WG Balancing of 28th June 2021

Teleconference

28/06/2021

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

13:00 – 13:10 – Introduction and Validation of minutes
13:10 – 13:40 – Data quality checks on production outages
13:40 – 14:00 – aFRR capacity design
14:00 – 14:30 – Roadmap 2021-2022: Update
14:40 – 14:50 – Dynamic FRR means study: methodology

AOB

- Energy Management Strategy
- Go-live of ToE DA/ID
- Public consultation of pricing methodology (price cap)

Minutes of Meeting for approval

- Minutes of Meeting of 06 May 2021:
  - Due to late sharing of the minutes with the stakeholders, those will be approved during the next WG Balancing in September.

Data quality checks on production outages

Presented by Patricia Haemers

Data quality checks on production outages

Following a CREG request, Elia will implement consistency tests between production outages published on ENTSO-E TP, day ahead nominations and generation per unit.

Context

Incentive on Data quality

- A lot of data quality checks are performed by CREG every day in the framework of the incentive on Data Quality
- Recently, CREG integrated new consistency tests related to production outages published on ENTSO-E TP in the scope of the incentive
- The perimeter of data tested by CREG is related to ENTSO-E's publications and monthly reports sent by Elia to CREG since January 2015
- Outage data are considered as inside information regarding REMIT regulation

Notifications

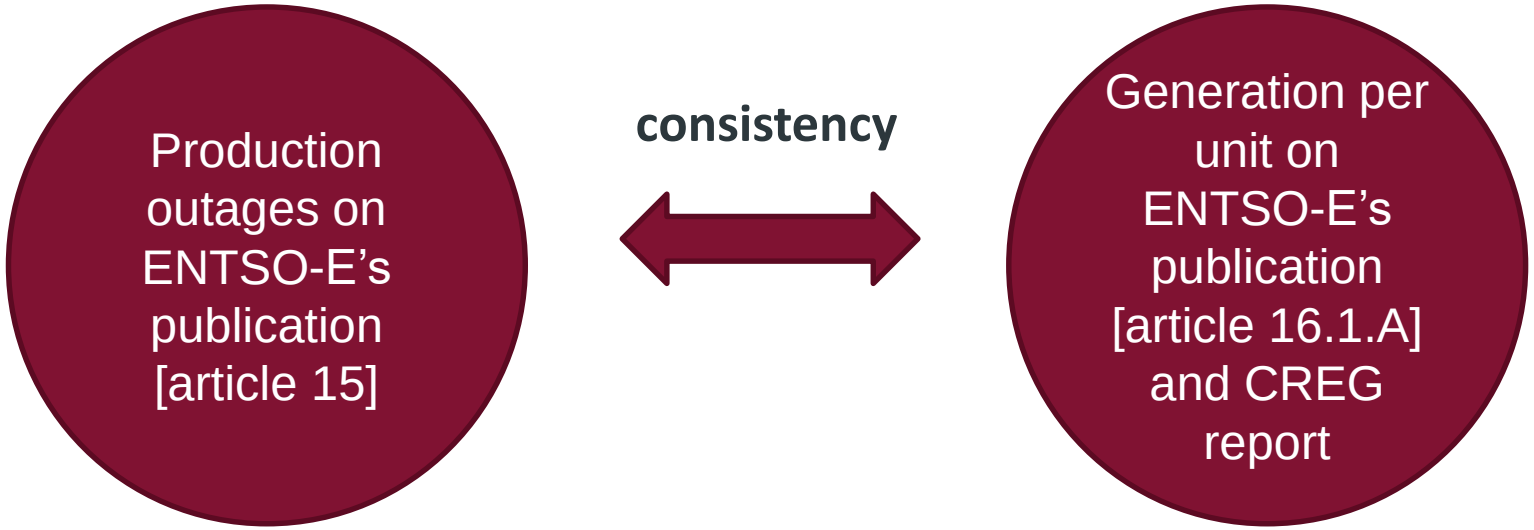
The rules of the incentive provide that, when data tested by CREG are owned by a third party, Elia must notify the third party with errors identified.

- For each set of errors identified,
  - Elia must send a first notification to the concerned BRP ;
  - After 15 days, if our first notification remains without answer, Elia must send a second notification.
- Notifications will be sent via standardized e-mails from the address DQELIA-CREG@elia.be

Données dépendantes de sources externes à Elia

Pour les données pour lesquelles Elia n'est pas le *Primary Data Owner* ou pour lesquelles Elia dépend de sources externes, Elia se verra notifier par la CREG les inconsistances détectées dès le Stream 1, et devra prouver, afin de faire sortir cette donnée du champ de l'incitant, qu'elle a demandé par écrit via un courrier pouvant être électronique au moins à deux reprises (lettre de notification ainsi qu'un rappel) auprès du fournisseur de ladite donnée que celui-ci corrige ladite donnée. La CREG demande donc à Elia d'envoyer un premier courrier (éventuellement électronique) de notification au primary data owner, et, si jamais ce premier courrier ne devait pas être suivi d'effet dans un délai de quinze jours calendrier, d'envoyer un second courrier (éventuellement électronique) au primary data owner afin de l'avertir du caractère erroné de sa publication. Si toutefois le primary data owner ne réagissait pas à ce second courrier (éventuellement électronique), ladite donnée serait retirée, pour chaque stream, du champ de l'incitant deux semaines calendrier après la seconde notification de la part d'Elia.

Tests description (1)



Test

When a production outage is published on ENTSO-E TP for a unit, the generation reported in CREG report and in ENTSO-E's publication must be equal or lower than 10MW for this unit during the outage period.

The outage period is adapted to integrate the ramping time of the unit concerned.

Ramping time

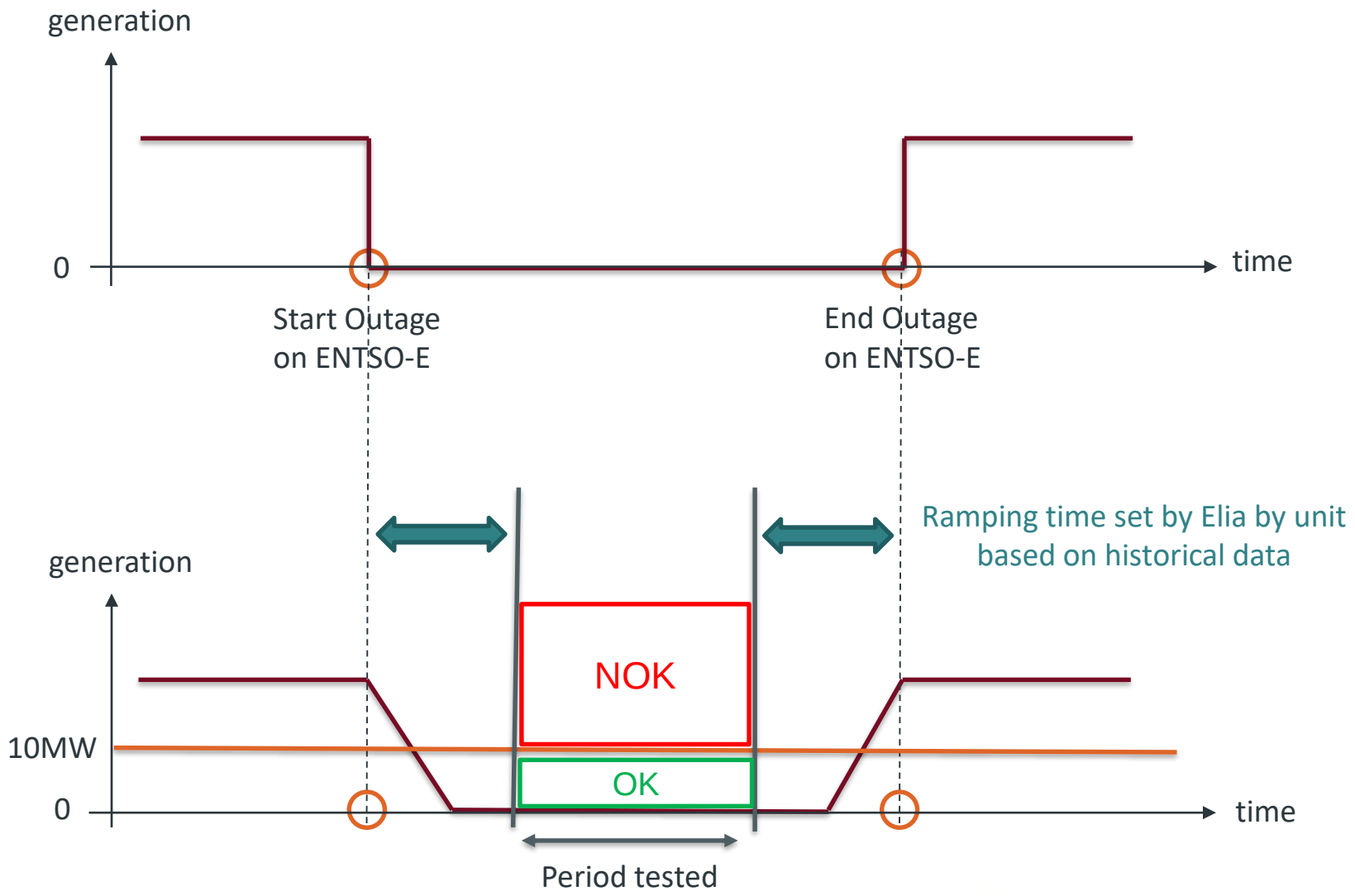
On ENTSO-E TP, the outage is published as if generation goes instantly to 0 which does not reflect reality. The ramping time was determined by Elia by unit, based on the observed maximum time taken by a unit to stop/restart via data available on ENTSO-E TP over the whole historical period (since 2015). The outage period is reduced by this ramping time at the beginning and end of the outage.

Tests description (2)

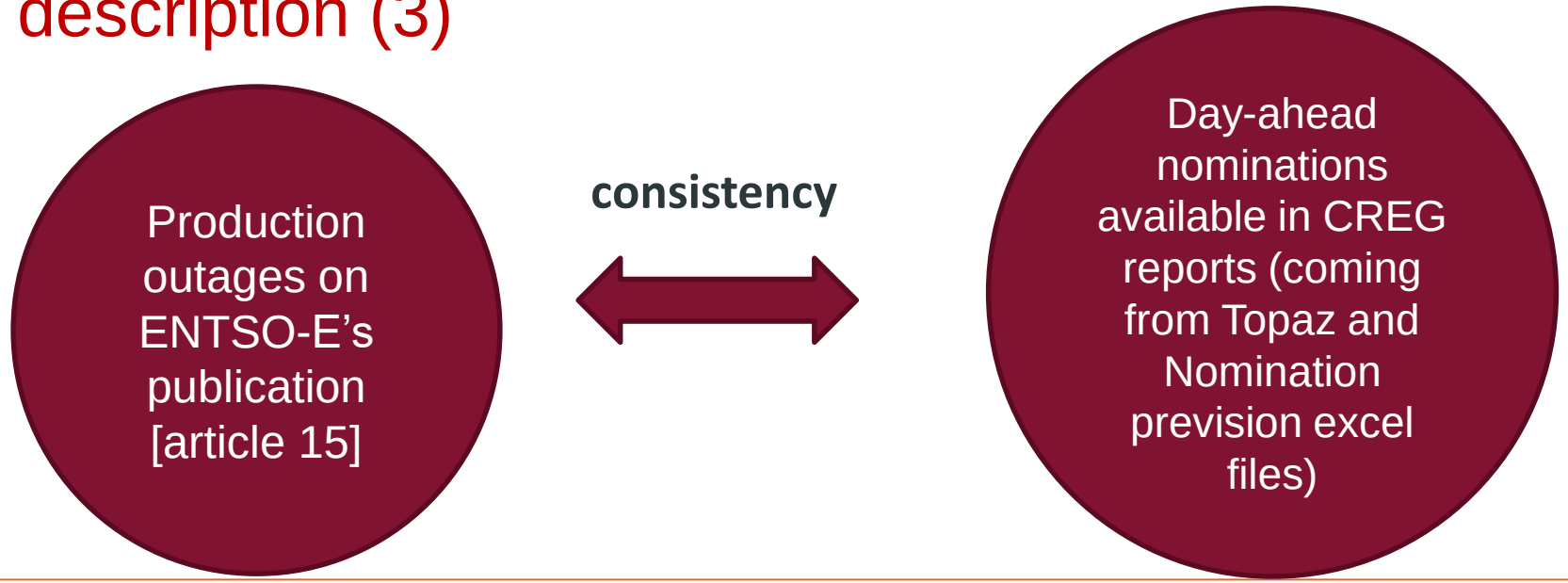
Example

Outage published on ENTSO-E

Generation measured during the outage



Tests description (3)



Test

When a production outage is published on ENTSO-E TP for a unit, starting on day D before 15h, Pmin/Pmax/Power reported in CREG reports coming from Topaz and the nomination prevision excel files must be equal to zero and Status must be indicated as unavailable from day D+1 until the end of the outage period.

When a production outage is published on ENTSO-E TP for a unit, starting on day D after 15h, test is done from day D+2 until the end of the outage period.

The outage period is adapted to integrate the ramping time and the misalignment between ENTSO-E's publications and DA nomination process. Indeed, if there is an update of outage during intraday period, it will be include in ENTSO-E's outage publication but not in DA nominations.

Tests description (4)

Outage period update

As the misalignment between ENTSO-E's publication and DA nominations process is present only when there is an update of the outage outside of the day ahead process, the outage period is reduced taking into account all versions of an outage as follows:

- For planned outages,
  - Start of the outage period corresponds to the most recent start time present through all ENTSO-E's versions of the outage concerned
  - End of the outage period corresponds to the shortest end time present through all ENTSO-E's versions of the outage concerned
- For forced outages,
  - As the start of the forced outage is not supposed to change, start of the outage period corresponds to the oldest start time present through all ENTSO-E's versions of the outage concerned
  - End of the outage period corresponds to the shortest end time present through all ENTSO-E's versions of the outage concerned

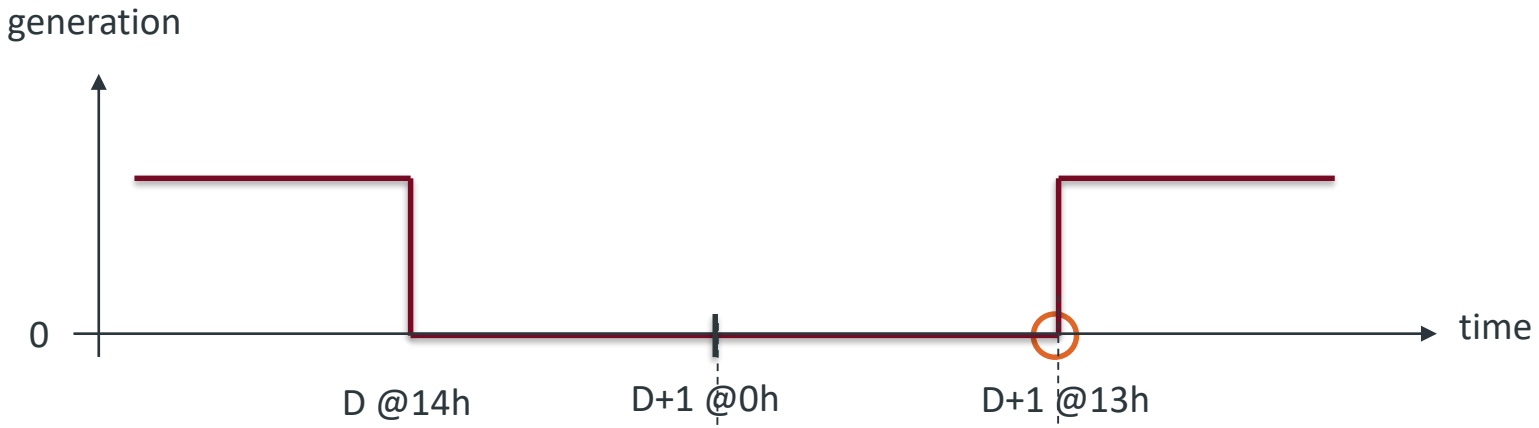
Tests description (5)

Example

BU events

Forced outage on a unit on day D @14h until D+1 @13h

Outage published on ENTSO-E
Version 1 done on Day D @14h

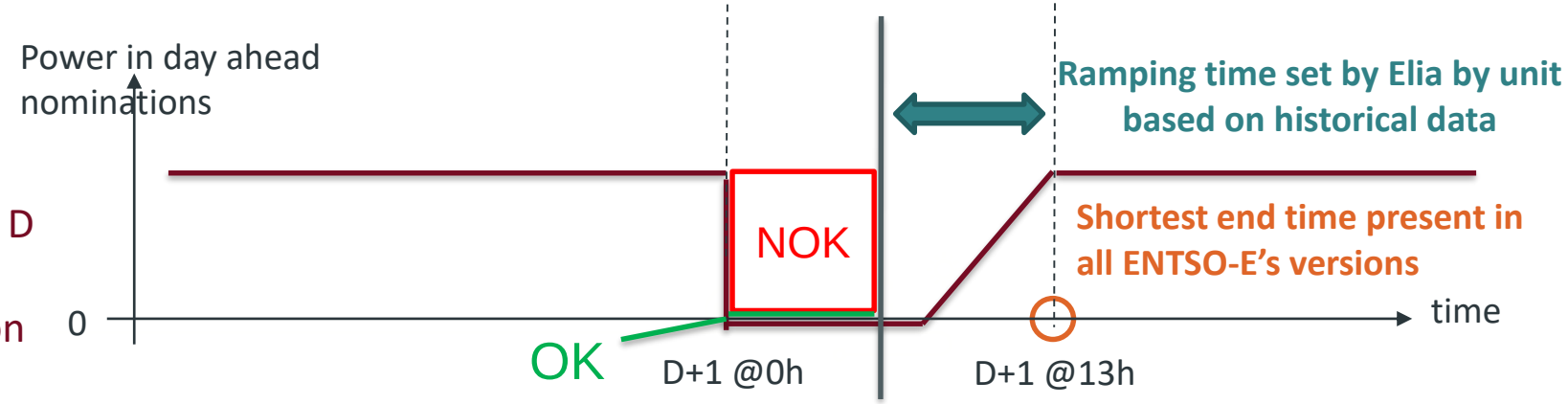


On D+1 @11h, BRP knows that restart will be at 15h instead of 13h

Outage published on ENTSO-E
Version 2 done on Day D+1 @11h

Day ahead nominations were done in day D in line with the first version of the outage on ENTSOE

DA nominations are taken into account from day D+1 as outage started in day D with no possibility to update DA nomination for day D



Next steps & feedback

- The new consistency tests on production outages are applicable not only in the future, but also for the past staring 2015;
- Elia will send notifications in case of inconsistencies detected to the corresponding BRP's;
- It is expected that BRPs after notification answer by either correcting ex-post the related UMMs in case the misalignment if confirmed or if not possible/justified explaining the cause of the misalignment

We welcome any feedback from you on this process now or, after this meeting, via email to DQELIA-CREG@elia.be

aFRR capacity design

Presented by Philippe Magnant

Context and goal of the presentation

Context of the presentation

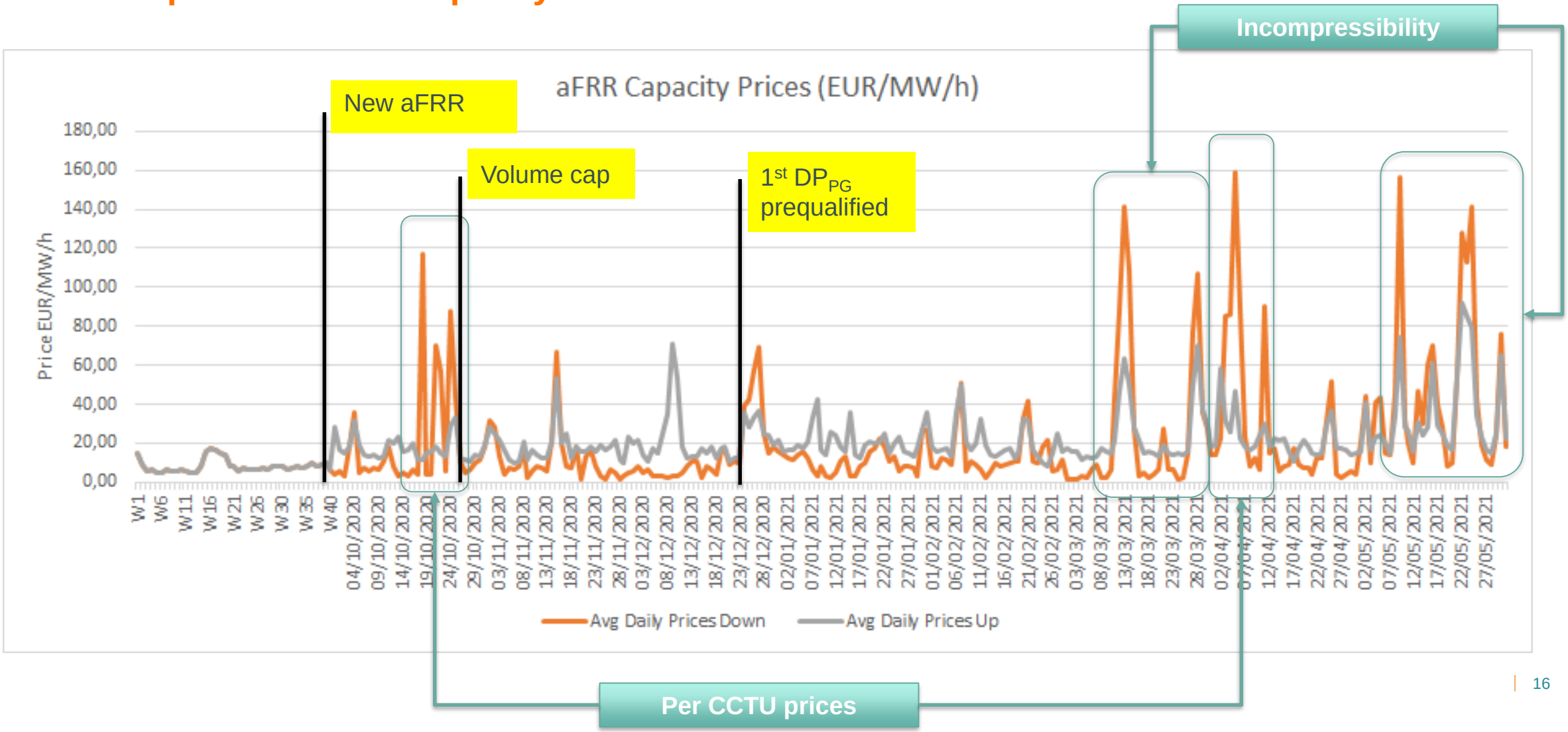
- The aFRR capacity design has been under review following design-related price spikes observed in October 2020 (shortly after new aFRR go-live) and in April 2021
- After several months of analyses and discussions with market parties and with the CREG, a compromise solution was presented on the stakeholder workshop on the 22nd of June

Goal of the presentation

- Explain the high-level principles of the new design
- Inform on next steps

Context and objectives of the new design

Price spikes in aFRR capacity auctions



Context and objectives of the new design

Important aspects to be considered in the new design

- The procurement needs to be organized in a **cost-efficient** way. This includes, but is not limited, to the need to avoid the risk of design-related price spikes as experienced in October 2020 and April 2021
- The **access to the market** for the newly prequalified units must be ensured
- The **complexity** of the design must remain as low as possible
- The price formation needs to be **transparent**

➔ The aFRR capacity design needs to find the **right balance** between those aspects

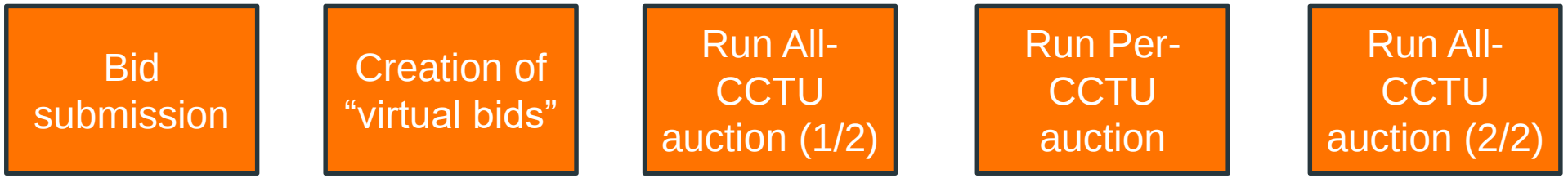
➔ Need to **limit the implementation time** towards the go-live

Interactions with stakeholders during design phase

Dedicated workshops		Design note
Friday 12/02/2021 (09:00-12:00)	1st workshop (energy) Introduction – Recap main principles and functionalities of PICASSO platform – planned evolutions of the local design	12 February 2021
Wednesday 03/03/2021 (09:00-10:00)	2nd workshop (energy) Open session for Q&A, presentations of other parties than Elia, …	aFRR design note (energy part) - Informal consultation
Wednesday 10/03/2021 (09:00-11:00)	3rd workshop (capacity auctions) First proposal (inversion of auctions)	12 March 2021
Friday 02/04/2021 (09:00-12:00)	4th workshop (capacity auctions and energy) Feedback of stakeholders and adapted proposal (merged auctions)	
Friday 07/05/2021 (13:00-16:00)	5th workshop (capacity auctions and energy) Presentation of 2 possible adapted proposals	
Tuesday 22/06/2021 (14:00-17:00)	6th workshop (capacity auction) Presentation of the final proposal	

Bilateral meetings with stakeholders and with the CREG

General overview
High-level process



Per-CCTU and all-CCTU auctions are merged in D-2 @ 4pm according to following process:

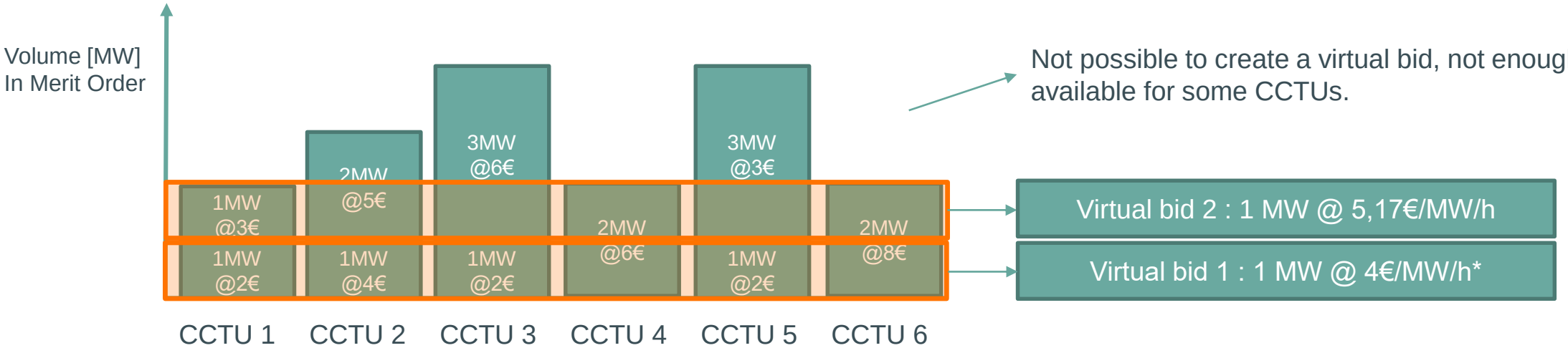
1. Bid submission
2. Creation of “virtual bids” by aggregating per-CCTU bids in 24h bids
3. A 1st all-CCTU auction is used to clear virtual bids selected in the TCO and determine a reference price for Up and Down
4. Clearing of virtual bids in a per-CCTU auction
5. Clearing of remaining volume in a 2nd all-CCTU auction

Bid submission

- Besides the timing, there is no change in the bid submission process
- BSPs can choose to bid a same volume according to per-CCTU principles or the all-CCTU principles

Creation of virtual bids

- Per-CCTU bids are sorted from cheapest to most expensive for each individual CCTU
- Per-CCTU bids are aggregated in "virtual" 1MW 24h as illustrated below (similar to all-CCTU bids)
- Virtual bids can be composed of bids from several BSPs



* Price of virtual bid 1 : $\frac{2+4+2+6+2+8}{6} = \frac{24}{6} \Rightarrow \frac{4€}{MW.h}$

Run all-CCTU auction (1/2)
High-level principles

- The TCO algorithm for the all-CCTU auction remains unchanged compared to the existing design
- The 1st all-CCTU auction is used to
  - ✓ Clear virtual bids selected in the TCO
  - ✓ Determine a separate reference price for Up and Down, that will be used for clearing of per-CCTU auction

- Why do we introduce virtual bids in the TCO?
  - ✓ Analyses have shown that the TCO only is not sufficient to guarantee an easy access to the market to all technologies, but it represents a valuable opportunity when it comes in addition to the per-CCTU auction
  - ✓ From a system cost perspective, including virtual bids in the TCO leads to a more cost-effective solution, even when it means that an higher price than the average TCO price is paid for per-CCTU bids (by definition of a TCO)

Run all-CCTU auction (1/2)
Computation of the reference prices

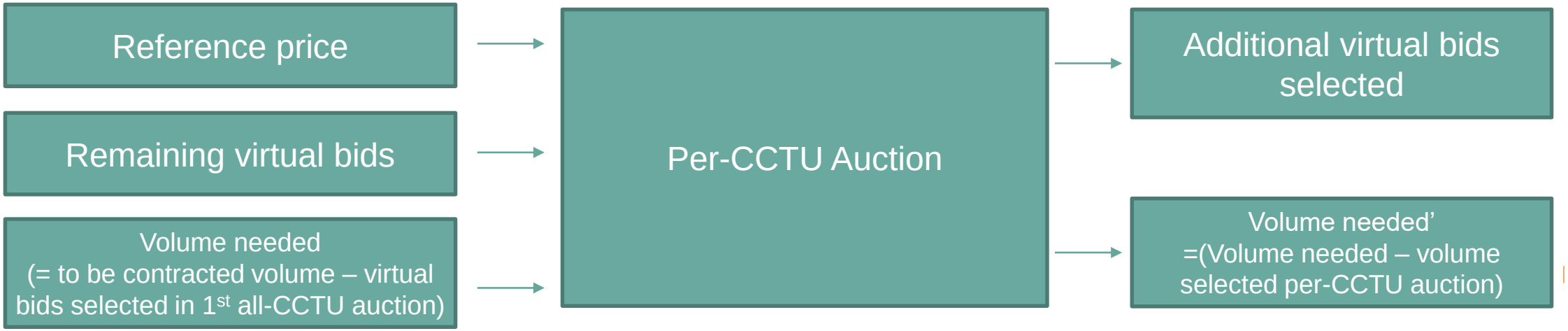
- The reference price will be computed for each direction as the average cost of the 1st all-CCTU auction for a volume corresponding to the contracted capacity, including the virtual bids, with a mark-up

- Need and impact of a mark-up
  - ✓ Having a mark-up was a strong request from new entrants, who state that it's needed to compensate for the limited predictability of the reference price, which would lead them to be systematically remunerated under the prices of the TCO
  - ✓ Elia identified risks on the robustness of the design if a mark-up was introduced

- After further analyses and discussion :
  - ✓ The mark-up will be set at 20%
  - ✓ The CREG can decide to reduce the mark-up when they judge it necessary for the good functioning of the aFRR capacity market

Run per-CCTU auction

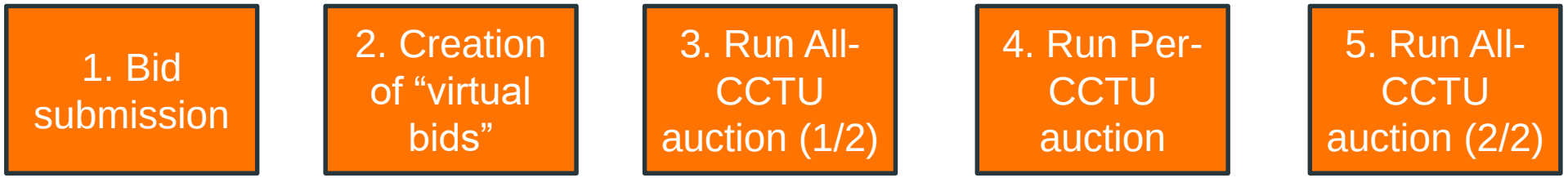
- In this step, **<u>virtual bids with a price below or equal to the reference price are selected</u>**
- Different from Elia's initial proposal, where the average per-CCTU cost had to remain below the average all-CCTU cost. After discussion with market parties, the mark-up on the average TCO price has been favored to this approach as:
  - ✓ The solution is expected to allow per-CCTU bidders to get close to the average cost of the TCO
  - ✓ It improves transparency
  - ✓ It improves predictability for per-CCTU bidders. In the initial proposal, per-CCTU bidders had to count on conservative bidding from competitors towards the forecasted price to be able to benefit from the mechanism



Run all-CCTU auction (2/2)

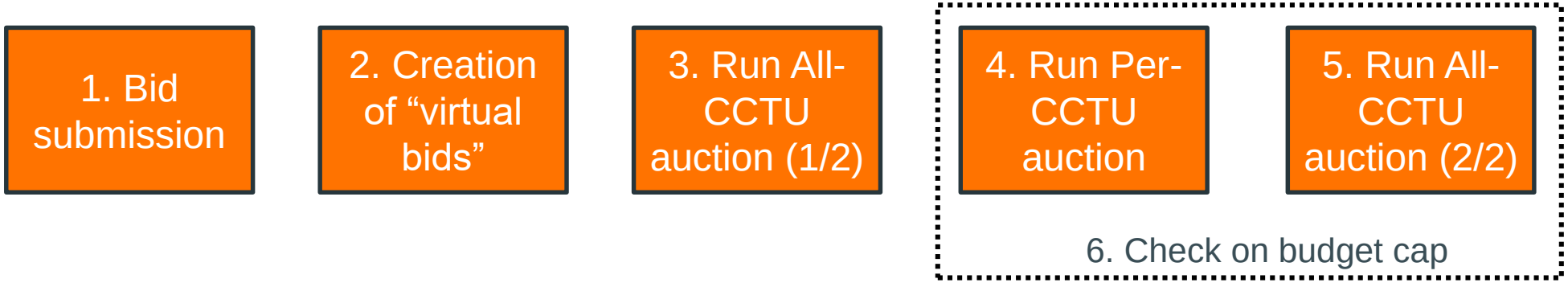
- The remaining volume is procured in a 2nd all-CCTU auction, with both all-CCTU bids and remaining virtual bids in order to maximize chances for virtual bids to be selected and optimize the costs for the system

Summary



1. Bid submission
2. Creation of “virtual bids” by aggregating per-CCTU bids in 24h bids
3. A 1st all-CCTU auction, which includes the virtual bids in addition to the all-CCTU bids, is used to:
   - ✓ Clear virtual bids selected in the TCO. These virtual bids are selected whatever happens in next steps
   - ✓ Determine for Up and Down the reference price as the average price with a mark-up. The mark-up is set to 20% and can be reduced by the CREG
4. Run per-CCTU auction: virtual bids with a price below or equal to the reference price are selected
5. Clearing of remaining volume in a 2nd all-CCTU auction, which includes all-CCTU and not yet selected virtual bids

In a 2nd stage: implementation of a budget cap



- The 1st all-CCTU run results in the most cost-effective solution, as it includes all bids received
- The per-CCTU auction is needed to open the market to new entrants, but it degrades the economic optimum. As per-CCTU volumes increase, these additional costs could become significant

  ➔ Introduction of a 20% cap on the extra allowable costs for clearing per-CCTU bids

- As there is no need expected on the short-medium term and that there are some design-related questions to be analyzed and discussed, the budget cap is to be implemented in a 2nd stage, based on a monitoring of the market conditions

Conclusions and next steps

- Elia and the CREG believe the compromise solution represents a balance between the market parties:
  - ✓ It's robust, avoiding design-related price spikes and mitigates the risks of cost increase
  - ✓ It allows an access to the market to all competitive technologies
  - ✓ It limits the increase in complexity and ensures a transparent price formation
- The feedback received during the stakeholder workshop on the 22nd of June showed support towards the proposal
- Planning: objective is to combine the go-lives of aFRR design evolutions for energy (PICASSO) and capacity in April 2022 ➔ see next presentation on the update of the roadmap
- Further evolutions of the aFRR capacity design can be discussed after go-live based on:
  - ✓ What we'll learn from the return of experience after the go-live and from the evolution of the market with new volumes prequalifying
  - ✓ Motivated request from stakeholders (volumes that could be unlocked or issues encountered with the design)

Roadmap 2021-2022: Update

Presented by Cécile Pellegrin

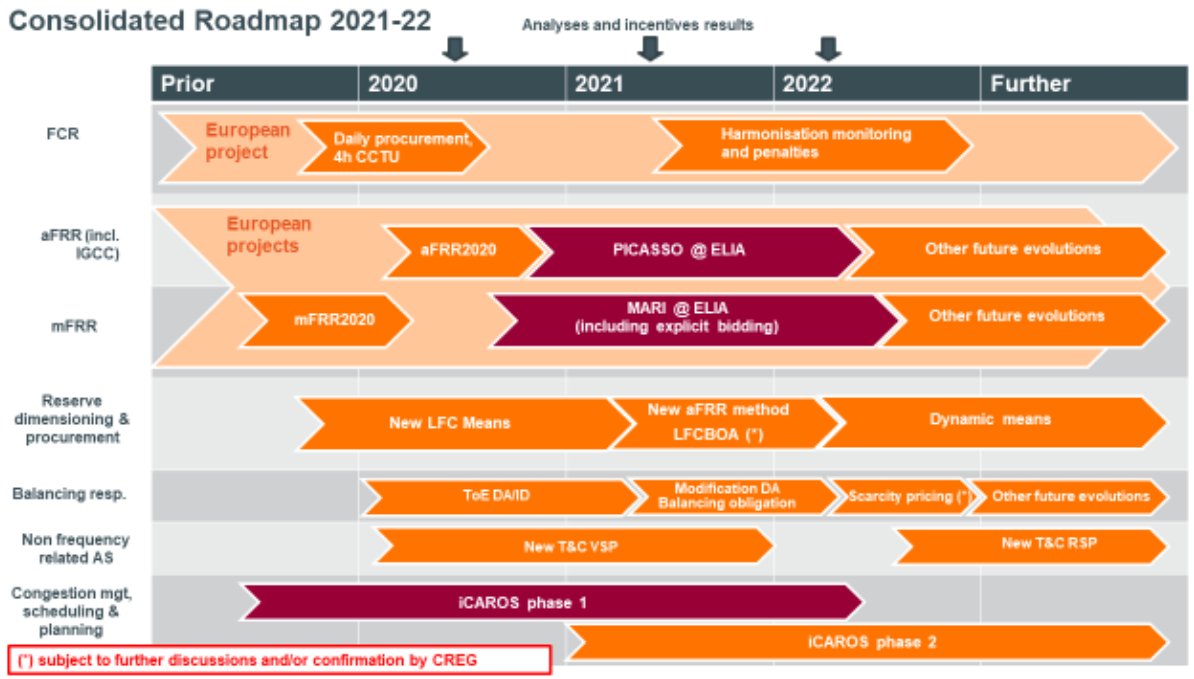
Agenda

- Introduction (based on reminders from WG Balancing meetings)
- Readiness check feedbacks
- Roadmap update proposal
- Stakeholder management interactions (next steps)

Reminder

Introduction (reminder from WG BAL 29/01/21)

- Consolidated roadmap 2021-22 presented and discussed during the WG BAL of 28/10/20
- Appreciation and importance of having such a roadmap as priorities were confirmed: PICASSO, MARI and iCAROS phase 1 are the highest priorities
- Based on the received feedbacks, adjustments were done and presented during the WG BAL of 23/11/20
- Consolidation presented and confirmed in UG



Reminder

Modifications for MARI, PICASSO & iCAROS implementation (WG BAL 29/01/21)

- Go live dates will be postponed with ~2 months when keeping the present deadline for the technical guides meaning :
  - Local go live of the new mFRR bidding and iCAROS phase 1 in early Q2 2022
  - Connection to EU aFRR balancing energy platform in Q2 2022 (PICASSO) (in respect of the legal deadline)
  - Connection to EU mFRR balancing energy platform in late Q2 2022 (MARI) (in respect of the legal deadline)

- Interactions with market stakeholders and support will be facilitated

- An additional check for readiness will be organized at the latest in Q4 2021

- “Flexibility” for consultations period (assessment - 8 weeks consultation window including longer than normal consultation period- will be further defined when updating the consolidated view of all consultations)

Reminder

Feasibility/Readiness check current planning (*) (WG 06/05/21)

- We reached early June the point where:
  - The designs for aFRR (energy part) and mFRR were deeply discussed offering a better understanding of the coming changes;
  - The need of evolution for aFRR Capacity design was confirmed and the updated design is being discussed, with a view to conclude before the end of June 2021;
  - First version of technical guides for aFRR (Picasso) – iCAROS – mFRR (MARI) implementation were sent on the 21st of May;
  - A joint aFRR (Picasso) – iCAROS – mFRR (MARI) Workshop focusing on the IT implementation of future data exchange took place on the 3rd of June.
- Based on different ah hoc informal feedbacks received, ELIA has understood that the current planning for mFRR and iCAROS phase 1 would seem to be extremely challenging for some market parties.
- Elia decided to launch a readiness check in the month of June (announced in last WG BAL and email sent out 09/06/21) in order to confirm and/or adapt the foreseen planning. Purpose was to collect feedbacks in preparation of the WG Balancing of 28/06/21 in order to be able to present and discuss the resulting output during the meeting, as the impact on consultation planning.
- ELIA will take into account the results of this readiness check and acknowledges the importance of the readiness of all parties for a successful implementation. Nevertheless we need to balance this with the high priority of these projects that clearly has been confirmed and acknowledged by the market parties.

(*) as confirmed in WG BAL 29/01/21

Readiness check feedbacks (focussed on planning)

- Appreciation of the organised workshops, of the respect of planning for the distribution of the technical guide and of the quality of the document.

- Planning for aFRR/PICASSO - including the addition of the evolution on aFRR Capacity design - remains challenging but feasible (as far as aFRR design stabilises on short term).

- **Present planning for iCAROS and mFRR/MARI is not sufficient for market parties to be ready. A report of 6 months at least would be needed** (as far as design could be finalized during the summer)
    - Switch to explicit bidding and to MARI standard products implicate a fundamental change
    - Development can only be started when design is fully stabilised (some key questions remain on the current design proposal).
    - Sufficient implementation time is needed to ensure the participation and avoid negative effects on liquidity

NB : Market parties indicated that more time is needed for a detailed analysis of the technical guides and effective confirmation of the new implementation timeframe

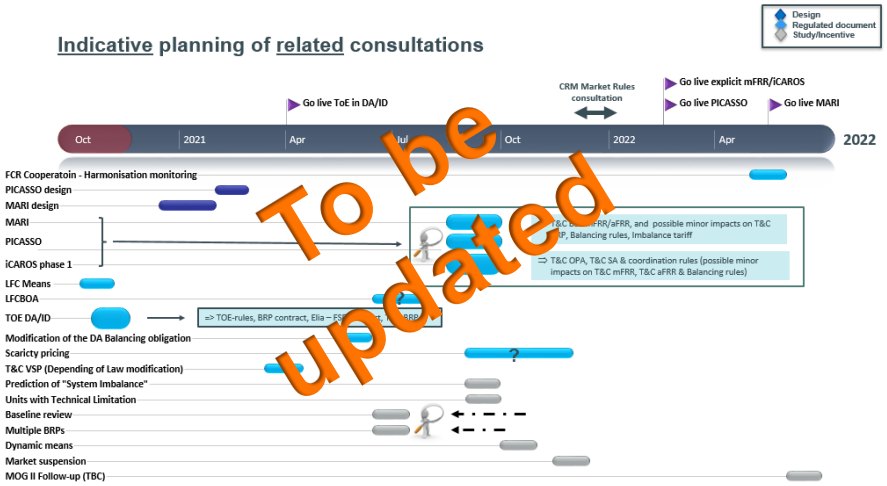
Roadmap update proposal

- ELIA’s internal feasibility assessment confirms a similar shift need (aFRR Capacity, mFRR design finalisation).
- As a consequences, 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.**

Impact on the preparation of regulated documents and consultation



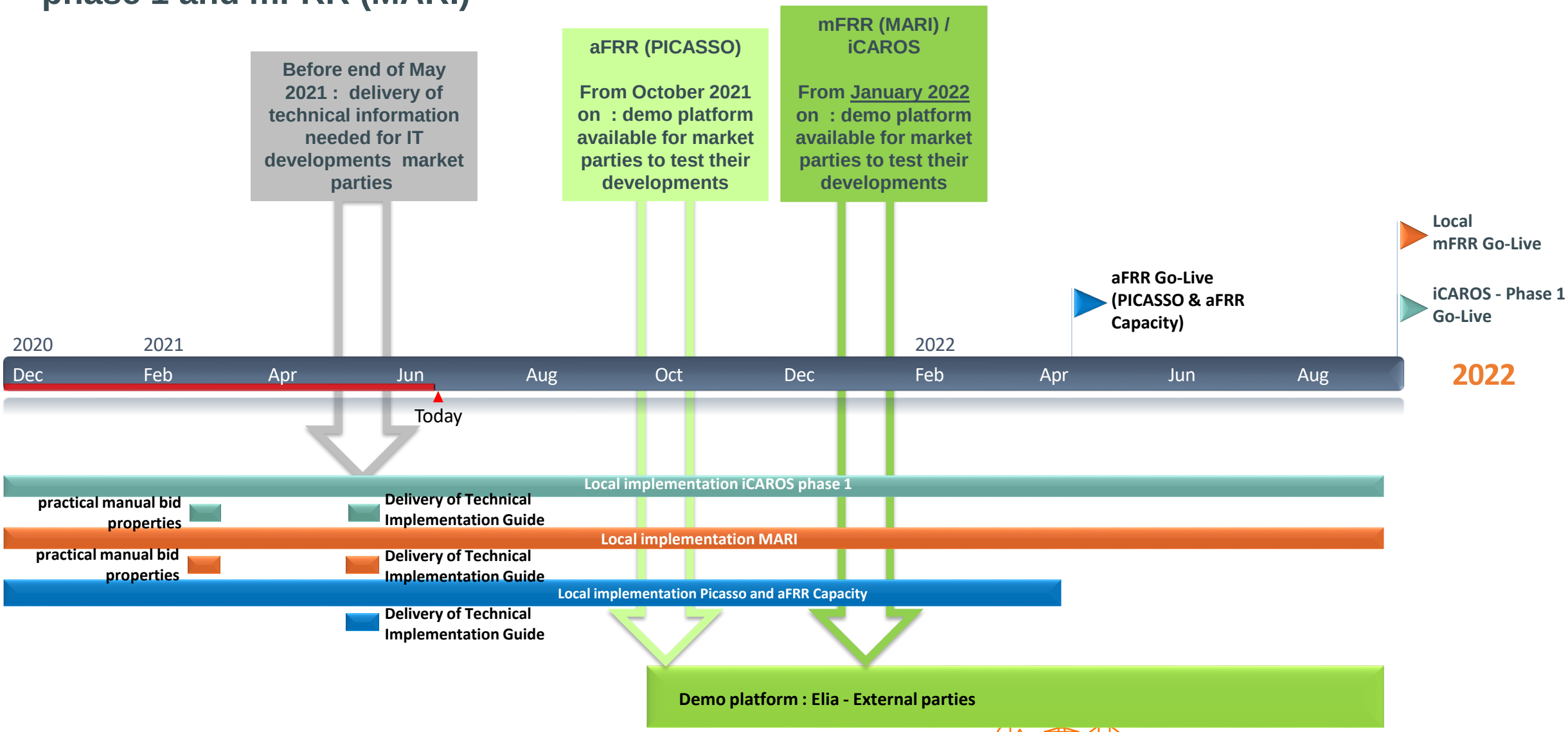
- A separate track will be defined for
  - aFRR (jointly for aFRR capacity and aFRR energy/PICASSO) on one side
  - mFRR/ICAROS phase 1 on the other side

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

- Planning has been detailed and updated for aFRR/PICASSO : consultation of market parties will take place from November to December 2021.

- Preparation of the derogation will be added to the regulatory track.

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



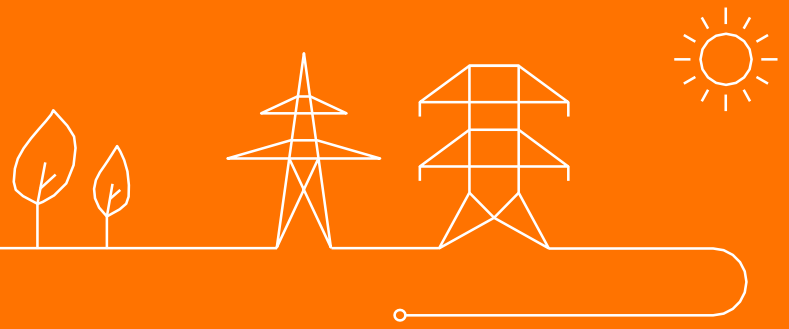
Demo platform : Interoperability testing between Elia applications and External applications of Outage Planning Agent, Scheduling Agent and BSP. Done in test environment with test data.

Stakeholder management interactions

- *Further workshops on mFRR, iCAROS phase 1 and aFRR Capacity designs took place*
- *Technical guide was communicated and a 1st joint mFRR- iCAROS Workshop focusing on the IT implementation took place on the 03/06*
- *Next planned interactions:*
  - *Early July – Publication of the Q&A on technical guide (including priorities on PICASSO testing)*
  - *End June/Early July – Communication of updated mFRR design note*
  - *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]*
  - *A 2nd release of Technical Guide will be issued in Q4 of 2021*

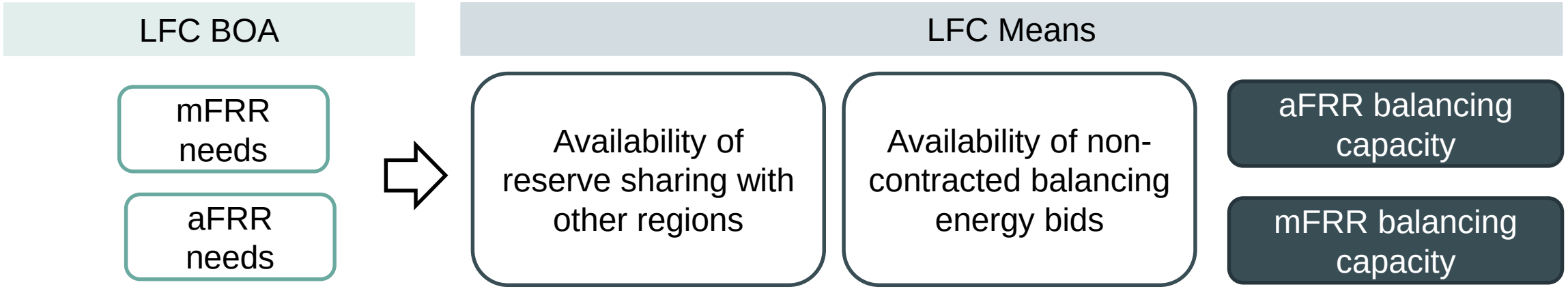
Dynamic FRR means study: methodology

Presented by Kristof De Vos



Context of the study

RECAP



- 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 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

RECAP

Question : can Elia's available non-contracted balancing energy bids for the next day be predicted and impact the 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 is 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

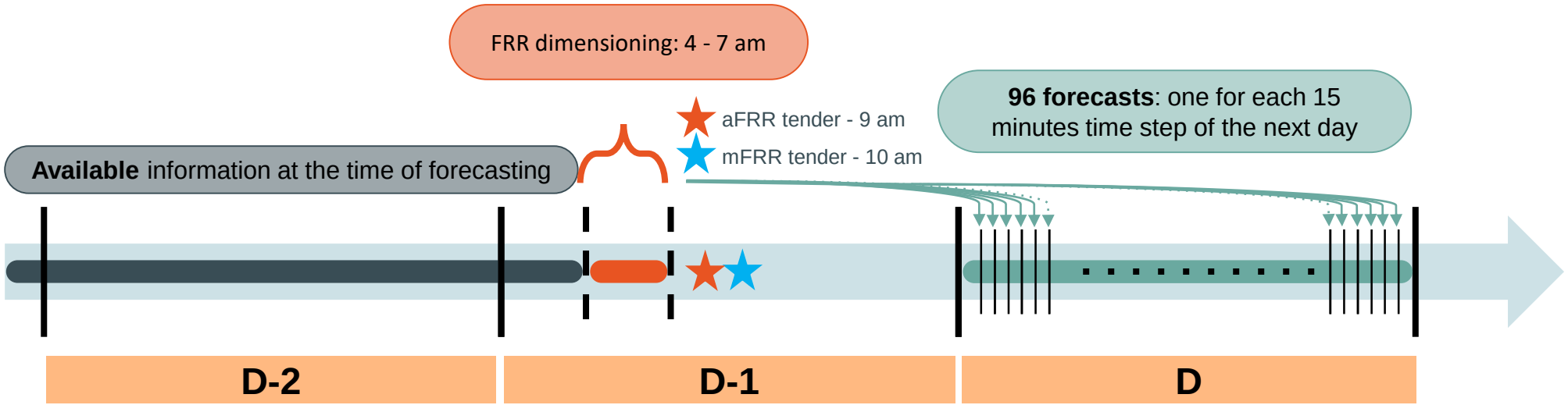
Principle 1

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)

1

Non-contracted balancing energy bids

- Based on available regulation capacity (Elia website)
- Corrected for non-scheduled slow start units (cf. CCGT)
- 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

Explicit bidding
(as from October 2020)

5

aFRR non-contracted balancing energy bids

Investigated features

Load

- Total load forecast
- DSO connected 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
- CO_2 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

- 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 Irradiaton 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

**Limited data for the DE-border (available since November 2020)*

Model selection

Performance
Simplicity
Suitability

1 5

★ *Recommended for Proof of Concept*

Less 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 can 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

More sophisticated methods

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

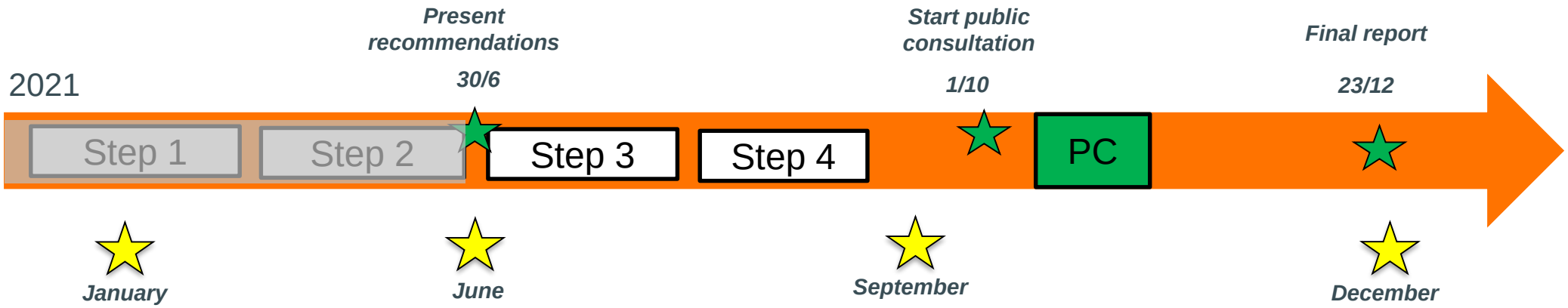
- High performance in general, versatile and averse to overfitting.
- Less interpretable as the decision trees
- Boosting and fine-tuning give great results in practice

Neural networks ★ 5 2 5

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

WG Balancing presentations are foreseen :
kick-off and for every milestone

Next steps



Kick-off

- Present objective, scope and planning
- Collect potential feedback / expectations from market parties

Intermediate presentation

- Recommendations on the input features and selected methods
- Present approach for the comparative analyses

Public Consultation

- Present a draft of the full study to the stakeholders (report)
- Collect suggestions and remarks and answer via consultation report

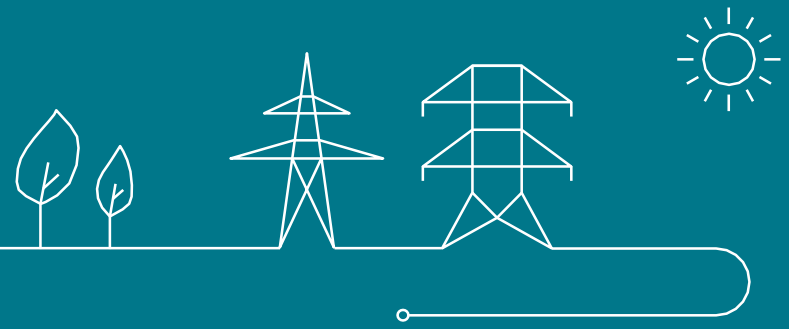
Final report

- Publication final report
- Discuss conclusions and consultation report (if needed**)**

AOB

AOB – Energy Management Strategy

Presented by Philippe Magnant

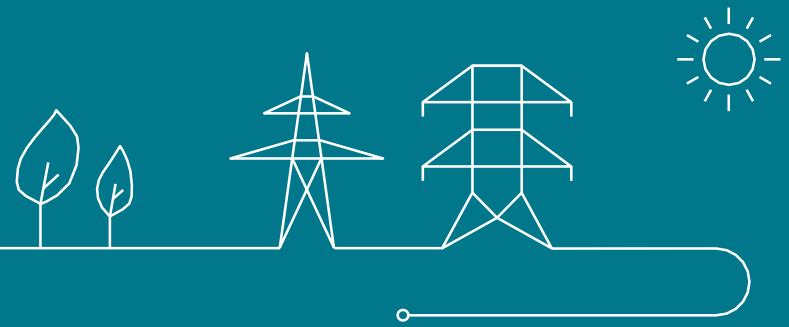


Energy Management Strategies

- With increasing volumes of assets with limited energy reservoir expected to participate to the balancing markets, it is necessary to define requirements to which energy management strategies need to comply
- Elia will initiate discussions with interested market parties in July, with the objective to define an approach towards the definition of requirements by September
- Market parties who did not yet show interest and would be willing to provide input on the topic are welcome to contact their KAM energy and Philippe Magnant (philippe.Magnant@elia.be)

AOB - Go-live of ToE DA/ID

Presented by Kris Poncelet



Go-live Transfer Of Energy for DA/ID Markets on 1st of July 2021

- New version of the ToE Rules:
  - Accessible via the following link
  - Explanatory note of the changes to the ToE Rules accessible via the following link

- New version of the T&C BRP:
  - Adaptations relative to:
    1. Implementation ToE for DA and ID markets
    2. Evolution of the market time unit for intraday cross-border exchanges
    3. Adaptations to general, legal and financial aspects based on requests made by the CREG and the VREG in earlier decisions
  - Accessible via the following link
  - Explanatory notes of the changes to the T&C BRP are accessible via the following link

- New FSP Contract DA/ID:
  - Accessible via the following link

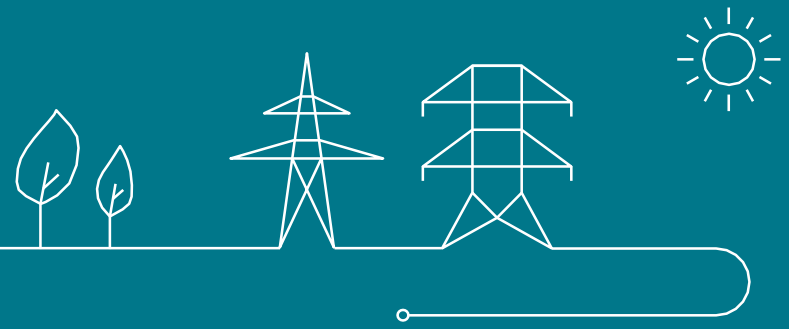
- Technical documentation:
  - Accessible via the following link

AOB - Public consultation of pricing methodology (price cap)

Presented by Nicolas Pierreux

AOB – Next WG Balancing Date

Presented by Chim Didier



Next WG Balancing

- 15/09/2021 – 09:00 – 12:00
- 28/10/2021 – 13:00 – 16:00
- 08/12/2021 – 13:00 – 16:00