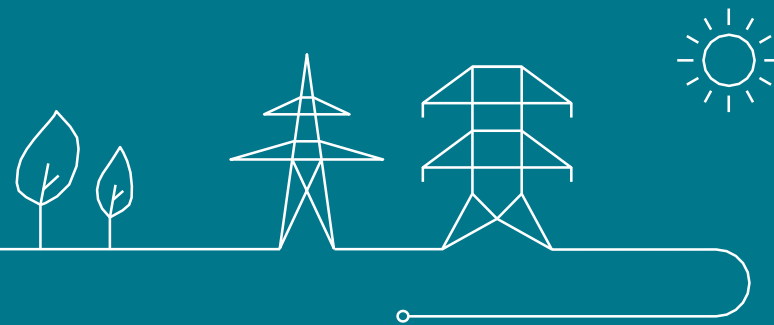
Febeliec

- Support sensitivity on prices but do not support the methodology proposed by Elia
- Support sensitivity on lower demand due to high prices but the note lacks any content to evaluate the methodology to determine it

Elia Answer

- Proposal to include sensitivities with initially proposed high prices sensitivity or EC proposal or any more recent assessment available by the 15th of September + impact on the demand in the reference scenario
- Elia would like to remind that it was not possible to assess the impact of structurally higher prices in the timing set for this public consultation. Elia has taken action to request such impact assessment when updating the demand forecasts for Belgium.
- Elia will provide the results once the economic forecast has been published and the forecast has been updated

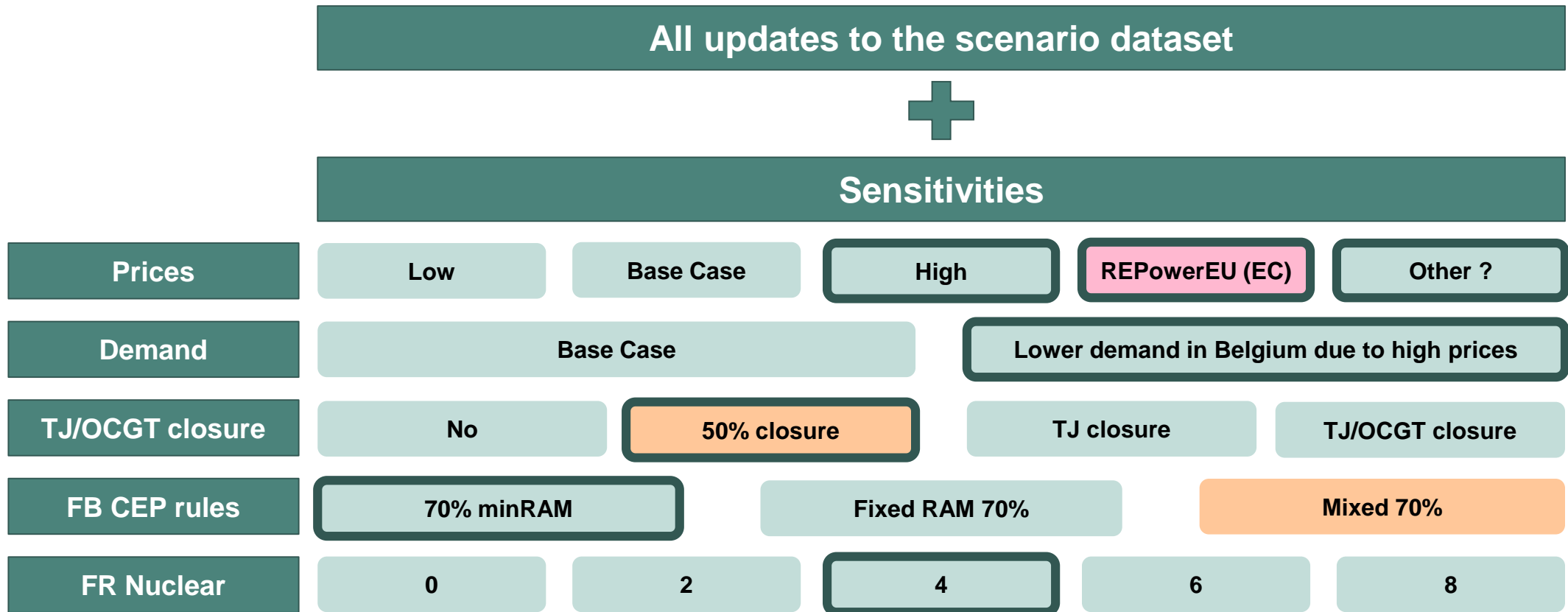
3. Elia's recommendation



Elia's recommendation

- Elia's recommendations aim to provide a coherent dataset and a set of relevant sensitivities to be considered in the reference scenario.
- Those recommendations integrate to a certain extent the feedback from stakeholders.
- Note that all answers to public consultation will also be provided to the Minister, FPS Economy and CREG, according to the Royal Decree.
- The public consultation report integrates both Elia's recommendation as well as a dataset proposal associated in appendix.

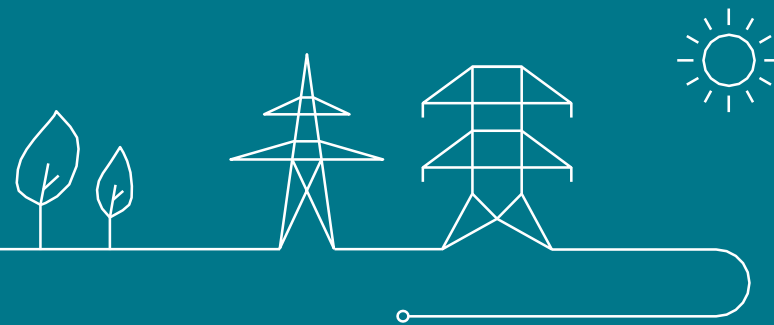
Elia's recommendation



Legend:



4. Other parameters



Preselected capacity types

Comments

Febeg

- Relevance to keep IC gas engine in the list of relevant technologies (European green deal context)
- Review of CAPEX for batteries (400€/kW seems to be a good ballpark value)

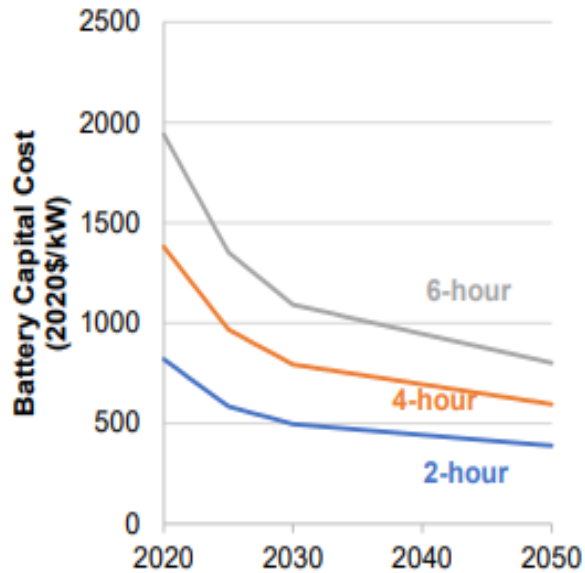
Elia Answer

- Elia agrees to remove IC gas engine from the list of technologies among others due to the potential emission limits
- Based on the available info (see graph), Elia proposed
 1. to adapt the CAPEX for large-scale batteries depending on the energy content
 2. to only consider 4h batteries as it is the category with the highest share in the dataset



Preselected capacity types

Adaptation of CAPEX for large-scale batteries



Large-scale batteries	CAPEX [€/kW]	FOM [€/kW/y]	Economic lifetime [y]
1h energy content	250	15	15
2h energy content	400	15	15
4h energy content	750	15	15



Post-delivery year scenario

Comments

Febeliec

- No data available for 2029-2031.
- No data available between 2033 and 2040 included.
- Could lead to a very high and unnecessary overprocurement of capacity if only a very limited number of years would be identified with potential adequacy concerns.

Elia Answer

- Lack of available public studies to provide alternative data.
- Post-delivery year are not linked to volume parameters. This data is used to determine revenues for later years and impacts only the ordinate of points A and B of the demand curve.
- Elia proposes to keep the initial proposal to consider AdFlex 21 to determine post-delivery year revenues for 2030 and 2032.



IPC Input data: AFRY-study

Comments

Engie

Zandvliet
Power N.V.

FEBEG

- An update of the AFRY-study is necessary
- Different cost components should be included in the update

Elia Answer

- An update of the study will be launched
- Elia has requested market parties to provide more insights on the different cost components so that these can be used as input. Those that have not done so yet can reach out to taskforce.CRM@elia.be by 24/06/2022 at the latest
- The consultant will then verify whether and to what degree these should be included



Update AFRY-study

- The AFRY-study is used as a starting point for the IPC calibration
- Recent price developments have made the previous iteration (2020) outdated, as indicated by several market parties
- An update of the study will be launched
- **Several market parties used the public consultation as an opportunity to provide more insight in the different cost components that should be reviewed. Market parties that have not done so can provide us their input via taskforce.CRM@elia.be by 24/06/2022 at the latest**
- Elia will then discuss with the consultant whether and to which degree these elements can be integrated in the update



IPC Input data: Payback Obligation

Comments

Engie

Zandvliet
Power N.V.

FEBEG

- The Strike Price is too low
- The Payback Obligation risks being too great, and should be an explicit cost component in the IPC calculation

Elia Answer

- The most recent update of the Strike Price study already shows that it increases significantly
- The inframarginal rents calculated for the IPC already take into account a price cap equal to the IPC, thereby reflecting the amount that would be involved in the Payback Obligation



IPC Input data: Availability Tests

Comments

FEBELIEC

- Costs for Availability Tests are only considered for units with high short-run marginal costs
- These should be included for all units

FEBEG

Elia Answer

- Elia cannot provide more details for the selection procedure for Availability Tests, since it must be avoided that CMUs prepare specifically for them
- Elia assures that as long as the CMU does not fail any controls in the framework of the Availability Monitoring the probability of being selected for an Availability Test for these units is very low.



IPC Input data: revenues from ancillary services

Comments

Engie

FEBEG

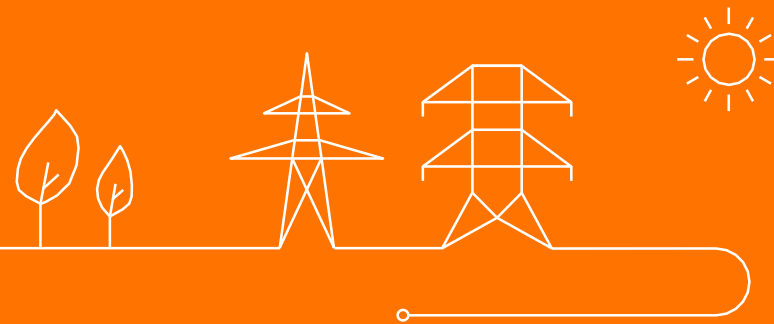
- Estimations of future revenues of AS should take into account evolutions that might take place on these markets

Elia Answer

- Elia wants to stress that this is already the case
- Last year's calibration report actively took into account the amount the balancing needs for the Delivery Period and compared this to the expected available volumes to compute the expected net revenues. ELIA continues to closely monitor the developments on the markets.



Next meetings



Foreseen timeslots for next meetings

- Tuesday 13th September 2022 am
- Thursday 13th October 2022 am
- Monday 7th November 2022 pm
- Friday 16th December 2022 pm



Thank you !

