

WG Balancing of 15th September 2021

Teleconference

15/09/2021

For a smooth teleconference with 30+ people ... Some rules apply

- Please put yourself on mute at any time that you are not speaking to avoid background noise.
- If you receive a call, please ensure that you do not put this meeting **on hold**.
 - You can quit and reconnect later on.
 - You will be muted or kicked out of the session, if necessary.
- You will be requested to hold your questions for the end of each presentation.
 - Should you have a question, please notify via Teams or speak out if you are only via phone.
 - Share your question (with slide number) in advance so all participants may follow
 - Before you share your question, please announce yourself.
- If you have a poor internet connection, please dial-in.
- Finally, please be courteous and let people finish their sentences.
 - It is practically impossible to follow when 2 people are speaking at the same time in a teleconference.



Agenda

- 9:00 – 9:10 – Introduction and Validation of minutes
- 9:10 – 9:20 – Results of the consultation on the LFC BOA
- 9:20 – 9:50 – Public consultation of the Dynamic FRR means study
- 9:50 – 10:05 – EMS : status and next steps

- 10:05 – 10:35 – Open Data Platform
- 10:35 – 10:55 – Elia Group Inside Information Platform
- 10:55 – 11:20 – mFRR Flex phase-out
- 11:20 – 11:35 – Planning EU Balancing : Status & next steps

AOB

- Status on public consultation of PfA of T&C BRP
- Update public consultation on a technology neutral framework for slow-start units
- System Imbalance forecast and evaluation of its publication
- Update study paid-as-cleared remuneration of balancing capacity

Minutes of Meeting for approval

Minutes of Meeting of WG Balancing 6th May 2021:

- No comments from stakeholders

Minutes of Meeting of WG Balancing 28th June 2021:

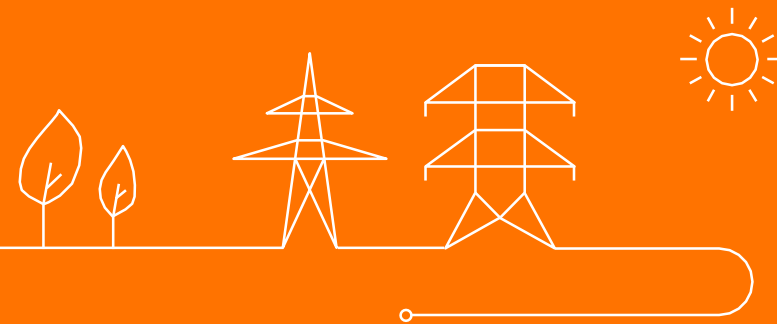
- No comments from stakeholders

It is suggest to approve the MoM of both meetings.



Public consultation on the LFC block operational agreement

Presented by Kristof De Vos



Elia launched a public consultation of its proposal to amend the LFC BOA on 15/6/2021 until 16/7/2021

As presented in the WG BAL May 6, 2021, Elia proposed a framework for its procedures for exceptional balancing events

- Introduction of an escalation procedure (in case the reserve capacity needs are not covered)
- Specification of the exhausted reserve procedure (in case of exceptional risks, cf. storm risk procedure)
- An update of the measures taken in case of a high FRCE

A few other incremental modifications will be proposed as well :

- Improvement of the Nemo Link direction forecast
- Replace the 15.0' FAT with 12.5' FAT

- Elia received an answer from Nemo Link, FEBELIEC and FEBEG
- The consultation report will be published together with Elia's submission of the proposal to CREG

Elia is planning to submit its proposal to CREG on 30/9

- Implementation of the Nemo link direction forecast foreseen within 3 months after approval
- Implementation of exceptional measures and FAT reduction foreseen together with entry into force of next T&C mFRR (2022)

Summary of the remarks of FEBEG

- FEBEG stresses the exceptional nature and welcomes the reporting obligations following the activation of these procedures. It therefore suggests that :

1. The reports are made public
2. Include an indication if a review of the FRR needs dimensioning methodology or assumptions is required and why (not).
3. Be made available (at least) once a year or prior to any discussion/consultation on the FRR needs dimensioning or FRR means calculation

- Elia commits to present a summary after each activation event in the WG BALANCING
- Elia commits to present a summary of all trigger events in the WG BALANCING when proposing modifications

This way, stakeholders will be adequately informed on the events and the triggers, and how they potentially impact the dimensioning discussions

- On the adjustment of the mFRR FAT from 15.0 to 12.5 minutes, FEBEG refers to previous reactions *“Ramp rate decreases from 15 minutes to 12.5 minutes. It should remain 15 minutes, otherwise this will lead to lower prequalified volumes. Indeed, 12,5 minutes will be difficult to accomplish for some units and in general the activation profile (for activation & for prequalification) are not fit for some technologies (GT). It will be impossible for some machines to connect within 2,5 minutes, and the ramping rate is always steeper than 10 minutes to reach base load.”*

Elia explains that the reduction of the full activation time is specified in Article 7 of the Implementation framework for the European platform for the exchange of balancing energy from frequency restoration reserves with manual activation in accordance with Article 20 of Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing. This document was approved by ACER after consultation.

Summary of the remarks of Nemo Link

- It is not clear to what extent the changing of the threshold improves the flow forecast. We therefore request that Elia makes the datasets of the flow forecasts available so that market parties can assess the accuracy in more detail. Nemo Link also uses flow forecasts for imbalance management purposes which can perhaps be used as a benchmark.*

Elia refers to the presentation given during the WG BAL where it demonstrates the improvement for different threshold, as well the selection of the threshold. Elia also explains this in the explanatory note. The forecasted time series are provided by an external service provider and are not foreseen to be published.

- We also note that, effective from 1 Jan 2021, Nemo Link's Day-ahead capacity rights are allocated and nominated explicitly. Because of the inefficiencies of the day-ahead explicit model, Nemo Link's commercial flow may at times deviate significantly from the implied price direction at DA stage. We also observe that LT capacity holders currently predominantly nominate in one direction (towards GB) even if the price spread reverses towards Belgium. It is important that these dynamics are considered in the Nemo Link flow forecast.

Elia refers to the results of benchmark that the flow-based method gives better results as the price-based methodologies. The period analysed covers August 2020 to March 2021 and thus includes three months after the Brexit. As the forecast quality is acceptable, also during 3 months after Brexit, no further methodological improvements are currently planned.

- We note that Nemo Link has 20 MW overload export capacity to GB from 17:00 to 22:00. During these hours, the total export capacity (measured at the Belgian end of the interconnector) therefore increases from 1024MW to 1044MW. This overload is not available for import into Belgium. - The overload does not seem reflected in Elia's assessment of the maximum capacity available for FRR sharing may perhaps also not be taken into account in the calculation of the forced outage risk (section 3.1.2). We encourage Elia to take Nemo Link's overload fully into account in its balancing needs assessment

This question on the calculation of the contribution of sharing in the dimensioning is out of scope of this consultation. However, Elia wants to clarify that because the SOGL sharing limits are calculated as fixed values it is indeed not taken into account. Nevertheless it is not impacting the results as the downward sharing limit is currently set at 350 MW (based on the analysis of historic ATC ID) which is far beyond the SOGL sharing limits. Elia clarifies the overload is taken into account in the forced outage risk.

Proposed improvement of Nemo Link direction forecast (2)

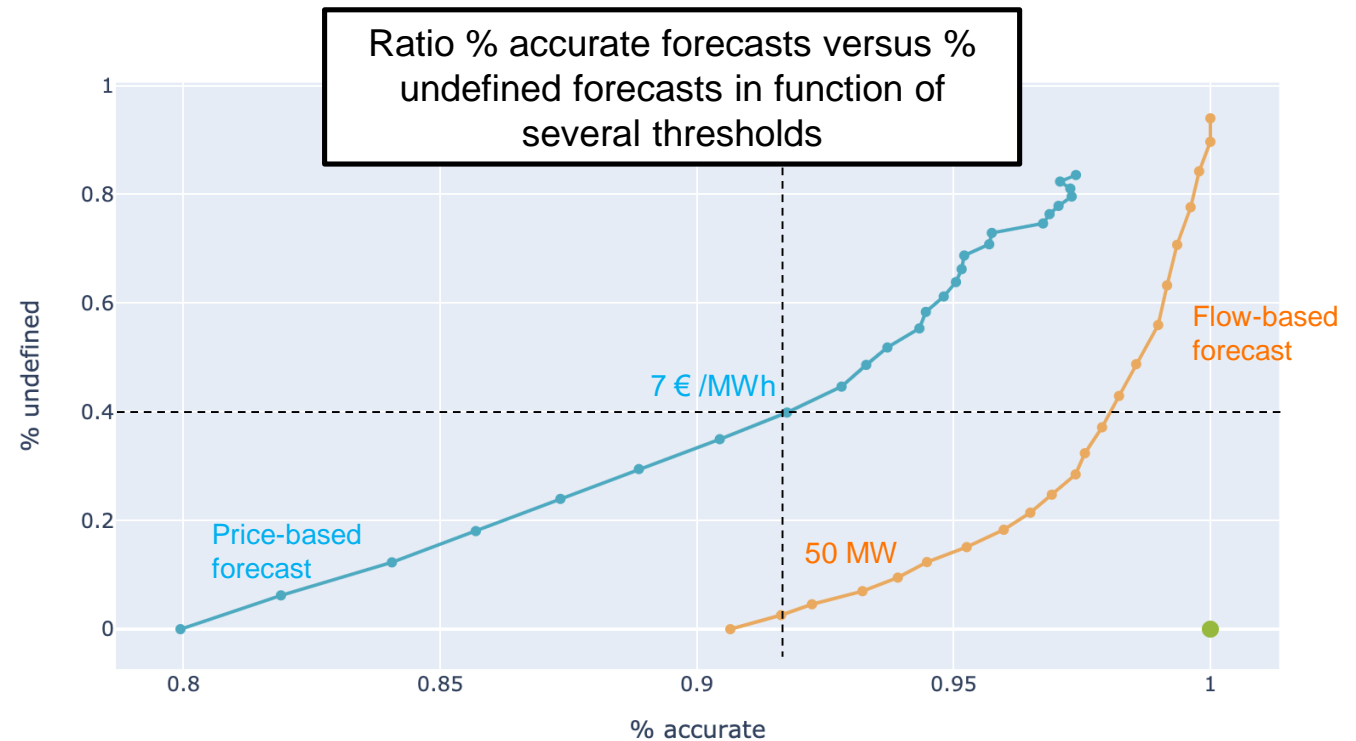
BETTER ACCURACY

For every possible threshold (between 50 MW and 600 MW) the new prediction method provides a better forecast in terms of ratio accuracy and undefined

TRESHOLD FIXED AT 50 MW

A multi-objective optimization minimizes the absolute distance to the perfect solution.

- The best threshold is found to be 50 MW.
- This value is found to be robust over the entire period observed

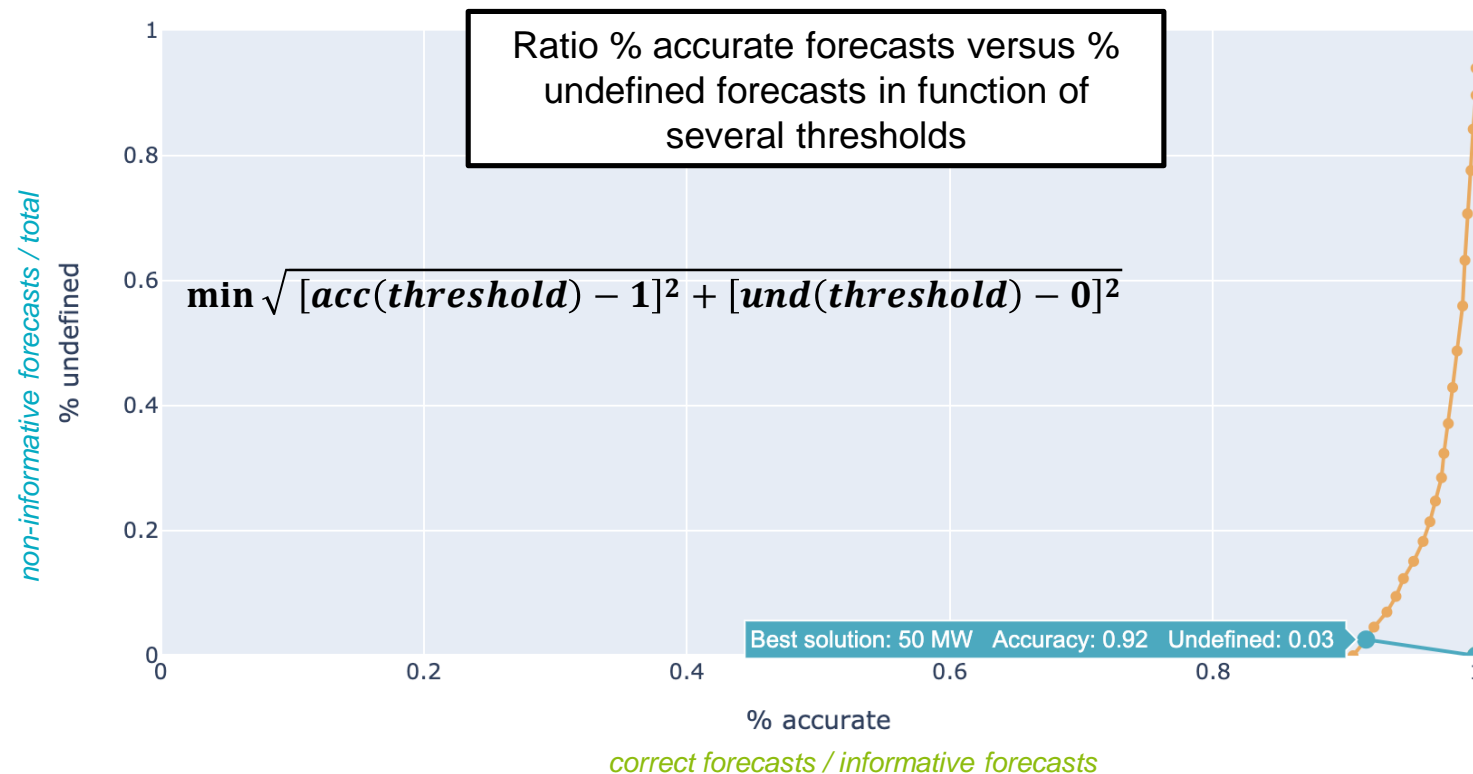


Proposed improvement of Nemo Link direction forecast

TRESHOLD

A multi-objective optimization minimizes the absolute distance to the perfect solution

- The best threshold is found to be 50 MW
- This value is found to be robust over the entire period observed (01.08.2020 and 31.03.2021)



Original price based method

Accuracy: 92 %
Undefined : 40 %

New flow based method

Accuracy: 92 %
Undefined : 3 %

Conclusion - the new methodology fundamentally reduces the undecided periods which avoids potential over-dimensioning the needs by covering both directions in parallel.

Summary of the remarks of FEBELIEC

Some general remarks on dimensioning aspects are relevant but considered out of scope of this consultation :

- Filtering exceptional data points from the probabilistic dimensioning method (cf. DA balancing obligation) → cf. answer consultation DA balancing obligation
- Impact of the nuclear phase out on dimensioning → cf. projections in the MOG 2 system integration study
- Validity of the sharing agreements with NGESO after Brexit → Elia does not see a reason to put the sharing agreements into question
- Update of the outage rates and forecast improvement factors → only relevant for aFRR dimensioning which is subject to revision
- On the update of the static aFRR and sharing calculations → aFRR dimensioning is subject to revision and no evolutions justifying to re-consider sharing limits
- On the update of the sharing limits in the LFC Means → no indication at this point to re-consider sharing calculation in the LFC means
- On the mFRR flex phase out → cf. answers given during specific consultations and discussions on the LFC Means

Febeliec is surprised to see that for the so-called slow start units, Elia in all documents is only referring to gas-fired power plants. Febeliec wants to stress that such product should be made technology-neutral (which currently is not the case).

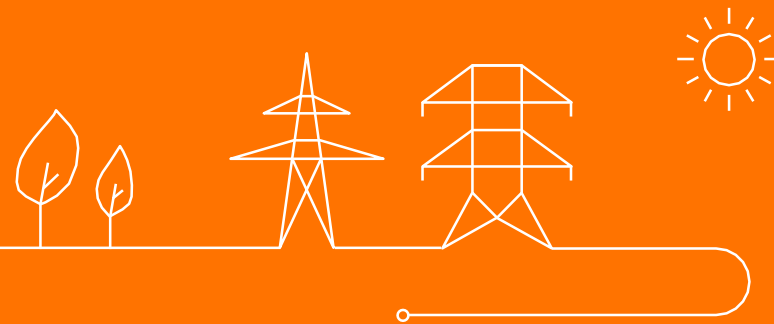
Elia explained during the WG BAL of May 6 that it designed the triggers specified in the LFC BOA as technology neutral as possible while another study investigates in specific the conditions for the participation of other technologies is this measure. Preliminary findings of the study on the possibilities for a technology-neutral framework have been discussed with the stakeholders in a dedicated workshop that took place on 1st of July 2021, and the study is currently under public consultation.

On the interconnector with the UK, Febeliec regrets that Elia has not provided an argumentation why this interconnector is now taken into account in the analysis based on a real-time flow and not on a price difference as currently still is the case. Febeliec not necessarily opposes this modification, yet finds it strange that this is not explained nor that a justification of the switch and its (costs) impact are given.

Elia refers to the quantitative analysis presented in the WG BAL of May 6 showing that how the flow-based approach outperforms the price-based approach improving the accuracy of the dimensioning (cf. also previous slides).

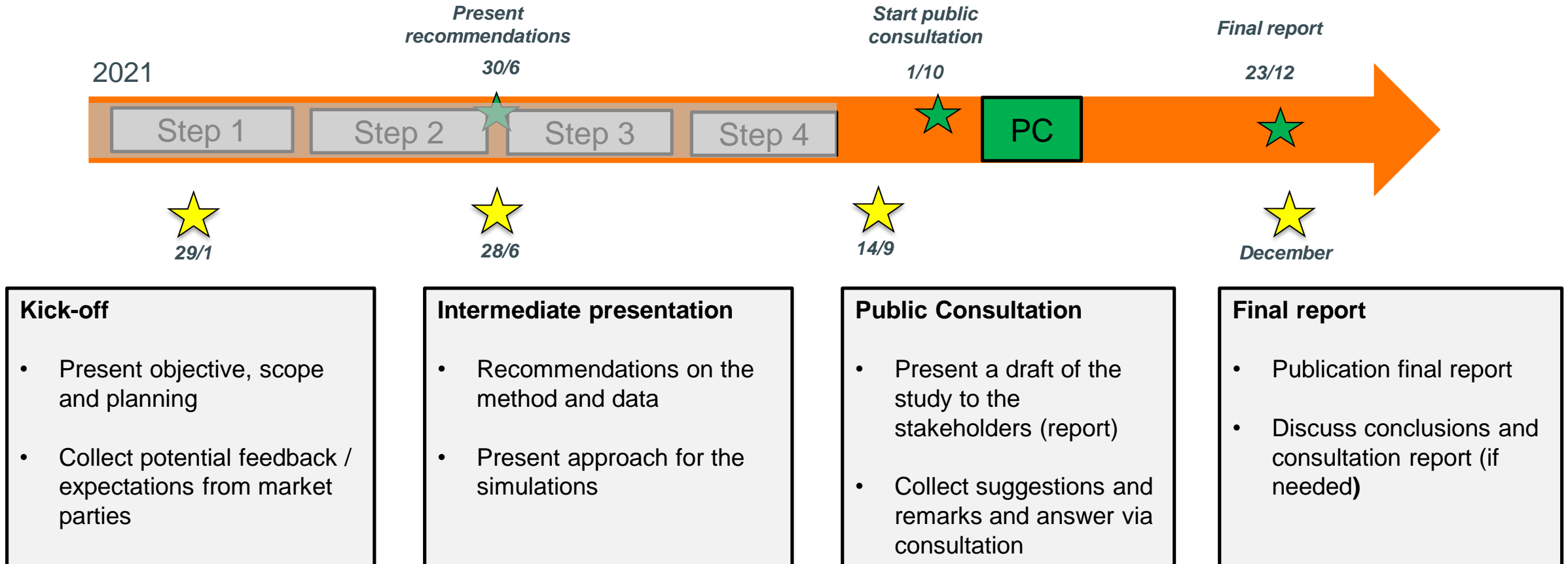
Daily prediction of non-contracted balancing energy bids

Presented by Kristof De Vos



Status of the study

★ WG Balancing presentations



Structure of the presentation

1

Recap of the objectives / scope of the study and the proposed methodology
As presented in the Working Group on 29/1 and 28/6

2

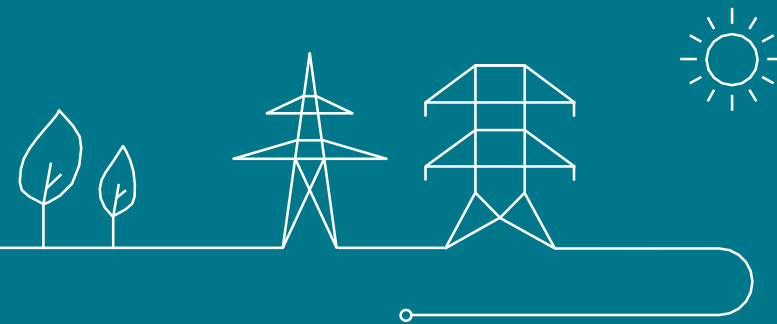
Results of the simulations and presentation of the conclusions

3

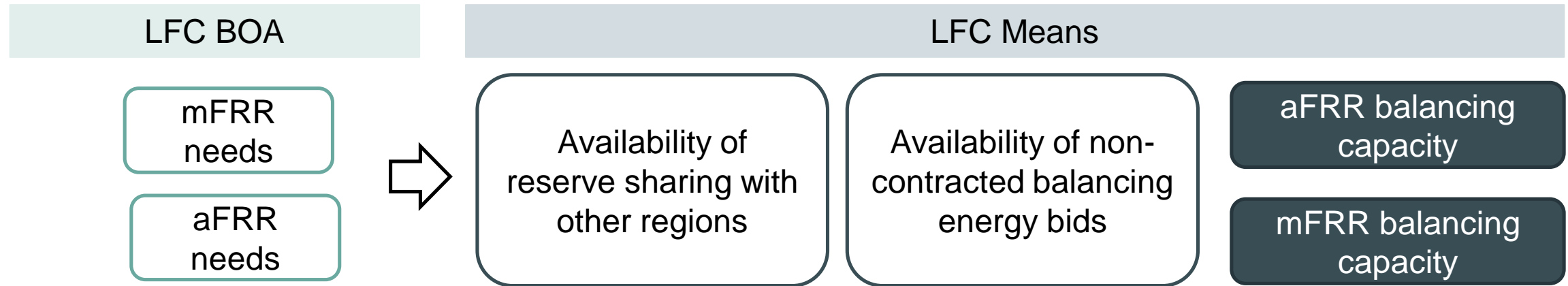
Proposed implementation roadmap

Recap of the objectives / scope of the study and the proposed methodology

As presented to Working Group on 29/1 and 28/6



Context of the study



- In line with Article 157 of the SOGL, Elia determines the FRR / aFRR / mFRR needs following a methodology specified in its LFC block operational agreement.
 - FRR / mFRR needs are already dimensioned dynamically, i.e. on a daily basis based on expected system conditions
 - Elia presented in 2020 an implementation plan for a dynamic dimensioning of aFRR needs.
- In line with Article 32 of the EBGL, Elia determines in its LFC Means the optimal provision of reserve capacity taking into account sharing of reserves, the volumes of non-contracted balancing energy bids and the procurement of balancing capacity. This is currently still based on a 'static' approach.
 - Elia calculates on a periodic basis the availability of non-contracted capacity balancing energy bids and the availability of shared FRR capacity.
 - Potential 'firm' capacity is subtracted from the required mFRR / aFRR needs in order to determine Elia's balancing capacity (to be procured)

Objective, approach and scope

Question : can Elia's available non-contracted balancing energy bids for the next day be predicted to be used in the calculation of FRR balancing capacity (to be procured)?



- **Step 1** : collection of data on all relevant system conditions known day-ahead and investigate potential correlations with the non-contracted balancing energy bids.



- **Step 2** : study several advanced statistical methods (cf. machine learning) and put forward a few methodologies to be tested



- **Step 3** : analysis of the results of the quantitative comparison of the selected methods for the proposed features.



- **Step 4** : put forward recommendations and an implementation planning

Scoping

- The balancing energy exchange platforms for aFRR and mFRR will only be implemented in 2022. It will therefore not be possible to determine the quantitative impact on the results in the study
- Recent and foreseen product developments for aFRR & mFRR are not (fully) represented yet in the available observations and results are subject to market evolutions

Although Elia will conduct its best efforts to make the methods as robust as possible, the methods and results will need to be updated after a return on experience on these evolutions

- This study focuses only on the 'predictability' of the volumes, and not on market implications and procurement aspects of taking into account a dynamic calculation of the available FRR means.

Depending on the results of this study, follow-up analyses will further investigate these aspects.

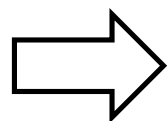
Methodology overview

Principle 1

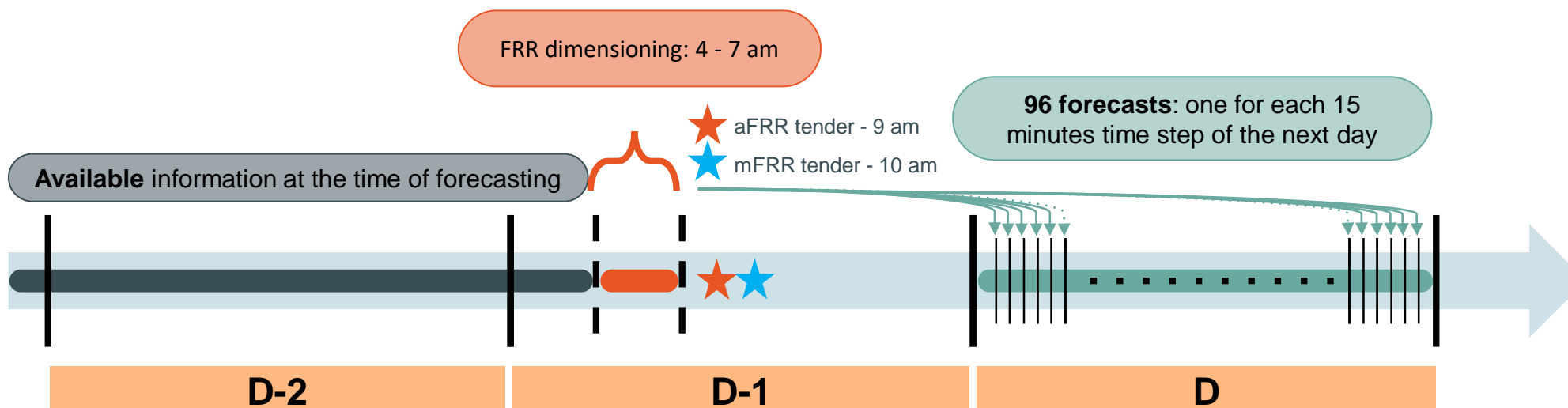
The prediction of available energy bids closer to real-time increases accuracy of the prediction and therefore the potential

Principle 2

The calculation of the available FRR means has to be conducted before the day-ahead procurement of the balancing capacity



The proposed methodology is based on a daily, day-ahead prediction, before the balancing capacity tenders, in parallel with the FRR dimensioning



Prediction target variables

Implicit bidding (until 2022)

Explicit bidding
(as from October 2020)

1

Non-contracted balancing energy bids

- Based on available regulation capacity (Elia website)
- Corrected for non-scheduled slow start units (cf. CCGT)
- Upscaling wind power bids with incremental wind power up to 2021
- Includes CIPU / non-CIPU units ('Bidladder')

+

2

Pumped-hydro storage

- Separate model based on Pmin, Pmax, Pnom of pumps and turbines
- Different sensitivities on energy content (all, none, night-day)

+

3

mFRR reserve sharing

- Based on the available ATC ID
- Capped at 350 MW per border (cf. sharing contract)
- Capped at SOGL limitations

=

4

Total non-contracted FRR capacity

5

aFRR non-contracted
balancing energy bids

Investigated features

Load

- Total load forecast
- Elia grid load

Transmission

- Import and Export ATC after ID with FR/NL/UK/DE*
- Day-Ahead capacity (NTC)

Market

- Forecast day-ahead market price
- Observed day-ahead market price
- Gas (TTF) prices
- CO₂ prices

Generation

- Availability of power plants by fuel type (per unit)
- Wind production (type) forecast
- Solar production forecast
- Decentralized must-run units production forecast

PHS Storage

- Availability (per unit)
- D-1 / ID nominations for PHS
- Energy levels*

Time

- Quarter-hour
- Hour
- Day
- Month

Generation

- LFC block imbalance
- LFC block imbalance prices
- mFRR offered volumes and capacity prices
- mFRR contracted volumes (per BSP)
- aFRR offered volumes and capacity prices
- Available regulation capacity (per type, technology, fuel type)

Weather

- Temperature forecast
- Solar Irradiation forecast*
- Wind speed forecast*

Transformations

- Residual load (load – renewable / nuclear / gas)
- Total load and renewable forecast gradients
- Incremental – decremental ‘free’ bids
- Trends / lags (7 days)
- Polynomial transformations

Model selection

Performance
Simplicity
Suitability



*Recommended for
Proof of Concept*

1  5

Less sophisticated methods

More sophisticated methods

Linear regression



1

5

3

- The most widely used model, can be adapted to almost any modelling task
- Typically used for benchmarking
- Provides information on the strength of the linear relations
- Less performant if the relations are non-linear

Nearest neighbors

1

4

1

- Simple, effective with a fast training phase
- Transparent : the outcome can be explained by a small set of features
- Not adapted for forecasting a percentile (e.g. 99.0%)

Regression trees

1

5

2

- Results can generally be improved with more advance models
- The flowchart of the tree gives allows interpretation of the output
- The model does not guarantee the use of all features

K-means clustering

2

3

3

- Simple and very flexibility (popular clustering algorithm)
- Performance varies largely on the problem
- Interpretability can be challenging

Polynomial regression

2

3

3

- Increases performance by capturing also the non-linear relations
- Increases complexity and results are more difficult to interpret
- Generally outperformed by other non-linear models (e.g. neural networks)

Support Vector Machines

4

2

1

- High expected accuracy in general but mainly used for classification
- Complex parametrization and slow to train (particularly with large dataset)
- Not adapted for forecasting a percentile (e.g. 99.0%)
- Difficult (if not impossible) to interpret

Random forests



5

3

5

- High performance in general, versatile and averse to overfitting.
- Less interpretable as the decision trees
- Boosting and fine-tuning give great results in practice

Neural networks



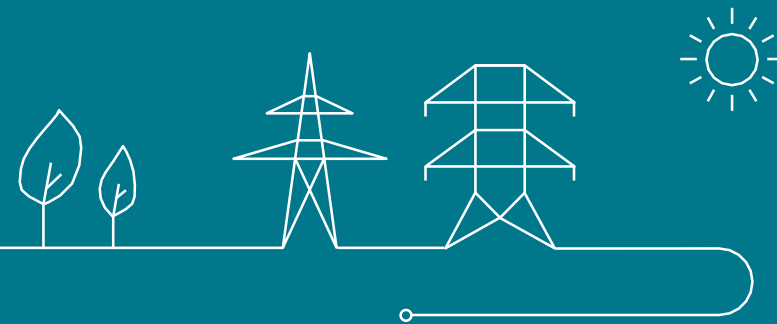
5

2

5

- Capable of modelling complex patterns
- Computationally intensive and slow to train
- Difficult (if not impossible) to interpret

Results of the simulations



A reference scenario is build to conduct simulations on the performance of potential forecasting algorithms



- Data period : 16/April/2019 – 15/4/2021
 - Two full years of data (avoid distortions due to seasonal effects)
 - Avoid the unrepresentative period with Coo-Trois-Ponts in maintenance (as from 15/4/2021)
- All incremental capacity bids : corrected for non-scheduled slow-start units (cf. CCGTs)
- All decremental capacity bids: wind power upscaled towards expected capacity end 2021 falling under bidding obligations
- Reserve sharing : capped following legal SOGL limits at 312 MW for upward and 550 MW (if export or undecided) for downward
- Pumped Hydro Storage : day/night profile
- 99.0% reliability level

+ Sensitivities up to end June 2021

+ Sensitivities without upscaling

+Sensitivities on impact of Pumped-Hydro

Dynamic Means on mFRR

Comparing the performance of the selected algorithms

	(in MW)	Static based on Central Scenario*	Linear regression	Random Forests	Neural Networks
UPWARD	Average prediction	319	388	500	463
	Reliability	99.0%	99.0%	98.9%	99.0%
	Mean error	5.4	4.53	3.24	3.95
DOWNWARD	Average prediction	719	1704	1940	1756
	Reliability	99.0%	99.0%	98.9%	98.9%
	Mean error	23.0	13.5	10.84	13.76



The random forest model gets better performance at the average level and at the error level. For the rest of the study, we will present results obtained with the random forest model

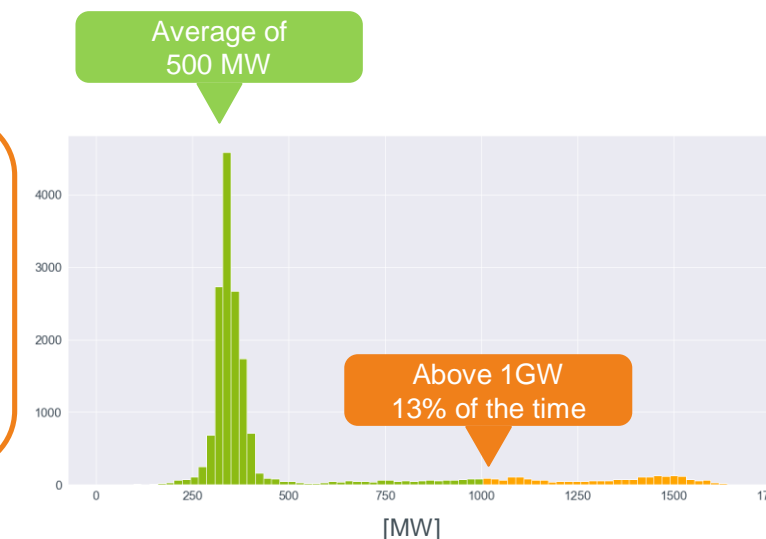
Dynamic Means on mFRR

Distribution of the predicted upward mFRR means

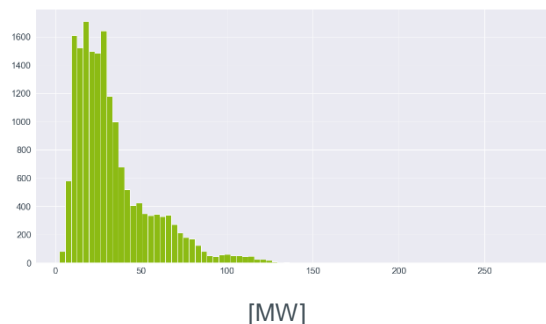
Key results

- The upward forecasts is expected to provide an average predicted volume of 500 MW, including the mFRR sharing up to 312 MW
- The upward volumes is expected to exceed the threshold of 1 GW in 13% of the time

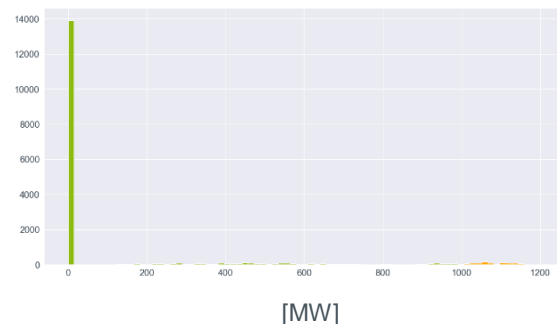
mean	500
std	314
min	12
25%	330
50%	330
75%	395
max	1700



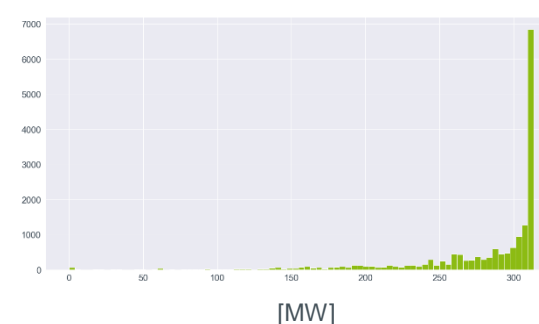
IC



PHS up



Sharing up



After removal of balancing capacity, pumped-hydro storage and unscheduled CCGT units, the predicted volumes vary between 0 and 150 MW.

Contributions up to 1 GW and more but low in frequency as energy levels are assumed to be only available during night time

Large contributor of non-contracted capacity. Constrained by the SOGL limit of 312 MW.

Dynamic Means on mFRR

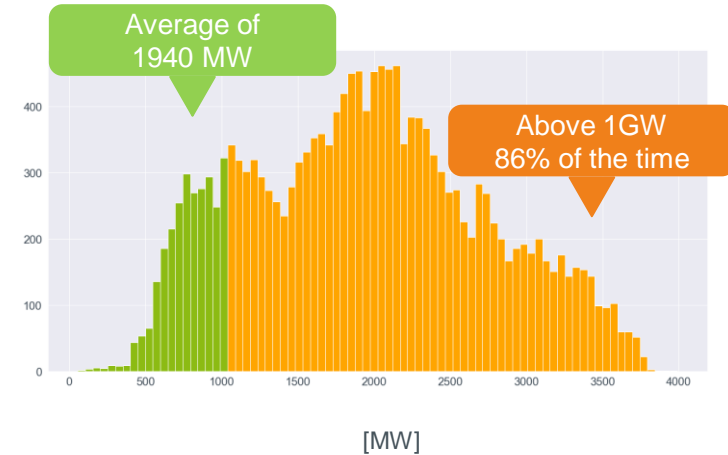
Distribution of the downward mFRR means

Key results

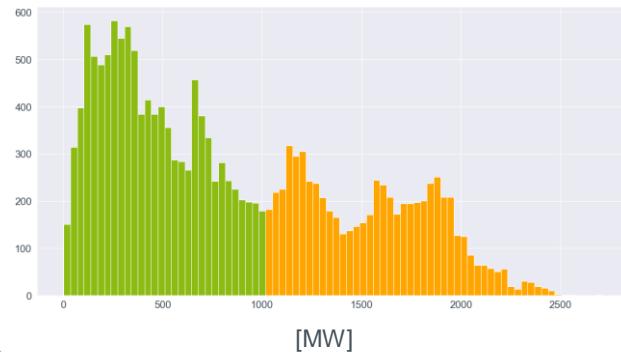
- The downward forecasts is expected to provide an average predicted volume of 1940 MW, including the mFRR sharing up to 550 MW
- The upward volumes is expected to exceed the threshold of 1 GW in 86% of the time*

*Note that in reality, the available volumes exceed the 1 GW threshold 97% of the time.

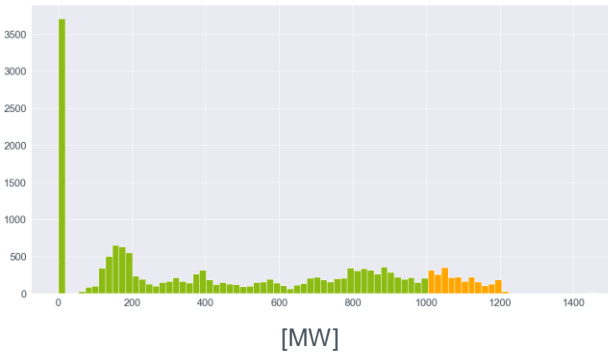
mean	1940
std	787
min	56
25%	1301
50%	1929
75%	2477
max	3991



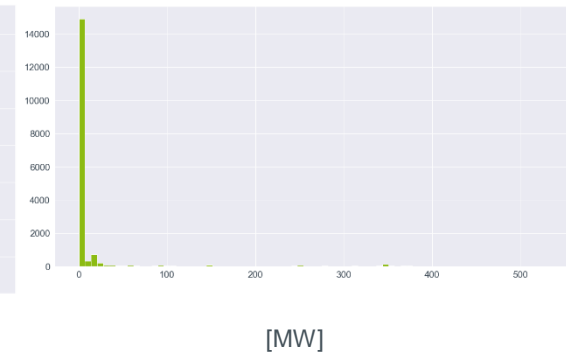
DC/DLC



PHS down



Sharing down



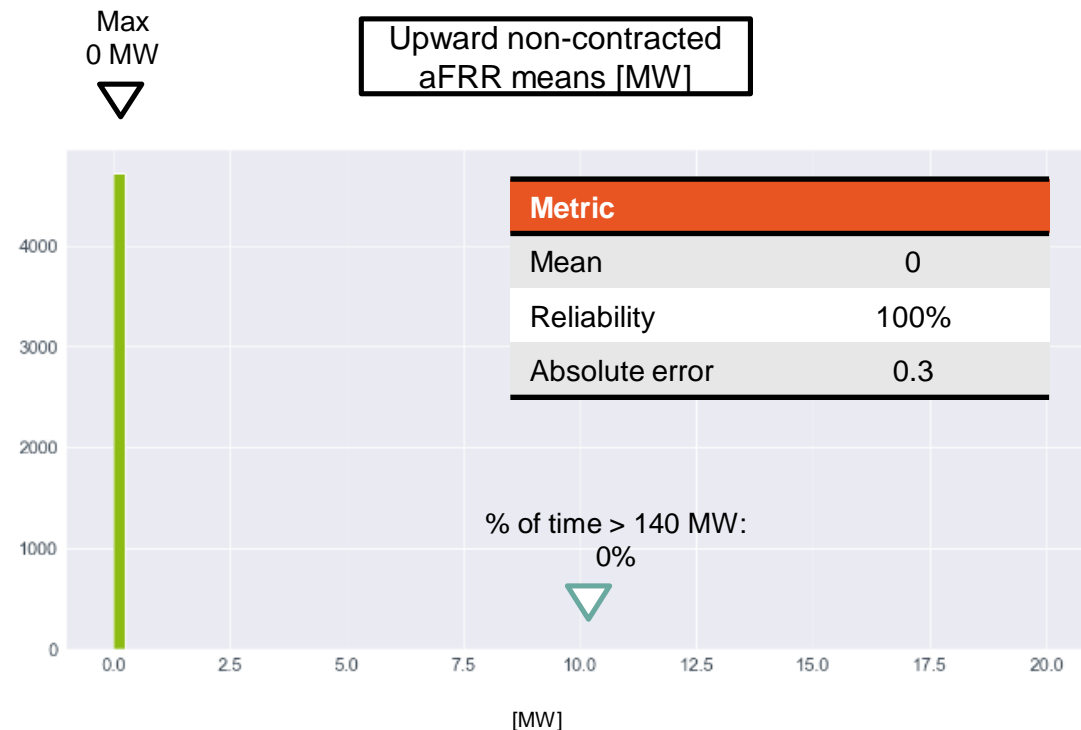
Substantial volumes available
(including large wind power parks)

Substantial volumes are assumed to
be available during day time
(8 AM – 4 AM)

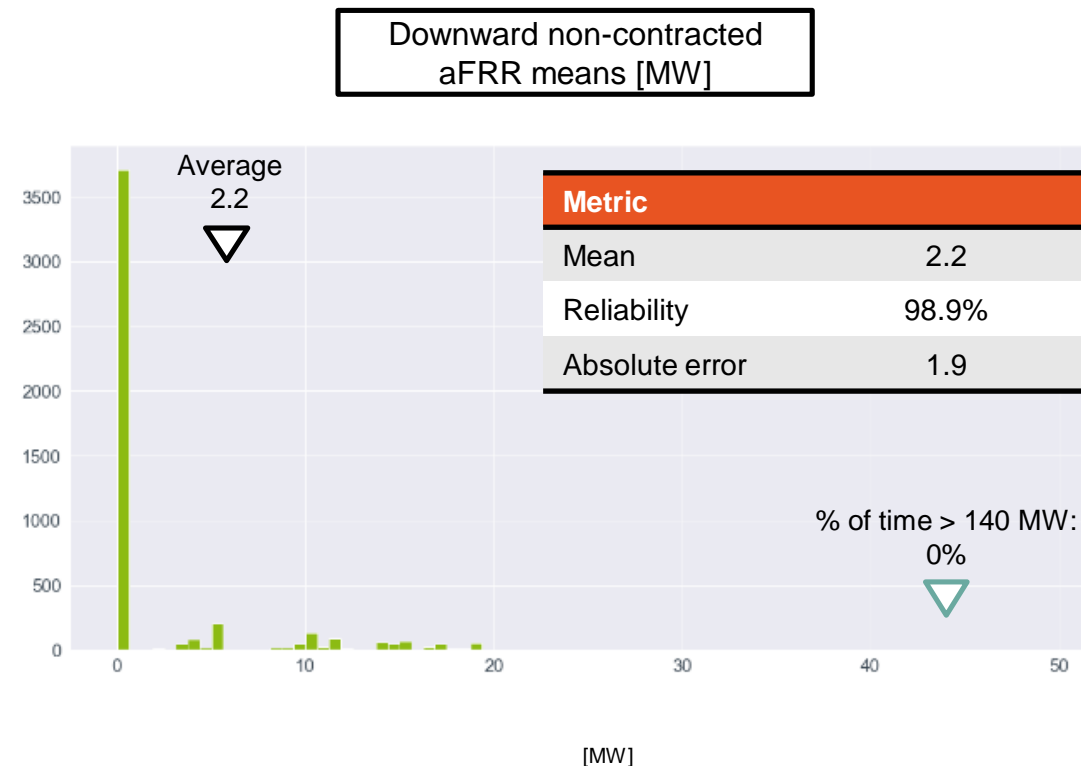
Low forecast performance due to
categorical nature

Summary of the results for aFRR

Inconclusive



Available non-contracted volumes are currently too rare and low in capacity to make a meaningful prediction



Available volumes but difficult to predict, trough categorical nature and limited data set (Oct 2020 – Jun 2021)

conclusions

mFRR upward

- The predicted non-contracted capacity can amount up to 500 MW, exceeding the needs around to 13% of the time
- But results are sensitive to implicit bidding assumption (high uncertainty following implicit bidding and 12.5' FAT evolutions). Added value remains uncertain before observing the effect of expected market evolutions.
- Large contribution of cross-border flexibility (currently via reserve sharing) but uncertainty on evolutions following introduction balancing platforms.

This result show potential for dynamic / daily procurement but uncertainty on final volumes and market implications

mFRR downward

- On average, the predicted non-contracted capacity can amount up to 1940 MW (covering the needs around 86% of the time). Note that the observed coverage is currently 97% (forecasts are designed to be conservative by means of 99% reliability)

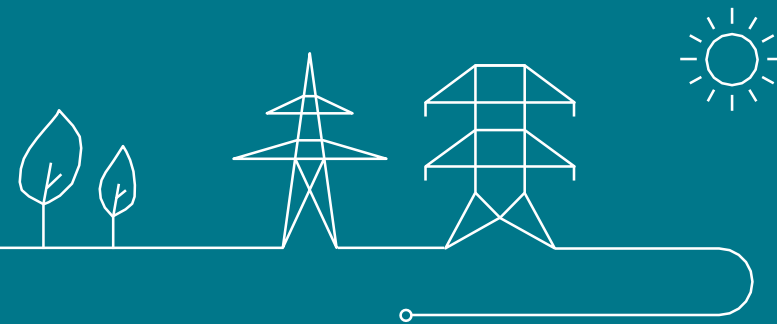
As long as the FRR needs remain adequately covered without procurement, the implementation of a dynamic / daily analysis does not provide value for dimensioning..

aFRR

- Predicted volumes are negligible in frequency and volume

Due to the current status of the market (driven by CCGTs), and the limited availability of data (9 months), it is not possible to provide conclusive results.

Proposed implementation roadmap



A multi-year roadmap is needed to fully understand the potential and implications of a dynamic means allocation before deciding on the implementation



2021 : predictability

Investigate if available non-contracted FRR means can be predicted before the capacity tender (in view of balancing capacity reductions)

1. The available data and current state of the aFRR market does not allow to conform the potential at this moment
2. Results confirm that available downward continue to almost always cover the FRR needs
3. Results demonstrate availability upward equals 500 MW on average (including up to 312 MW of sharing).

Results are subject to uncertainty following expected market evolutions : explicit bidding, full activation time reductions for mFRR and EU balancing energy platforms !

2022 : value generation

Investigate the procurement aspects when replacing (part of) the upward mFRR balancing capacity with non-contracted balancing energy bids

- Identify risks for market stability and investigate potential solutions when accounting non-contracted in the allocation of balancing means
- Update (where possible) the results and conclusions based on additional data).



2023-24 : robustness

Confirm the robustness after implementation of EU balancing platforms, explicit bidding, shorter full activation time for mFRR)

Re-calibrate machine learning for implementation

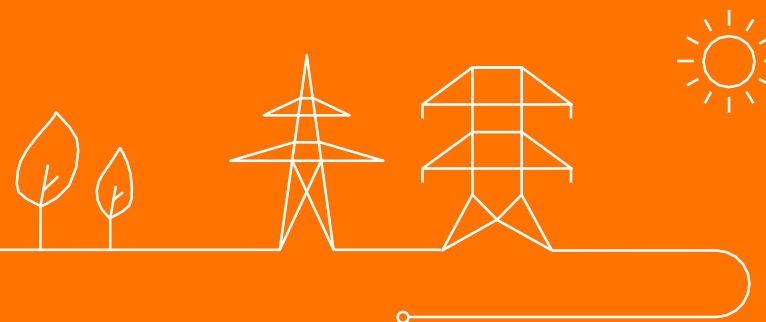
- Confirm the potential value of accounting non-contracted balancing energy bids.
- Propose a planning for implementation.

Scope

(Targeted) results

EMS : status and next steps

Presented by Philippe Magnant



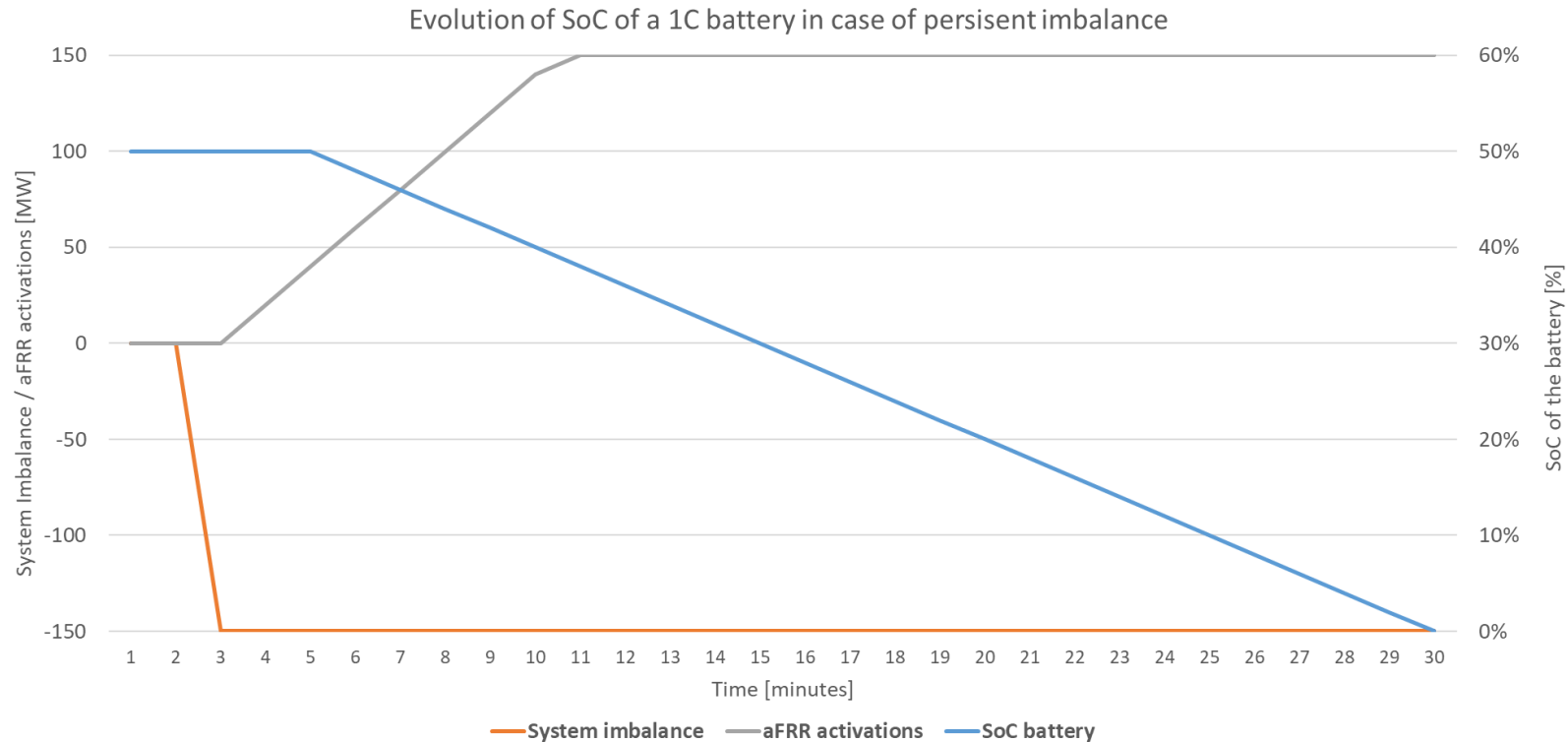
Energy Management Strategies

Introduction

- With increasing volumes of assets with Limited Energy Reservoir (LER) expected to participate to the aFRR balancing market, it is necessary to define requirements to which Energy Management Strategies (EMS) need to comply
- During previous WG Balancing, Elia invited interested market parties for bilateral discussions on the topic, with the objective to define, by September, an approach and planning towards the definition of requirements
- Several bilateral meetings have taken place during the summer. The possible strategies discussed are under analysis by Elia
- Agenda of this presentation:
 - Strategies considered
 - Next steps

Energy Management Strategies

Simplified example of depletion risk



- Assumption of a 10MWh battery offering 10MW UP and 10MW DOWN
- Very much simplified example, does not take into account mFRR activations (which would decrease the aFRR requested. However:
 - Even with mFRR activations, the system imbalance could further degrade, requesting continuous aFRR activations
 - With the PICASSO platform, aFRR can be continuously activated for needs in other TSOs

Energy Management Strategies

Prerequisites for using LER in aFRR

- In the next proposal for amendment of the T&C BSP aFRR, BSPs willing to use DPs with LER will be requested to:
 - Provide an EMS to Elia, similarly to what's done for FCR. The EMS can rely on a combination of several strategies. The EMS will have to be approved by Elia.
 - Provide an additional signal with the State of Charge (SoC) of the DP
- These provisions will also apply to DPs already used
- Key aspect to be taken into account: the aFRR service needs to be delivered continuously

These analyses are preliminary and will need to be further developed and confirmed

Energy Management Strategies

Strategies analysed

- At least following strategies discussed should be acceptable as part of the EMS of a BSP:
 - The BSP has a “back-up DP”, which can be used to refill the battery when needed, while still delivering the aFRR requested
- At least following strategies discussed should be not acceptable as part of the EMS of a BSP:
 - Use of the tolerance band of the activation control
 - Imbalance charging
- Some strategies are still under further analysis
 - Using ID market
 - Asymmetric pricing, allowing to increase / decrease the probability of being activated in a given direction. In any case, this strategy will not be sufficient, as it's not excluded that a bid further in the merit-order will be activated
 - More complex proposals made by market parties and still under discussion
- In any case, the BSP will have to demonstrate that, with the strategies he uses as part of his EMS, he manages to deliver the service continuously

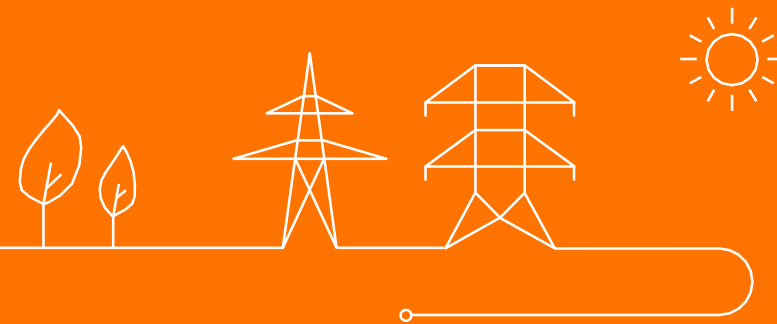
Energy Management Strategies

Next steps

- Elia will further investigate the possible strategies, in particular the asymmetric pricing, the access to the ID market and the proposals made market parties
- Additional bilateral meetings and discussions in WG Balancing will be needed
- Target is to present clear requirements by the end of this year

Elia Open Data platform Introduction for data consumers

Presented by Karl Robaux





Elia Open Data platform
Introduction for data consumers

Agenda

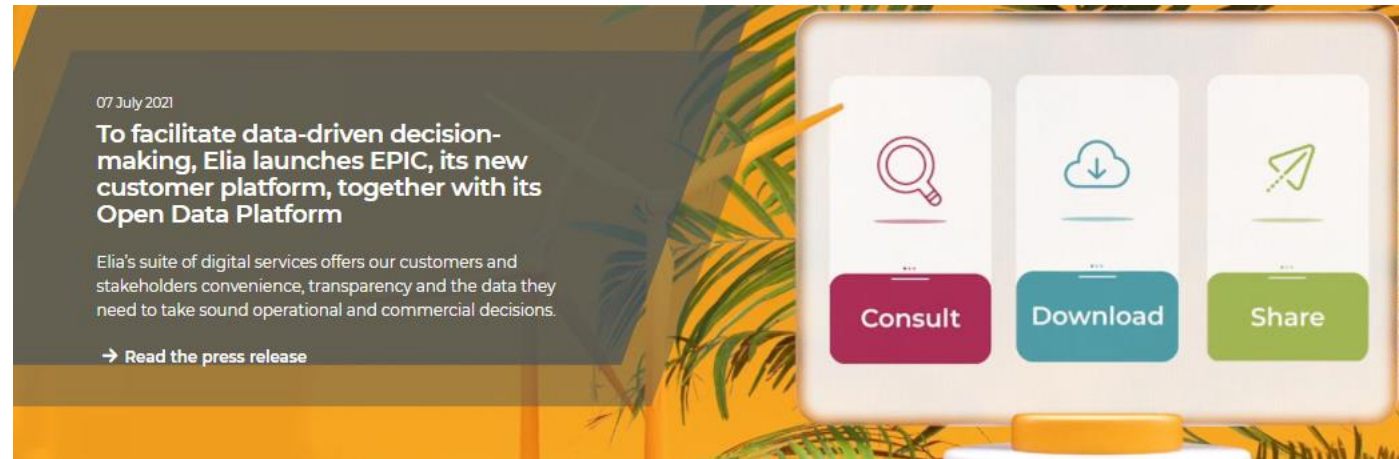
- General information about the Elia Open Data platform
- Getting started with Elia Open Data platform

Agenda

General information about the Elia Open Data platform

Getting started with Elia Open Data platform

New Open Data platform launched by Elia to facilitate the decision-making processes of all stakeholders working to enable the energy transition



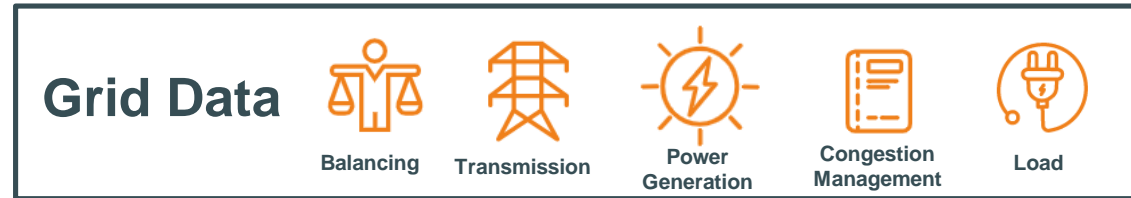
Extract from the Press release:

“Launched on 7 July, the Open Data Platform provides Elia’s stakeholders with simple and open access to all of its public grid data, including power generation, load, balancing, transmission and congestion.

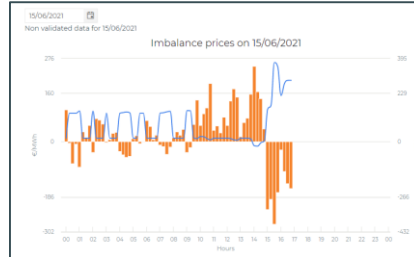
Providing open access to such information will ease the daily operations of different market parties; support them to identify new market opportunities, such as enhancing or developing new services for consumers; and facilitate the decision-making processes of all stakeholders working to enable the energy transition.

The Open Data Platform allows users to freely access a whole catalogue of ready to use datasets which they can easily explore, create visualisations from, share and reuse. These datasets can be downloaded in different file formats, allowing users to analyse them offline, and can be accessed via APIs, for use by other applications.”

Elia contributes already to European energy market transparency by publishing various data and information on the Grid Data webpages



1 Web publications



Providing transparency on electricity market



Visualization of current state of the Grid

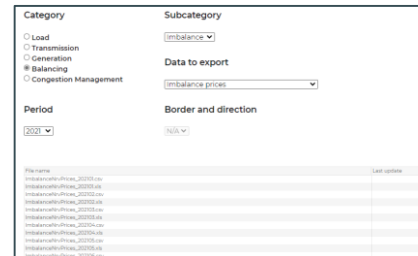


Near real-time values



Everyone

2 Data Download



Facilitate analysis and decision-making



Access to D-1 (or H-1) file export (csv, xls)



Historical values



Everyone

3 B2B XML services

```
<ArrayOfSystemImbalancePriceDetailDto>
  xmlns:i="http://www.w3.org/2001/XMLSchema-instance"
  xmlns="http://schemas.datacontract.org/2004/07/Elia.EliaBeControl:
    <SystemImbalancePriceDetailDto>
      <IsVisible>
        xmlns="http://schemas.datacontract.org/2004/07/Elia.EliaBeControl:
          <Alpha>0.00</Alpha>
          <Alpha>10.84</Alpha>
          <Minute>2021-06-15T14:07:00Z</Minute>
          <Min>-43.144</Min>
          <Max>-43.144</Max>
          <Pneg>10.84</Pneg>
          <Ppos>10.84</Ppos>
          <Quarter>2021-06-15T14:00:00Z</Quarter>
          <Si>43.939</Si>
          <Sr i:nil="true"/>
          <Ssl i:nil="true"/>
          <Status>Non-validated</Status>
        </SystemImbalancePriceDetailDto>
```

Facilitate market operations



Access to XML web service



Near real-time values



Energy market participants

Two Grid Data use cases implemented to offer an easy access to standardized and ready to use energy market data

2 Data Download

Category
☐ Lead
☐ Transmission
☐ Generation
☒ Substation
☐ Congestion Management

Subcategory

Date to export

Border and direction

Period

File name	Date added
Transmission-Phasor_20160928.csv	
Transmission-Phasor_20160929.csv	
Transmission-Phasor_20160930.csv	
Transmission-Phasor_20161001.csv	
Transmission-Phasor_20161002.csv	
Transmission-Phasor_20161003.csv	
Transmission-Phasor_20161004.csv	
Transmission-Phasor_20161005.csv	
Transmission-Phasor_20161006.csv	
Transmission-Phasor_20161007.csv	
Transmission-Phasor_20161008.csv	
Transmission-Phasor_20161009.csv	
Transmission-Phasor_20161010.csv	
Transmission-Phasor_20161011.csv	
Transmission-Phasor_20161012.csv	
Transmission-Phasor_20161013.csv	
Transmission-Phasor_20161014.csv	
Transmission-Phasor_20161015.csv	
Transmission-Phasor_20161016.csv	
Transmission-Phasor_20161017.csv	
Transmission-Phasor_20161018.csv	
Transmission-Phasor_20161019.csv	
Transmission-Phasor_20161020.csv	
Transmission-Phasor_20161021.csv	
Transmission-Phasor_20161022.csv	
Transmission-Phasor_20161023.csv	
Transmission-Phasor_20161024.csv	
Transmission-Phasor_20161025.csv	
Transmission-Phasor_20161026.csv	
Transmission-Phasor_20161027.csv	
Transmission-Phasor_20161028.csv	
Transmission-Phasor_20161029.csv	
Transmission-Phasor_20161030.csv	
Transmission-Phasor_20161031.csv	



Visualization of energy market data



Facilitate analysis and decision-making to achieve the energy transition



Visualization of D-1 (or H-1)
state of the Grid



Historical values (as of 2015 if available)



Energy market participants

National & local stakeholders dealing with the energy transition
(public and private)

Citizens

3 B2B XML services

[illegible]

Access to near real-time energy balancing and forecasting data



Provide transparency and ease market operations



Access to APIs



Near real-time values



Energy market participants

Bringing 4 major improvements to facilitate use of energy market data

Main barriers reported by energy market players and stakeholders:



Findable

- Data **not easy to find** (data scattered over several pages and in different formats)



Accessible

- Data file exports and APIs **not standardized** or simply **not available**



Interoperability

- Data **difficult to understand and to compare** (meaning and scope not always clearly explained)

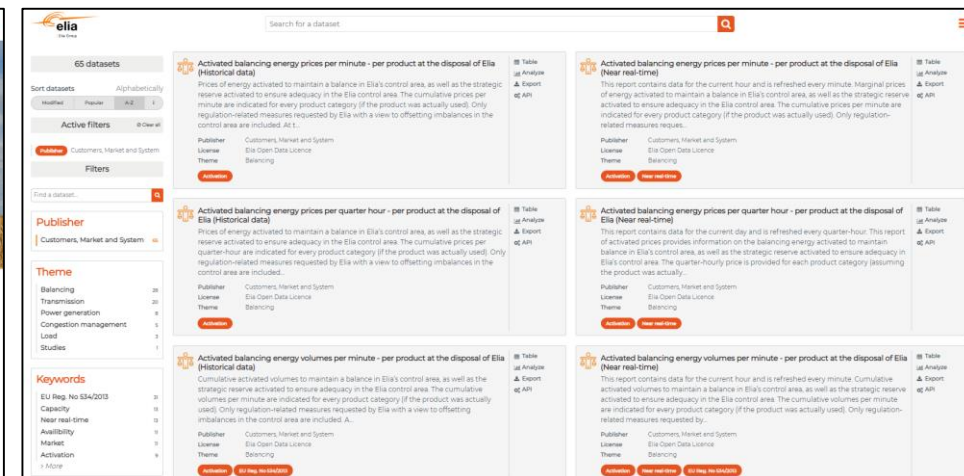
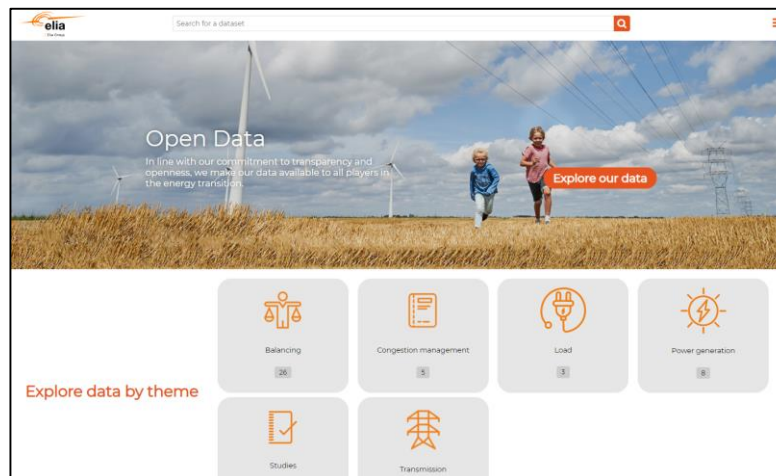


Reusable

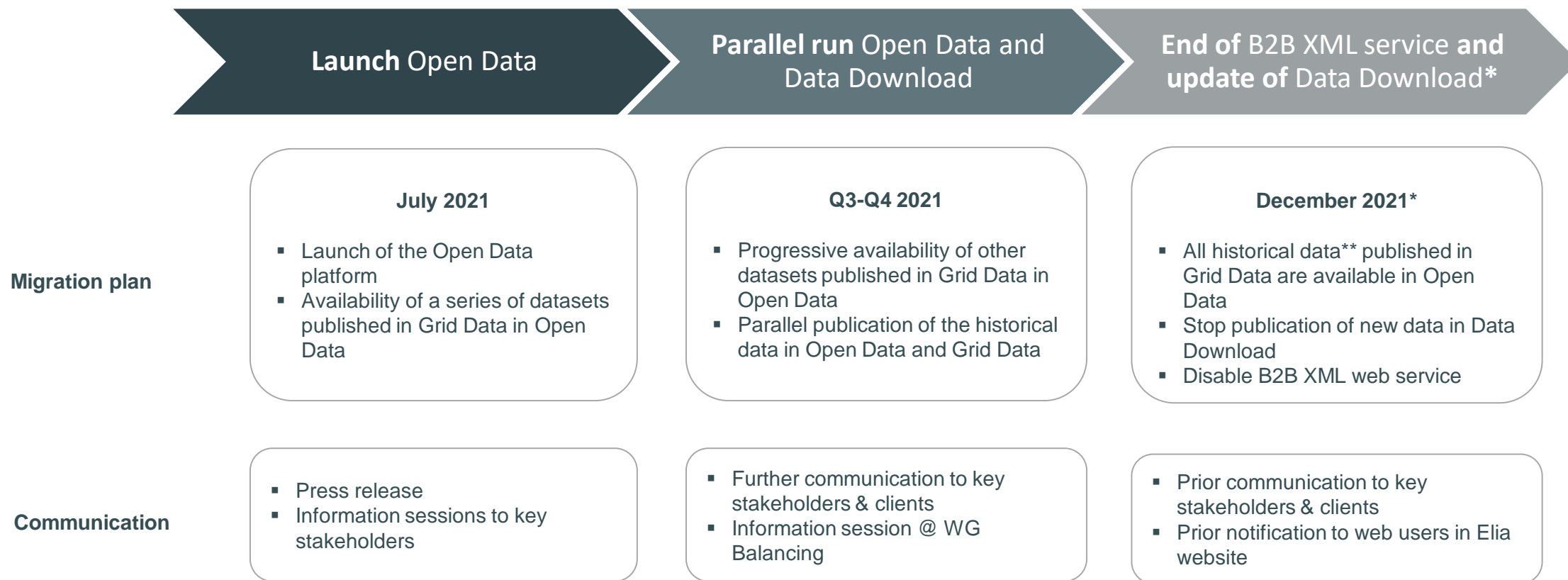
- Unclear conditions of reuse** and sharing of the data

Once single platform to access, search and analyze ready to use data:

- One central and harmonized data catalog** with advanced search and visualization functionalities to ease search and online analysis
- Access provided through **standard file exports and APIs for every dataset** to enable machine-to-machine interface
- Standardized metadata** embedded in every dataset to improve the understanding of the content and ease crossing of data
- Established **open license** (CC BY 4.0) and attribution clearly defined for every dataset to provide legal security to user



Progressive migration to Open Data







* The timing will depend on user feedback and usage analytics.

** For now, the data history starts from 2015 if data is already present in the data download and is limited to 3,000,000 records per dataset. In the coming month, Elia will consult market players to determine the number of years of historical data they would need for their market operations.

Data catalog – Zoom-in Balancing

Available today		In the pipeline
Balancing	History	History
	<p>Current system imbalance (Historical data) Imbalance prices per minute (Historical data) Imbalance prices per quarter-hour (Historical data) Frequency and FCR demand per 10 seconds</p> <p>Activated balancing energy volumes per minute (Historical data) Activated balancing energy prices per minute (Historical data)</p> <p>Individual incremental balancing energy bids Individual decremental balancing energy bids Infeed to Distribution System Operators (DSO) networks (Archive data files)</p>	<p>Current system imbalance (Near real-time) Imbalance prices per minute (Near real-time) Imbalance prices per quarter-hour (Near real-time)</p> <p>Balancing energy bid prices by volume level (Near real-time) Available balancing energy volumes per quarter-hour - per product at the disposal of Elia (Near real-time) Available balancing energy prices per quarter hour - per product at the disposal of Elia (Near real-time) Activated balancing energy volumes per minute (Near real-time) Activated balancing energy prices per minute (Near real-time) Activated balancing energy volumes per quarter-hour (Near real-time) Activated balancing energy prices per quarter hour (Near real-time)</p> <p>Infeed to Distribution System Operators (DSO) networks (Near real-time)</p>

Data catalog – Other categories

	Available today	In the pipeline	
	History	History	Near real-time
 Transmission	<ul style="list-style-type: none"> Year-ahead forecast net transfer capacity and capacity for auction - by border Quarter-ahead forecast net transfer capacity and capacity for auction - by border Month-ahead forecast net transfer capacity and capacity for auction - by border Week-ahead forecast net transfer capacity - by border Day-ahead forecast net transfer capacity - between Belgium and United Kingdom Intraday net transfer capacity - between Belgium and United Kingdom Intraday available capacity at auction opening - between Belgium and United Kingdom Intraday available capacity at last closed gate - by border Long term available capacity and use it or sell it allocated capacity - by border Day-ahead commercial schedule - by border Final commercial schedule - by border Long-term nominated capacity - by border Day-ahead nominated capacity - by border Intraday nominated capacity - by border Intraday implicit net position (Belgium's balance) Day-ahead implicit net position (Belgium's balance) Physical flow - by border Loop flow - by border Planned unavailability of grid components (380/220kV) Forced unavailability of grid components (380/220kV) 		
 Power Generation	<ul style="list-style-type: none"> Actual Belgium's installed power generation - aggregated by fuel type Actual installed power - by unit and by fuel type Forecast available capacity by contracted power units - aggregated by fuel type Forecast available capacity by contracted power units exceeding 100 MW Forced unavailability of contracted power units Planned unavailability of contracted power units 	<ul style="list-style-type: none"> Forecast wind power capacity on the Belgian grid - Historical Forecast solar-photovoltaic power capacity on the Belgian grid – Historical Power generation by contracted power units - aggregated by fuel type Day-ahead schedule of power generation by Access Responsible Parties (ARPs) - aggregated by fuel type 	<ul style="list-style-type: none"> Forecast wind power capacity on the Belgian grid - Near real-time Forecast solar-photovoltaic power capacity on the Belgian grid - Near real-time
 Congestion Management	<ul style="list-style-type: none"> Congestion management activations - Internal redispatching Congestion management activations - Cross-border redispatching Congestion management activations - Countertrading Congestion management costs Congestion risks 'Red Zones' per electrical zone of the Belgian grid. 		
 Load	<ul style="list-style-type: none"> Total load on the Belgian grid (Historical data - Up to day-1) 	<ul style="list-style-type: none"> Day-ahead forecast total load on the Belgian grid Load on the Elia grid 	

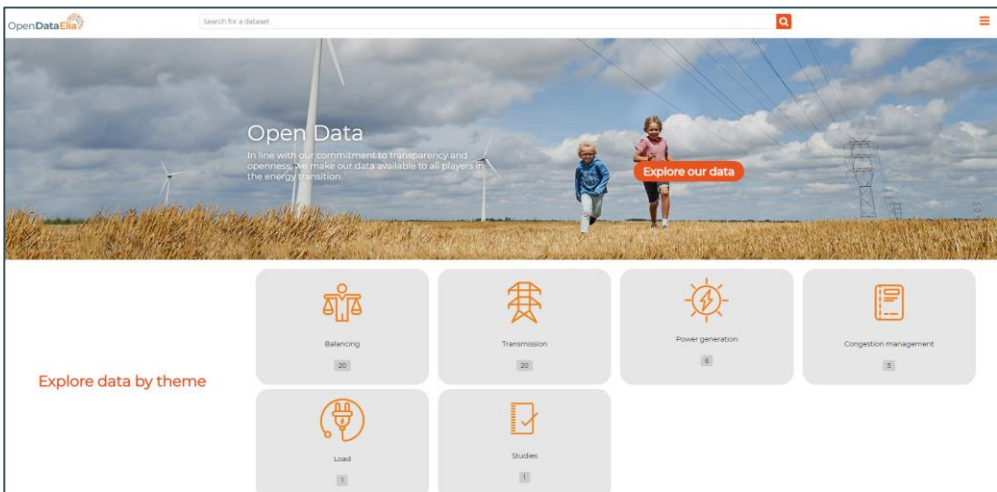
Agenda

General information about the Elia Open Data platform

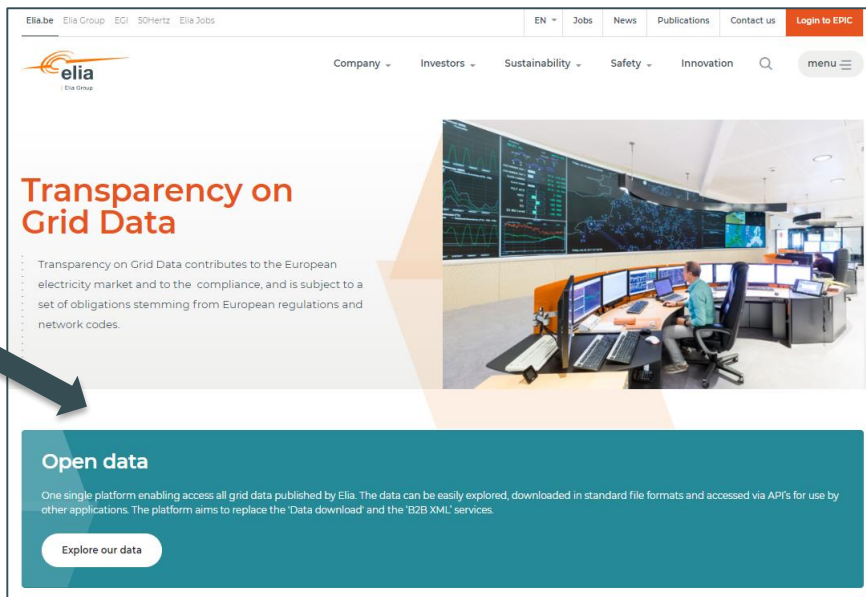
Getting started with Elia Open Data platform

Where to find the platform?

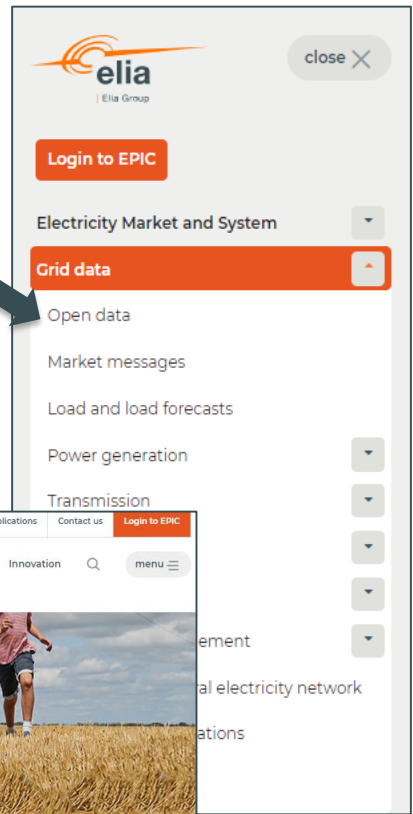
Elia website	https://www.elia.be/en/grid-data/open-data https://www.elia.be/en/grid-data
Direct url	https://opendata.elia.be



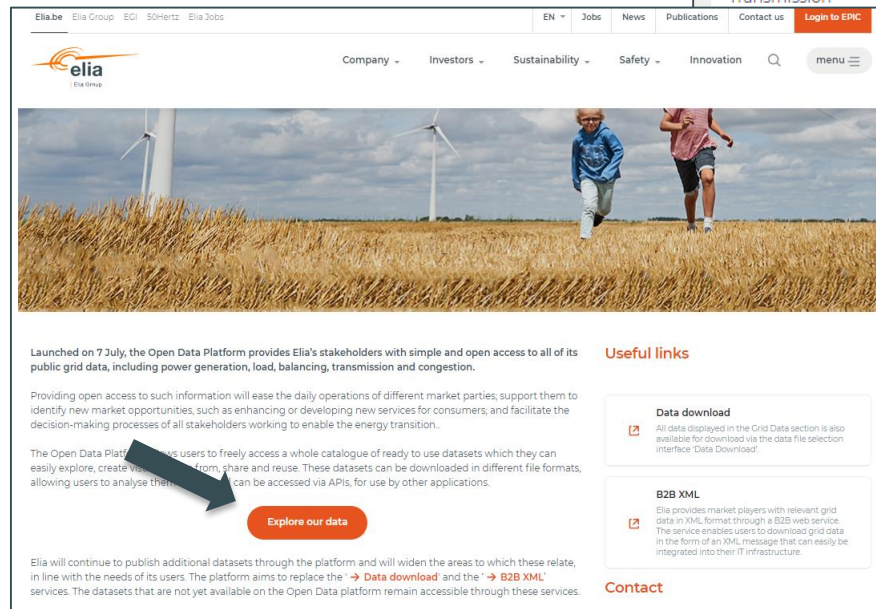
Grid data (elia.be)



Menu (elia.be)

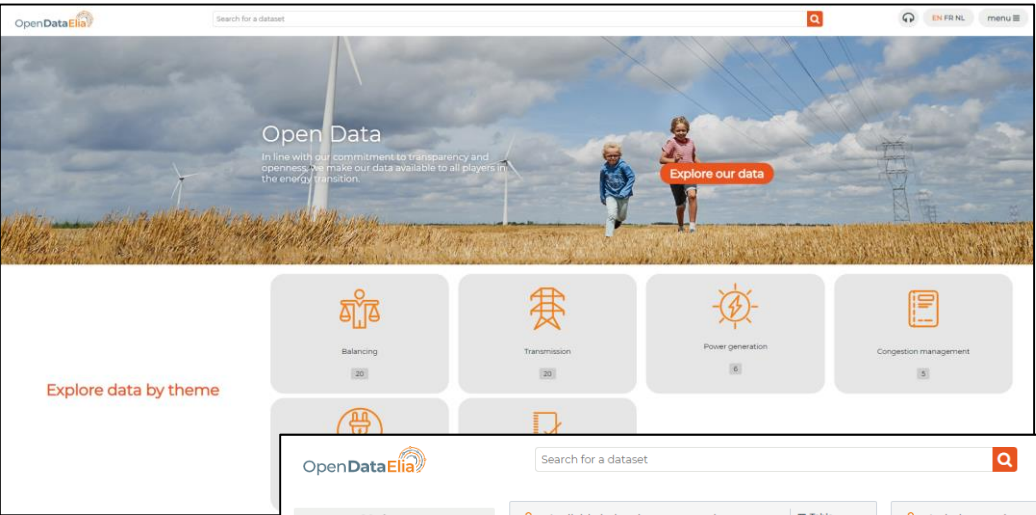


Open data (elia.be)

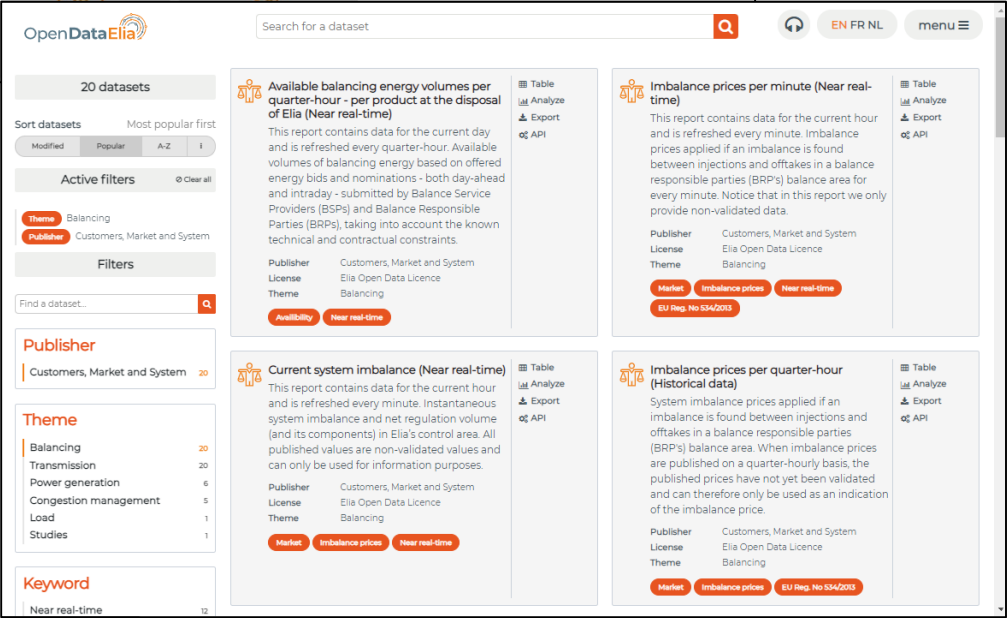


Overview of the platform

<https://opendata.elia.be>



Homepage



Catalog

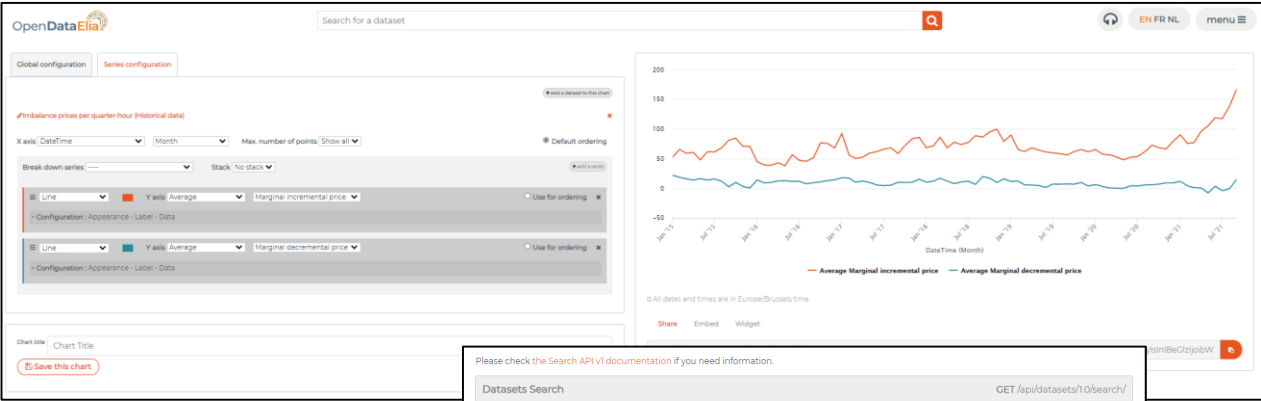
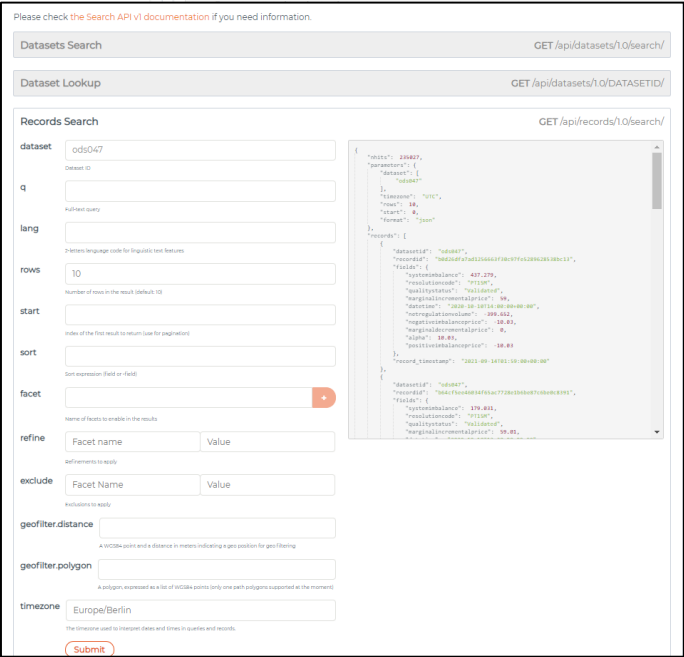


Chart Builder



API Console

Overview of the platform - Dataset

235,027 records
No active filters

Filters

Search records...

DateTime

From

to

2021 24,595
2020 36,136
2019 35,040
2018 35,040
2017 35,040
2016 35,136
> More

Quality status

Not Validated 4,247
Validated 230,780

Resolution code

PTISM 235,027

Imbalance prices per quarter-hour (Historical data)

Information

Table

Analyze

Export

API

System imbalance prices applied if an imbalance is found between injections and off-takes in a balance responsible parties (BRP's) balance area. When imbalance prices are published on a quarter-hourly basis, the published prices have not yet been validated and can therefore only be used as an indication of the imbalance price.

Only after the published prices have been validated can they be used for records for month M are validated after the 15th of month M+1. Contains the refreshed daily.

Dataset identifier ods047

Downloads 241

Themes Balancing
Keywords Market, Imbalance prices, EU Reg. No 534/2013
License Elia Open Data Licence
Language English
Timezone Europe/Brussels
Modified September 14, 2021 6:09 AM
Publisher Customers, Market and System
Attributions Elia Transmission Belgium SA

Follow

By subscribing to this dataset, you can receive email notifications of important changes happen.

Last processing September 14, 2021 6:22 AM (metadata)
September 14, 2021 6:22 AM (data)

Accrual periodicity Daily
Granularity 15 minutes

Dataset schema
Click to collapse

DateTime

Time at which the interval starts.

Name (identifier)

datetime

Type

datetime

Sample

2020-10-10T16:00:00+02:00

Dataset information

235,027 records
No active filters

Filters

Search records...

DateTime

From

to

2021 24,595
2020 36,136
2019 35,040
2018 35,040
2017 35,040
2016 35,136
> More

Quality status

Not Validated 4,247
Validated 230,780

Resolution code

PTISM 235,027

Imbalance prices per quarter-hour (Historical data)

Information

Table

Analyze

Export

API

DateTime	Quality status	Resolution code	Net regulation volume	System
1 September 14, 2021 5:30 AM	Not Validated	PTISM	137,187 MWh	133.8
2 September 14, 2021 5:15 AM	Not Validated	PTISM	165,356 MWh	-180.4
3 September 14, 2021 5:00 AM	Not Validated	PTISM	98,249 MWh	-91.62
4 September 14, 2021 4:45 AM	Not Validated	PTISM	-3,676 MWh	-10.59
5 September 14, 2021 4:30 AM	Not Validated	PTISM	76,626 MWh	-81.00
6 September 14, 2021 4:15 AM	Not Validated	PTISM	81,54 MWh	-92.55
7 September 14, 2021 4:00 AM	Not Validated	PTISM	-34,712 MWh	25.53
8 September 14, 2021 3:45 AM	Not Validated	PTISM	26,441 MWh	-31.26
9 September 14, 2021 3:30 AM	Not Validated	PTISM	16,356 MWh	-24.72
10 September 14, 2021 3:15 AM	Not Validated	PTISM	-25,461 MWh	9.686
11 September 14, 2021 3:00 AM	Not Validated	PTISM	-21,808 MWh	9.795
12 September 14, 2021 2:45 AM				
13 September 14, 2021 2:30 AM				
14 September 14, 2021 2:15 AM				
15 September 14, 2021 2:00 AM				
16 September 14, 2021 1:45 AM				
17 September 14, 2021 1:30 AM				
18 September 14, 2021 1:15 AM				
19 September 14, 2021 1:00 AM				
20 September 14, 2021 12:45 AM				
21 September 14, 2021 12:30 AM				
22 September 14, 2021 12:15 AM				
23 September 14, 2021 12:00 AM				
24 September 13, 2021 11:45 PM				
25 September 13, 2021 11:30 PM				
26 September 13, 2021 11:15 PM				
27 September 13, 2021 11:00 PM				
28 September 13, 2021 10:45 PM				
29 September 13, 2021 10:30 PM				
30 September 13, 2021 10:15 PM				
1 October 13, 2021 10:00 PM				

Quality status

Not Validated 4,247
Validated 230,780

Resolution code

PTISM 235,027

Table view

235,027 records
No active filters

Filters

Search records...

DateTime

From

to

2021 24,595
2020 36,136
2019 35,040
2018 35,040
2017 35,040
2016 35,136
> More

Quality status

Not Validated 4,247
Validated 230,780

Resolution code

PTISM 235,027

Imbalance prices per quarter-hour (Historical data)

Information

Table

Analyze

Export

API

X axis: DateTime
Break down series
Stack: No stack
Merge Y axes
Max. number of points: Show all
Default ordering

Line

Y axis: Average

Use for ordering

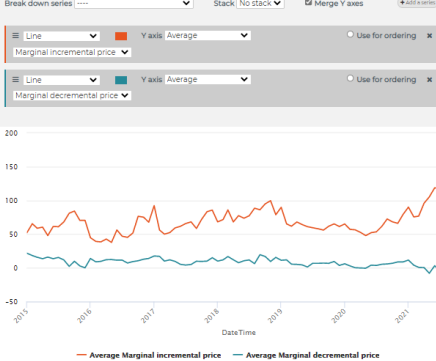
Line

Y axis: Average

Use for ordering

Marginal incremental price

Marginal decremental price



© All dates and times are in Europe/Brussels time

Analyze view

24,595 records
Active filters
Clear all

Filters

Search records...

DateTime

From

to

2021 24,595
September 1,271
August 2,976
July 2,976
June 2,880
May 2,976
April 2,880
> More

Quality status

Not Validated 4,247
Validated 20,348

Resolution code

PTISM 24,595

Imbalance prices per quarter-hour (Historical data)

Information

Table

Analyze

Export

API

This dataset is licensed under: Elia Open Data Licence

Flat file formats

CSV Whole dataset Only the 24595 selected records
CSV use semicolon (;) as a separator

JSON Whole dataset Only the 24595 selected records

Excel Whole dataset Only the 24595 selected records

Export

24,595 records
Active filters
Clear all

Filters

Search records...

DateTime

From

to

2021 24,595
September 1,271
August 2,976
July 2,976
June 2,880
May 2,976
April 2,880
> More

Quality status

Not Validated 4,247
Validated 20,348

Resolution code

PTISM 24,595

Imbalance prices per quarter-hour (Historical data)

Information

Table

Analyze

Export

API

This dataset can be consumed via an API that allows to search and download records using various criteria exposed in the console below.

Take a look at the [API documentation](#) and use the [full API console](#) to try the other API services!

dataset ods047
Dataset ID
Full-text query
lang
rows 10
Number of rows in the result (default: 10)
start
Index of the first result to return (use for pagination)
sort datetime
Sort expression (field or -field)
facet
datetime
qualitystatus
resolutioncode
refine
Name of facets to enable in the results
datetime 2021
Facet name Value

```


{
  "records": [
    {
      "datetime": "2021-09-14T10:00:00+02:00",
      "qualitystatus": "Not Validated",
      "resolutioncode": "PTISM",
      "netregulationvolume": 137187,
      "system": 133.8
    },
    {
      "datetime": "2021-09-14T09:45:00+02:00",
      "qualitystatus": "Not Validated",
      "resolutioncode": "PTISM",
      "netregulationvolume": 165356,
      "system": -180.4
    },
    {
      "datetime": "2021-09-14T09:30:00+02:00",
      "qualitystatus": "Not Validated",
      "resolutioncode": "PTISM",
      "netregulationvolume": 98249,
      "system": -91.62
    },
    {
      "datetime": "2021-09-14T09:15:00+02:00",
      "qualitystatus": "Not Validated",
      "resolutioncode": "PTISM",
      "netregulationvolume": -3676,
      "system": -10.59
    },
    {
      "datetime": "2021-09-14T09:00:00+02:00",
      "qualitystatus": "Not Validated",
      "resolutioncode": "PTISM",
      "netregulationvolume": 76626,
      "system": -81.00
    },
    {
      "datetime": "2021-09-14T08:45:00+02:00",
      "qualitystatus": "Not Validated",
      "resolutioncode": "PTISM",
      "netregulationvolume": 8154,
      "system": -92.55
    },
    {
      "datetime": "2021-09-14T08:30:00+02:00",
      "qualitystatus": "Not Validated",
      "resolutioncode": "PTISM",
      "netregulationvolume": -34712,
      "system": 25.53
    },
    {
      "datetime": "2021-09-14T08:15:00+02:00",
      "qualitystatus": "Not Validated",
      "resolutioncode": "PTISM",
      "netregulationvolume": 26441,
      "system": -31.26
    },
    {
      "datetime": "2021-09-14T08:00:00+02:00",
      "qualitystatus": "Not Validated",
      "resolutioncode": "PTISM",
      "netregulationvolume": 16356,
      "system": -24.72
    },
    {
      "datetime": "2021-09-14T07:45:00+02:00",
      "qualitystatus": "Not Validated",
      "resolutioncode": "PTISM",
      "netregulationvolume": -25461,
      "system": 9.686
    },
    {
      "datetime": "2021-09-14T07:30:00+02:00",
      "qualitystatus": "Not Validated",
      "resolutioncode": "PTISM",
      "netregulationvolume": -21808,
      "system": 9.795
    }
  ]
}

```

API

51

Interesting features to get start

Feature	Did you know?	Online documentation
Home page & header menu	<ul style="list-style-type: none"> The google-like search bar is always available in the header menu to easily search for a dataset. 	
Navigating the catalog	<ul style="list-style-type: none"> Click the ↑ to display all available sorting methods. 	https://help.opendatasoft.com/platform/en/exploring_catalog_and_datasets/01_navigating_the_catalog/catalog.html#
Lookup a dataset: <ul style="list-style-type: none"> Checking dataset information Visualizing data (Table, & Analyze view) Filtering a dataset (using facets) Searching in the Data 	<ul style="list-style-type: none"> It is possible to make more advanced searches with the search bar, using the Query language: <ul style="list-style-type: none"> Full text search Boolean expressions 	https://help.opendatasoft.com/platform/en/exploring_catalog_and_datasets/03_searching_the_data/search.html
Exporting Data <ul style="list-style-type: none"> Available: CSV, JSON, Excel (however Excel is not recommended as leading to some incompatibility issues) 	<ul style="list-style-type: none"> If the dataset is filtered, it is possible to only download the filtered data. To do so, click on "Only the selected records" instead of "Whole dataset". It is possible to download the dataset in other formats using the Opendatasoft Search API 	https://help.opendatasoft.com/platform/en/exploring_catalog_and_datasets/04_getting_involved/exporting_data.html# https://help.opendatasoft.com/apis/ods-search-v2/#exporting-records
Sharing & Embedding Data Viz	<ul style="list-style-type: none"> All links and codes that can be copied to either share or embed the visualization are dynamic. It means that if the visualization is filtered beforehand, the link/code changes to take into account these filters. 	https://help.opendatasoft.com/platform/en/exploring_catalog_and_datasets/04_getting_involved/sharing_embedding_data_visualizations.html#
Using the API	<ul style="list-style-type: none"> An API key is not required to use the APIs as the portal is fully public and does not request an user to sign-up (subject to change in the future) 	https://help.opendatasoft.com/apis/ods-search-v1/#providing-api-keys-within-requests https://help.opendatasoft.com/apis/ods-search-v1/#search-api-v1
Creating Advanced charts	<ul style="list-style-type: none"> Charts displayed in the Analyze tab can be modified. However, these modifications cannot be saved. Click to 'edit in advanced mode' below chart in the 'Analyse tab to use more advanced edit features of the Chart Builder 	https://help.opendatasoft.com/platform/en/creating_maps_charts/02_creating_advanced_charts/analyze.html

For more information



opendata@elia.be



<https://opendata.elia.be/pages/contact/>



<https://help.opendatasoft.com/en/home>



<https://academy.opendatasoft.com/path/data-consumers>



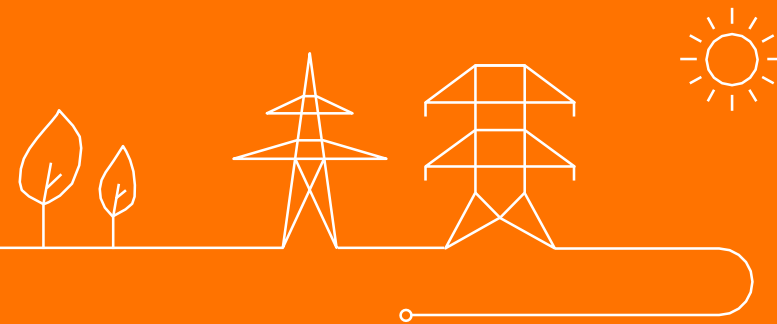
Contact: opendata@elia.be

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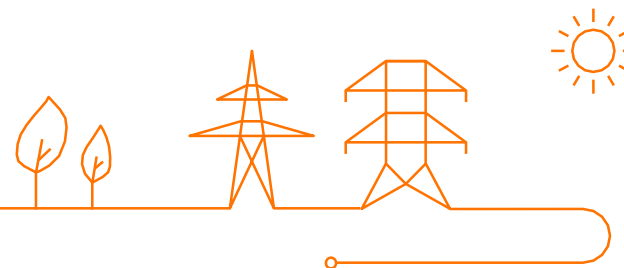
Elia Group Inside Information Platform

Presented by Patricia Haemers

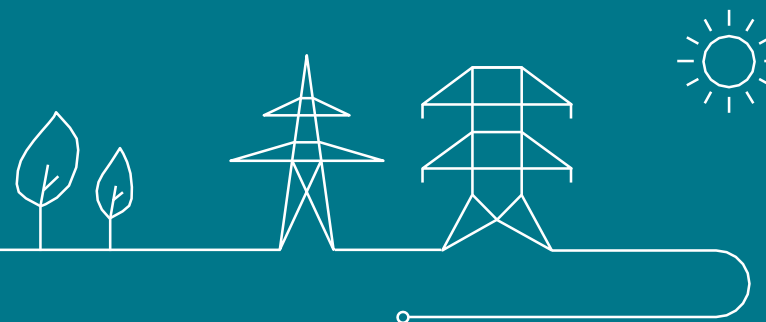


Elia Group IIP

1. Elia Group Inside Information Platform
2. All Inside information of Elia exclusively on Elia Group IIP as of September 2021



1. Elia Group IIP



Elia Group Inside Information Platform (Elia Group IIP)

Status

- Elia has completed on 1 July 2021 the implementation of her Inside Information Platform
- New platform is compliant with ACER's requirements
- There is no technical implementation to be done for current production units submitting UMMs via Transprod (BRPs) or consumption units submitting via Transcust (Grid Users)
- Elia has built a new tool EGIIP in order to:
 - Provide possibility for market participants other than BRPs to submit production outages via an API
 - Open to other type of units like batteries to submit their outages via an API
- Elia will take care of redirecting flows and create EIC codes if necessary
- The service is free of charge to Belgian market participants
- Elia is currently working on integrating ramping for production outages in EGIIP (expected end 2021/Q1 2022)

We highly welcome the participation of market parties in order to centralize as much as possible all (Belgian) Inside Information on a single platform and also be REMIT compliant.

IIP page available on Elia Group website

<https://www.eliagroup.eu/en/elia-group-iip>




Elia GroupElia.be50HertzEGI

Inside Information Platform

Publications

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Inside Information Platform


Elia Group Inside Information Platform (Elia Group IIP) is a listed Inside Information Platform in ACER Registry. From 1 January 2021, market participants must report their inside information according to REMIT Regulation (EU) No. 1227/2011 to ACER via an Inside Information Platform.



News


- 01/07/2021 - Elia Group further enhances Inside Information Platform, with Other UMM and specific outage format for other electrical facilities (e.g. batteries)
- 01/04/2021 - Elia Group launches enhanced Inside Information Platform reinforcing its commitment to transparency
- 01/01/2021 – Elia Group puts at disposal a webfeed of inside information on unavailabilities of electricity facilities
- 30/09/2020 – Elia Group is officially listed as an Inside Information Platform under evaluation by ACER

Useful links




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UMM Transmission unavailability - Unplanned - Altentreptow/Süd - Malchow 518

Elia Group

Posted On Tue 07/09/2021 07:33

Feed UMM Elia Group

Publication date/time	07/09/2021 05:33:03 UTC		
Message ID	10YDE-VE-----2000002383_002		
Type of Event	Transmission unavailability		
Bidding Zone	10YDE-VE-----2		
Market Participant	50Hertz		
Market Participant Code	10XDE-VE-TRANSMK		
Event Status	Inactive		
Type of Unavailability	Unplanned		
Reason of the Unavailability	Outage		
Remarks			
Affected Asset or Unit	Altentreptow/Süd - Malchow 518		
Affected Asset or Unit EIC Code	11T0-0000-0010-O		
Event Start	07/09/2021 04:07:16 UTC		
Event Stop	07/09/2021 05:27:51 UTC		
Installed Capacity	1300 MW		
Capacity Interval(s)	Interval start	Interval stop	Available Unavailable capacity capacity
	7/09/2021 4:07:16 UTC	7/09/2021 5:27:51 UTC	0 MW 1300 MW

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functionality



UMM Unavailabilities of electricity facilities

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Publication date

24/06/2021 - 01/07/2021

Bidding Zone

Select items

Market Participant

Lampiris

Event Status

Select items

Type of Event

Select items

Type of Unavailability

Select items

Affected Asset or Unit

Select items

Fuel Type

Select items

Event date

Export

Clear filter

Search

Publication date/time	Version	Event Status	Type of Event	Type of Unavailability	Available Capacity	Installed Capacity	Affected Asset or Unit	Fuel Type	Event Start	Event Stop
30/06/2021 14:28	04				0.00 MW	307.00 MW	Rentel Offshore WP	Wind Offshore	28/06/2021 07:00	04/07/2021 16:00
25/06/2021 09:31	01				272.00 MW	307.00 MW	Rentel Offshore WP	Wind Offshore	25/06/2021 09:45	25/06/2021 17:00

Page 1 of 1

25 items per page

1 - 2 of 2 items

Active status

Inactive status

Dismissed status

Transmission unavailability

Production unavailability

Consumption unavailability

Other unavailability

Planned unavailability

Unplanned unavailability

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UMM Unavailabilities information

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Version 2 on 07/09/2021 07:33 , Transmission unavailability from 07/09/2021 06:07 to 07/09/2021 07:27, MW out of 1300MW installed.

Publication date/time	Type of Event	Bidding Zone	Message ID
07/09/2021 07:33	Transmission unavailability	10YDE-VE-----2	10YDE-VE-----2000002383_002
Event Status	Type of Unavailability	Market Participant	Market Participant Code
Inactive	Unplanned	50Hertz	10XDE-VE-TRANSMK
Reason of the Unavailability	Remarks		
Outage			
Affected Asset or Unit	Affected Asset or Unit EIC Code		
Altentreptow/Süd - Malchow 518	11T0-0000-0010-O		
Event Start	Event Stop	Installed Capacity	Unit of Measurement
07/09/2021 06:07	07/09/2021 07:27	1300	MW
Interval Start	Interval End	Unavailable Capacity	Available Capacity
07/09/2021 06:07	07/09/2021 07:27	1300	0

Version 1 on 07/09/2021 06:13 , Transmission unavailability from 07/09/2021 06:07 to 07/09/2021 18:07, MW out of 1300MW installed.

Publication date/time	Type of Event	Bidding Zone	Message ID
07/09/2021 06:13	Transmission unavailability	10YDE-VE-----2	10YDE-VE-----2000002383_001
Event Status	Type of Unavailability	Market Participant	Market Participant Code
Active	Unplanned	50Hertz	10XDE-VE-TRANSMK
Reason of the Unavailability	Remarks		
Outage			
Affected Asset or Unit	Affected Asset or Unit EIC Code		
Altentreptow/Süd - Malchow 518	11T0-0000-0010-O		
Event Start	Event Stop	Installed Capacity	Unit of Measurement
07/09/2021 06:07	07/09/2021 18:07	1300	MW
Interval Start	Interval End	Unavailable Capacity	Available Capacity
07/09/2021 06:07	07/09/2021 18:07	1300	0

Tracking
changes
respect to
previous
versions



Dashboard UMM Other market information on eliagroup.eu



UMM Unavailabilities of electricity facilities

UMM Other market information

Search in all fields

Publication date

01/09/2021 - 08/09/2021

Publication date: 01/09/2021 - 08/09/2021

Market Participant

Select items

Event Status

Select items

Event date

Export

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Publication date/time	Version	Event Status	Title	Remarks	Market participant	Event Start	Event Stop
06/09/2021 17:41	02		Dynamical change in seasonal Fmax ratings for the Belgian grid elements based on the temperature	Dear market Participants, Elia would like to inform you that the methodology to select the Fmax rating for the Belgian grid elements will be updated. Instead of being based on the season date we will now select the rating based on the temperature forecast for the Elia control area. This new methodology will be commissioned during W37. From this time on the methodology will be active for all time horizon D2CF, D2CF, IDCF and Real-time. Best regards,	Elia Transmission Belgium	14/09/2021 00:00	31/12/2040 00:00
06/09/2021 15:29	01		Update of cross-border capacities	Dear Market Participants, For congestion management reasons Elia Transmission Belgium, in agreement with RTE, is currently updating the cross-border capacities on the following border FR-BE for the business day 06 sept 2021 and for the time periode 18:00 and 21:00. Relevant information has been provided to the concerned allocation platform(s) (XBID and/or RNP) and their publication will be adapted accordingly. Last update of ELIA regarding this topic was made on 06 / sept/ 2021. Kind regards, Elia Transmission Belgium	Elia Transmission Belgium	06/09/2021 18:00	06/09/2021 21:00

Filter & search functionalities

Dashboard

UMM Other market information

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Version 2 on 06/09/2021 17:41 , Elia Transmission Belgium, Dynamical change in seasonal Fmax ratings for the Belgian grid elements based on the temperature.

Publication date/time

06/09/2021 17:41

Message ID

CBF3605A74F64045AEFEA1DF9_002

Event Status

Active

Market Participant

Elia Transmission Belgium

Title

Dynamical change in seasonal Fmax ratings for the Belgian grid elements based on the temperature

Event Start

14/09/2021 00:00

Event Stop

31/12/2040 00:00

Remarks

Dear market Participants, Elia would like to inform you that the methodology to select the Fmax rating for the Belgian grid elements will be updated. Instead of being based on the season date we will now select the rating based on the temperature forecast for the Elia control area. This new methodology will be commissioned during W37. From this time on the methodology will be active for all time horizon D2CF, D2CF, IDCF and Real-time. Best regards,

Market Participant Code

CBF3605A74F64045AEFEA1DF9_002

Version 1 on 03/09/2021 09:34 , Elia Transmission Belgium, Dynamical change in seasonal Fmax ratings for the Belgian grid elements based on the temperature.

Publication date/time

03/09/2021 09:34

Message ID

CBF3605A74F64045AEFEA1DF9_001

Event Status

Active

Market Participant

Elia Transmission Belgium

Title

Dynamical change in seasonal Fmax ratings for the Belgian grid elements based on the temperature

Event Start

08/09/2021 00:00

Event Stop

31/12/2040 00:00

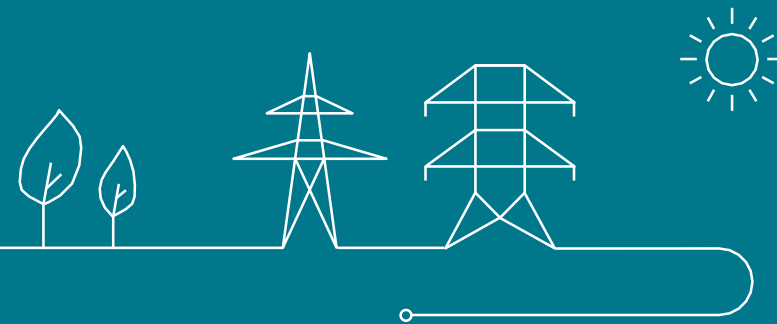
Remarks

Dear market Participants, Elia would like to inform you that the methodology to select the Fmax rating for the Belgian grid elements will be updated. Instead of being based on the season date we will now select the rating based on the temperature forecast for the Elia control area. This new methodology will be commissioned on 06/09/2021 (FB Market coupling for Business Day 08/09/2021). From 08/09/2021 on the methodology will be active for all time horizon D2CF, D2CF, IDCF and Real-time. Best regards,

Tracking
changes
respect to
previous
versions



2. All inside information of Elia exclusively on Elia Group IIP as of 09/2021



2. All Inside information of Elia exclusively on Elia Group IIP as of 09/2021

- Since 01/01/2021 Elia's unavailabilities of electricity facilities are published on the Elia Group IIP webpage via webfeeds ([Elia Group Inside Information Platform](#))
- Since 01/04/2021 Elia's unavailabilities of electricity facilities are also available with proper visualization & export functionalities
- As of September 2021 Elia's other Urgent market messages are only published on Elia Group's IIP, the exclusive channel for all Elia's Inside information (incl. Balancing warnings and Strategic reserves warnings).

On 23/07 Elia has informed the BRPs of the move of the other market information to the Elia Group IIP. Until end of August Elia's other market information could be found on the **JAO message board** ([Message board | JAO](#)) and on the Elia website under the section **Market messages** ([Market messages \(elia.be\)](#)) for the Balancing warnings and Strategic reserve warnings.

Elia reminds you to subscribe to the webfeed available on the Elia Group IIP, which you can find in the Useful links section by clicking on “Other market information webfeed”.

Useful links



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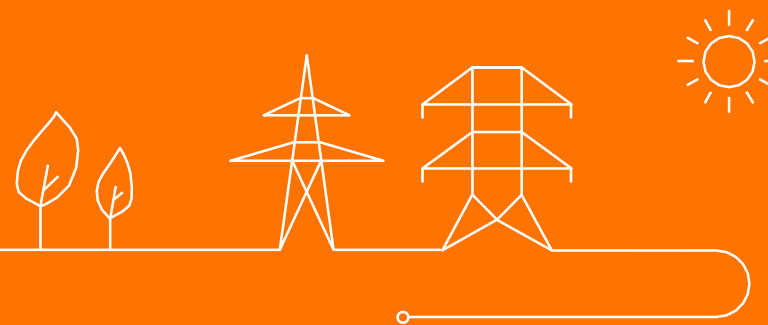
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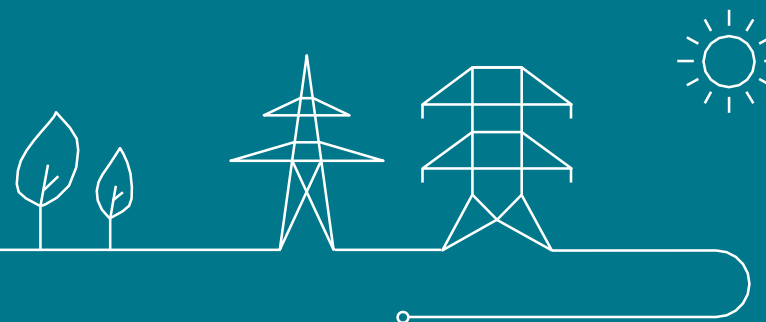


mFRR Flex phase-out

Presented by Thomas Oldenhove



State of play



mFRR Flex – current design

= mFRR Capacity Product which can be procured by Elia

- Procured for one or more blocks of **4 hours (CCTU)**
 - Volume in addition to minimum mFRR Standard volume. The minimum mFRR Standard volume is currently set at 640MW. Since 7 January 2021, given the total need for mFRR capacity, this implied that maximum **17MW** of mFRR Flex capacity could have been procured
 - Particular characteristics of mFRR Flex:
 - **Neutralization period** (between the starts of 2 activations) of 8 hours
 - Separate merit order:
 - 1st merit order of mFRR Standard and mFRR non-contracted
 - Then 2nd merit order with mFRR Flex
 - (Maximum number of activations per months abolished since introduction of daily procurement)
- ⇒ **The mFRR Flex product is inferior to the mFRR Standard product (due to neutralization time) as it implies that Elia will not have the full dimensioned capacity available after deactivation of mFRR Flex**



Future of mFRR Flex

- **Announced phase-out:** Elia has announced the phase-out of the mFRR Flex product for several years. A gradual increase of the mFRR Standard minimum volume has been foreseen in the LFC Means and implemented.
- **Motivation of a phase-out:**
 - ✓ **Ensure availability of the energy** when needed, in line with FRR dimensioning methodology
 - ✓ **Simplify** the rules (market parties often point to the complexity as an entry barrier)
 - ✓ Avoid market distortions, lack of transparency and operational complexity resulting from the **coexistence of several merit orders** (and potentially from local activations vs. CMOL-based activations)
 - ✓ **Avoid additional complexity and costs** in the MARI implementation roadmap
- mFRR Flex in the current design would be categorized as a “**specific product**” as of 17 December 2021 in accordance with the **methodology for Standard Product for Balancing Capacity**
- **Specific product requires, according EBGL Art 26:**
 - *a demonstration that standard products are not sufficient to ensure operational security and to maintain the system balance efficiently or a demonstration that some balancing resources cannot participate in the balancing market through standard products*



BSP options for offering mFRR on delivery points with neutralization time

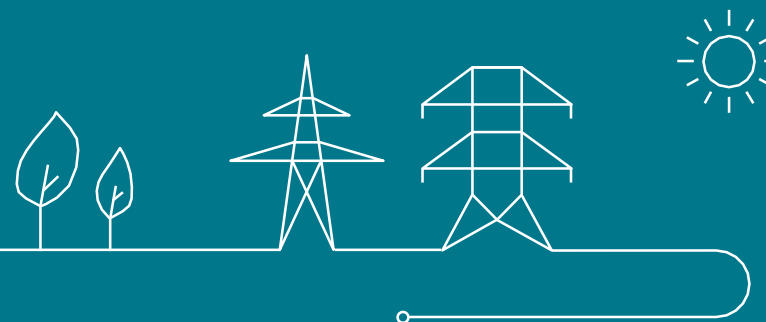
Certain delivery points may require a neutralization time (= a non-activation period after an mFRR activation with deactivation)

- This type of energy can be provided as **non-contracted mFRR**
- This type of energy can be provided as **contracted mFRR as part of a standard product**: the BSP must then ensure that during the neutralization time the contracted mFRR can be delivered on other delivery points (**BSP pool management**)
- This type of energy can be provided as **contracted mFRR as part of a capacity product with neutralization time**: the BSP does not need a larger pool of delivery points to compensate unavailability during neutralization time = **mFRR Flex**

- ⇒ The current mFRR Flex product facilitates some BSPs' participation to the balancing capacity market : BSPs are remunerated for capacity while being protected against activation during neutralization time, without the need to compensate for the delivery point's potential unavailability themselves
- ⇒ **However, the mFRR Flex product is not a pre-requisite for BSPs to participate on the balancing energy market**



Analysis of market liquidity



Impact on volume in case of abolishment of mFRR Flex

Market evolutions have already taken place due to the changes in FRR means dimensioning in 2020/early 2021:

	Changes in minimum volume of mFRR Standard	Changes in reserve sharing
4/2 – 30/6/2020	490 MW	50 MW
1/7/2020 - 6/1/2021	640 MW	
7/1/2021 - NOW		250 MW (total mFRR needs dropped by 200MW)

Volume at stake

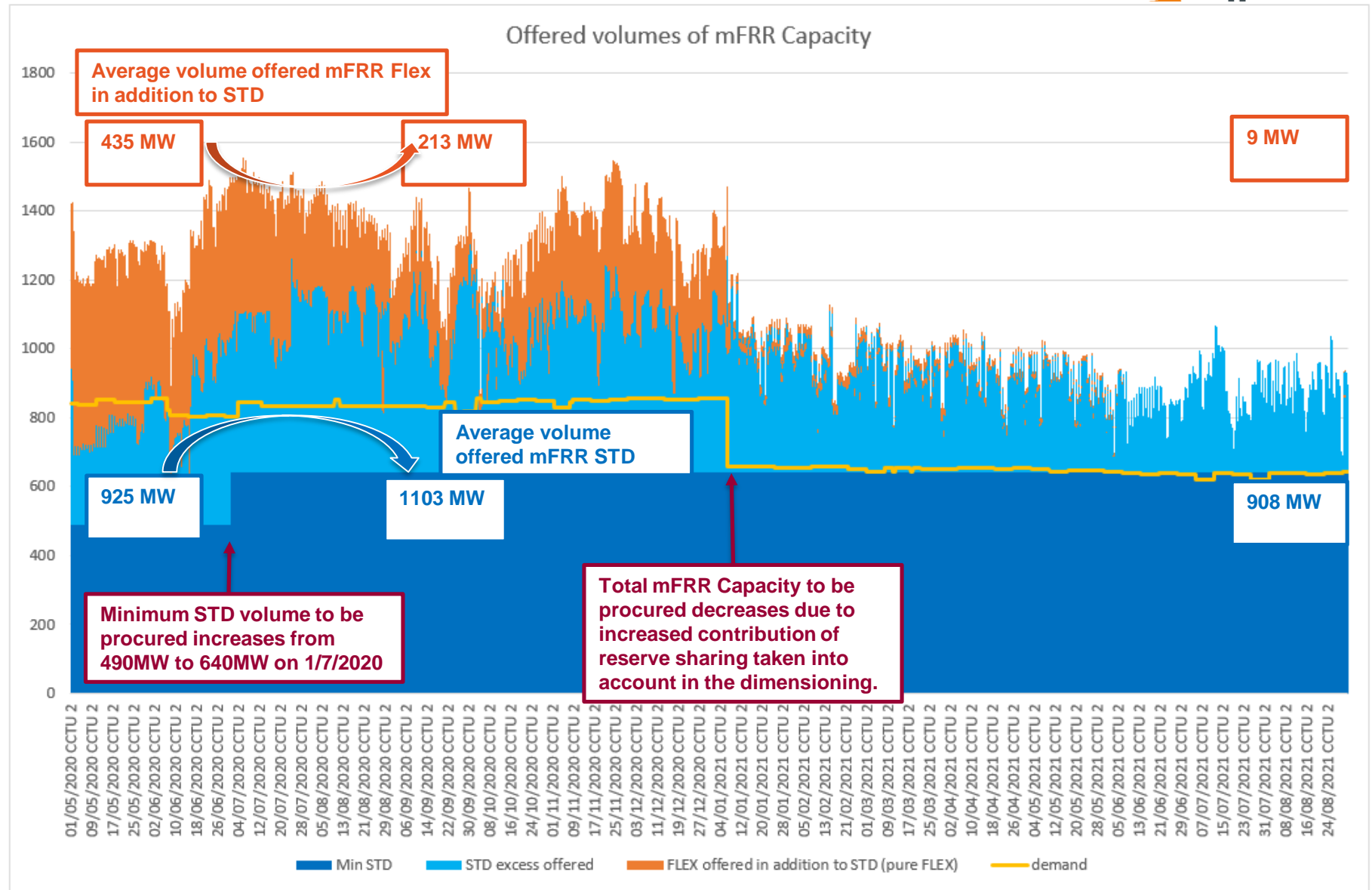
- ⇒ **Since 7/1/2021 (period of 8 months):** depending on the dimensioning of the day, a maximum of 17 MW of mFRR capacity could have been procured as mFRR Flex (12 MW in average till June 7th, 9MW in average till end of Aug).
- ⇒ **From June 7th till August 30th:** no mFRR Flex capacity procured
- ⇒ **Since February 2020** more than 550MW of volume was tested for prequalification for mFRR Standard: the market has made the shift to the standard product in response to the changes in dimensioning



Evolution of offered volumes of mFRR STD and mFRR FLEX

This graph shows:

- the minimum STD volume to be procured (dark blue)
- the offered volumes of STD capacity in addition to the minimum STD volume to be procured (light blue)
- the offered volumes of FLEX capacity in addition to the STD (orange)

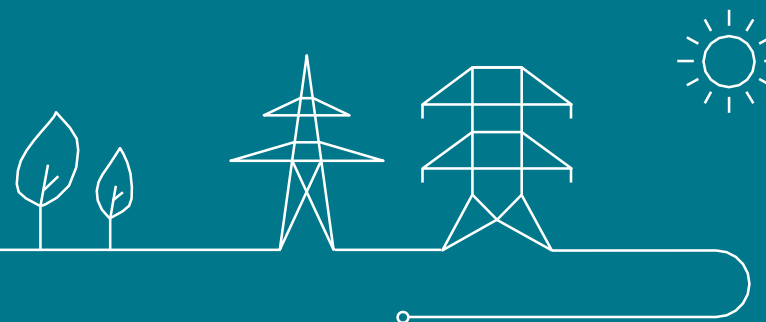


Future liquidity in the mFRR capacity market?

- In the last 1,5 years, **the market seems to have adapted towards the focus on mFRR Standard and currently the mFRR capacity market seems sufficiently liquid to cover current and future mFRR needs**. Contribution of Flex (+72 MW) is relatively marginal and further conversion of Flex into Standard product is ongoing. When sufficient time is given to adaptation, market can reach the European target of standard mFRR as defined in EBGL.
- About 200MW margin (of mFRR standard) in average has been available this year above the volumes procured (even more volumes were offered before the decrease in contracted volumes in January 2021. Today **the risk of a (structural) lack of liquidity in mFRR capacity auction seems low** when looking at prequalified volumes
- Considering the very small volume of mFRR flex which can be contracted, **it is likely that a part of mFRR Flex volume will leave the mFRR market even if the product is maintained**. It is therefore not sure that Flex volume would be actually offered when really needed for the BE LFC if only few MW of Flex is contracted for a long period.
- **Conclusion on market liquidity:**
 - **Sufficient liquidity should be available as mFRR Standard**
 - **Contribution of mFRR Flex if the product is maintained is highly uncertain**



Conclusion and next steps



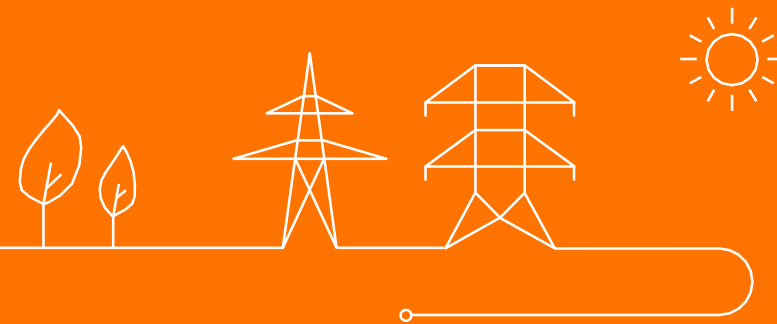
Conclusion & proposed way forward

- Considering previous market communication, the regulatory framework, the liquidity analysis and the future market design evolutions (MARI), Elia sees **no valid reason to further delay the phase-out of the mFRR Flex** product
- The EBGL criteria to justify the definition and use of a specific product are not met as it could not be demonstrated that:
 - ✗ **standard products are not sufficient to ensure operational security** and to maintain the system balance efficiently
 - ✗ some **balancing resources cannot participate** in the balancing market through standard products
 - ✗ **the use of specific products is minimized** subject to economic efficiency
- In addition, the phase-out should allow to:
 - ✓ **Ensure availability of the energy** when needed, in line with FRR dimensioning methodology
 - ✓ **Simplify** the rules and technical implementation of the new mFRR product (for MARI)
 - ✓ Avoid market distortions, lack of transparency and operational complexity resulting from the **coexistence of several merit orders**
- Proposed approach: **Amend LFC Means** (minimum changes, i.e. amend art. 6(4) and delete art. 2(4)) to only procure mFRR Standard as of 17 December 2021. The T&C BSP for mFRR will be cleaned up in 2022 when being amended for MARI
 - ✓ Public consultation of LFC Means amendment in October
 - ✓ Submission to CREG for approval mid-November
 - ✓ Entry into force on December 17th



Planning EU Balancing : Status & next steps

Presented by Cécile Pellegrin



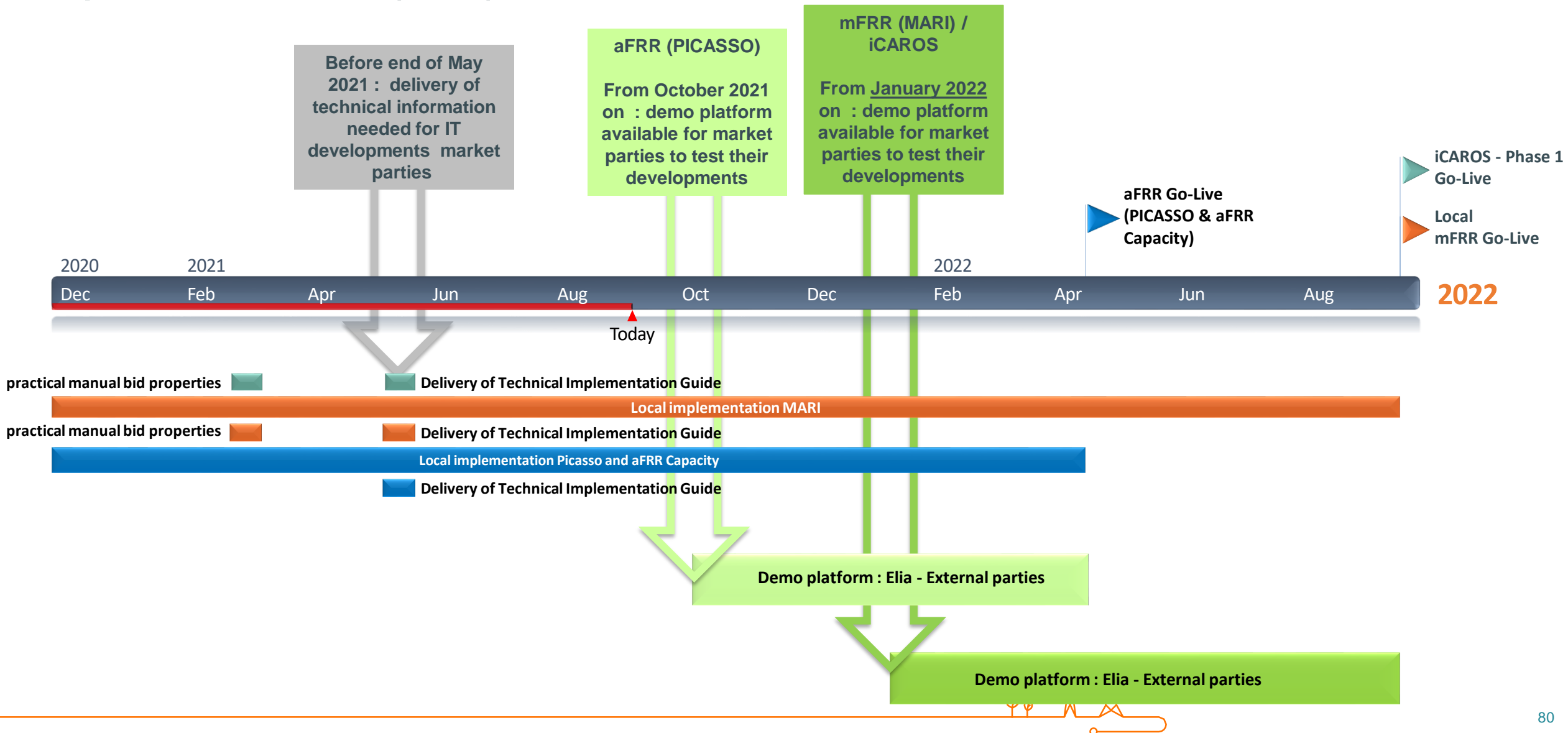
Roadmap update proposal

- As a consequences of Readiness check feedbacks, ELIA propose to **request a derogation for its connection to MARI platform** and adapt the planning as follow :
 - Planning made common for aFRR Capacity and PICASSO
 - No change on PICASSO go live planning [Connection to EU aFRR balancing energy platform in Q2 2022]
 - Delay of local go live of the new mFRR bidding and iCAROS phase 1 to at least early Q4 2022 (*)
 - Delay of the connection to EU mFRR balancing energy platform to at least end Q4 2022 (MARI) (*)
 - (*) This planning will be re-assessed during the WG BAL of October 2021 (based on last confirmation on the design and the more detailed analysis of the technical guides).
 - A complementary readiness check will be done for the planning of mFRR and iCAROS phase 1 early 2022.
- ⇒ **As a result, priority is set within ELIA on the implementation for aFRR/PICASSO. The same should be done by the market parties in order to be ready for the aFRR/PICASSO testing starting in October 2021.**



Upcoming steps for the implementation of aFRR (PICASSO & aFRR Capacity), iCAROS phase 1 and mFRR (MARI)

Source: ENTSO-E



Implementation for aFRR/PICASSO

- Technical guide has been delivered on the 21st of May and presented during the workshop of the 3rd of June (+ Q&A sent on the 13th of July)
- **Demo environment for PICASSO will be made available in October 2021**
- Updated version of the Technical guide (complementary information and/or minor precisions and corrections) will be made available end of October 2021

⇒ Complementary market parties feedbacks are welcome

- Feedbacks/questions on the content of the Technical guide (before end of September 2021 for the PICASSO part)
- Feedbacks on the implementation timeframe based on the detailed analysis of the technical guide (before next WG BAL on 28/10/2021)
- Feedback on the implementation progress on BSP side in order to more concretely organised the support for the PICASSO BSP Testing



Exemption from the obligation to procure upward and downward balancing capacity for aFRR separately

- EBGL Article 32(3)

*The **procurement of upward and downward balancing capacity** for at least the frequency restoration reserves [...] shall be carried out **separately**. Each TSO may submit a **proposal** to the relevant regulatory authority in accordance with Article 37 of Directive 2009/72/EC requesting the **exemption** to this requirement [...]"*

- Similar provision in CEP Article 6(9)
- An exemption has been granted by the CREG in its decision B1879 of 18 December 2018 and is **valid until 15 December 2021**
- The future design, discussed with stakeholders in the 1st semester this year, allows symmetric bids → Elia is drafting a proposal for a new exemption
- The proposal will be publicly consulted between the early October 2021 and early November 2021



Impact on the preparation of regulated documents and consultation



Consultation for the symmetric aFRR bids exemption will take place between early October and early November

Consultation for mFRR/iCAROS phase 1 will no longer take place in 2021



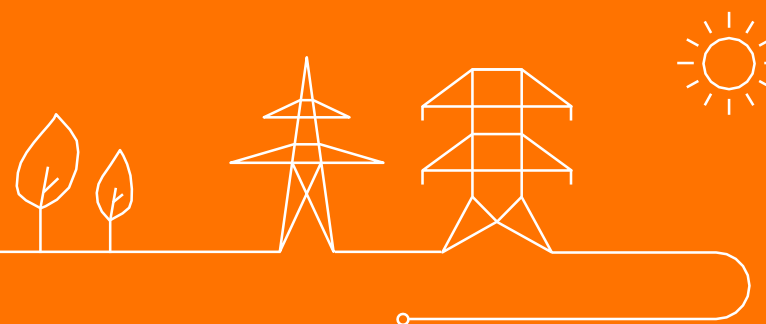
Stakeholder management interactions



- Q&A on technical guide (including priorities on PICASSO testing) has been shared
- Updated mFRR design note has been shared
- Next planned interactions:
 - 07/10 - Dedicated workshop on CRI (Congestion Risk Indicator)
 - CRI zone determination [Refresher from iCAROS WS 23/10/19]
 - CRI level determination [Refresher from iCAROS WS 23/10/19]
 - Filtering of balancing bids [NEW]
 - Updated version of Technical Guide for end of October 2021

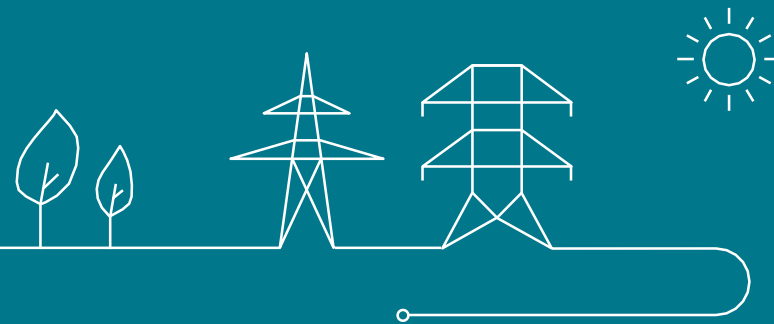


AOB



AOB – Status on public consultation of PfA of T&C BRP

Presented by Caroline Bosschaert



AOB - Stakeholder consultation of PfA of the T&C BRP



From **15 June 2021** until **15 July 2021**

The proposed changes to the T&C BRP related to:



1. **The relaxation of the Day-ahead balance obligation of the BRPs** : adjustments in line with the consolidated implementation plan that was presented to the market in May 2021;
2. The modifications to address the **changed timing of notifications sent to the BRP** in case of mFRR activations of delivery points of the type DPPG when connecting to the MARI platform;
3. Varia - **small corrections** in the BRP contract



Two answers received :

- FEBEG
- Febeliec



No major change in the PfA w.r.t. public consultation



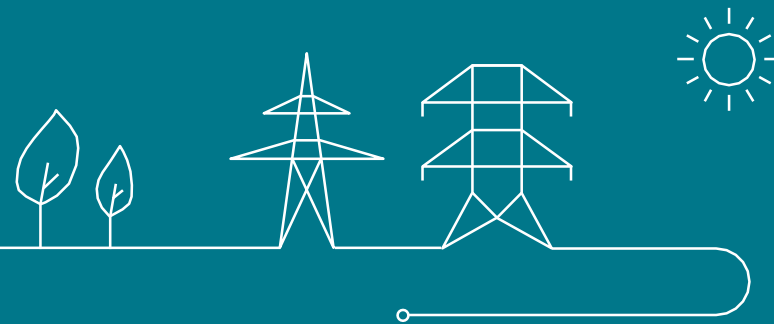
Next steps:

- Submission of the PfA to regulators
- Publication of the consultation report
- **Target date** for entry into force : **1 Dec 2021**



AOB - Update public consultation on a technology neutral framework for slow-start units

Presented by Kris Poncelet

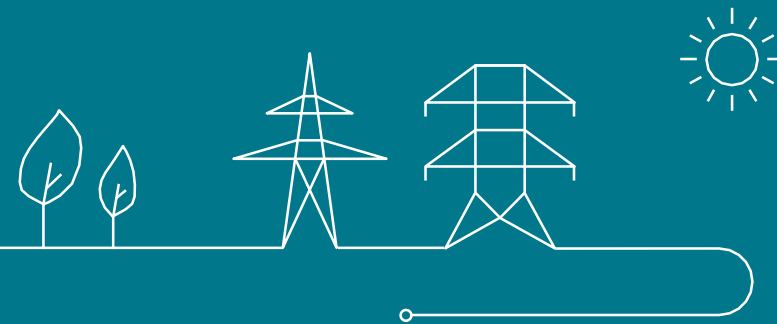


Update public consultation on a technology neutral framework for slow-start units

- The public consultation of the study has started on 20 August and will end on 24 September.
- Elia welcomes all feedback and specifically invites market parties to:
 - provide concrete indications regarding the potential volumes flexibility that could be made available by slow DP_{PG}
 - share their views on the robustness of the conclusions in light of upcoming changes in the Belgian electricity system
- Feedback of the public consultation will be provided during the next WG BAL meeting.

System Imbalance forecast and evaluation of its publication

Presented by James Matthys-Donnadieu



System Imbalance forecast and evaluation of its publication

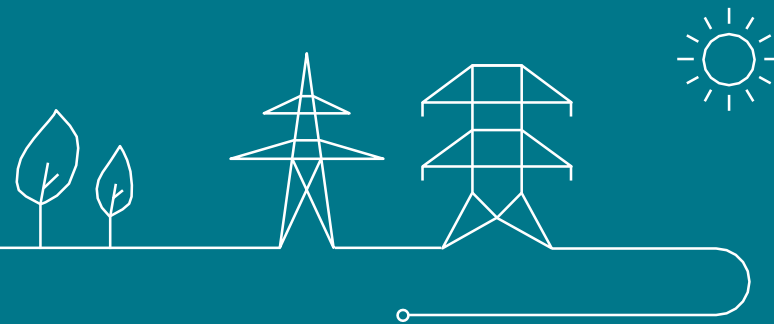
Following the definition of the incentive on System Imbalance forecast and evaluation of its publication, Elia has launched a public consultation. The consultation focusses on three areas:

- The selection and evaluation of the linear regression model (as presented during the WG Balancing in March)
- A proposal for the publication of the SI forecast and an evaluation the relevance for making this forecast available to market parties
- Potential dependencies which might impact the proposal for an implementation plan.

The consultation runs from 31 Augustus until 30 September.

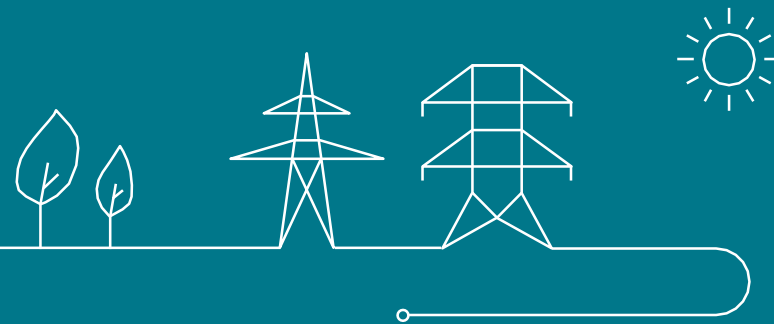
AOB - Update study paid-as-cleared remuneration of balancing capacity

Presented by Nicolas Pierreux



AOB – Next WG Balancing Dates

Presented by Chim Didier



Next WG Balancing

- 28/10/2021 – 13:00 – 16:00
- 08/12/2021 – 13:00 – 16:00

