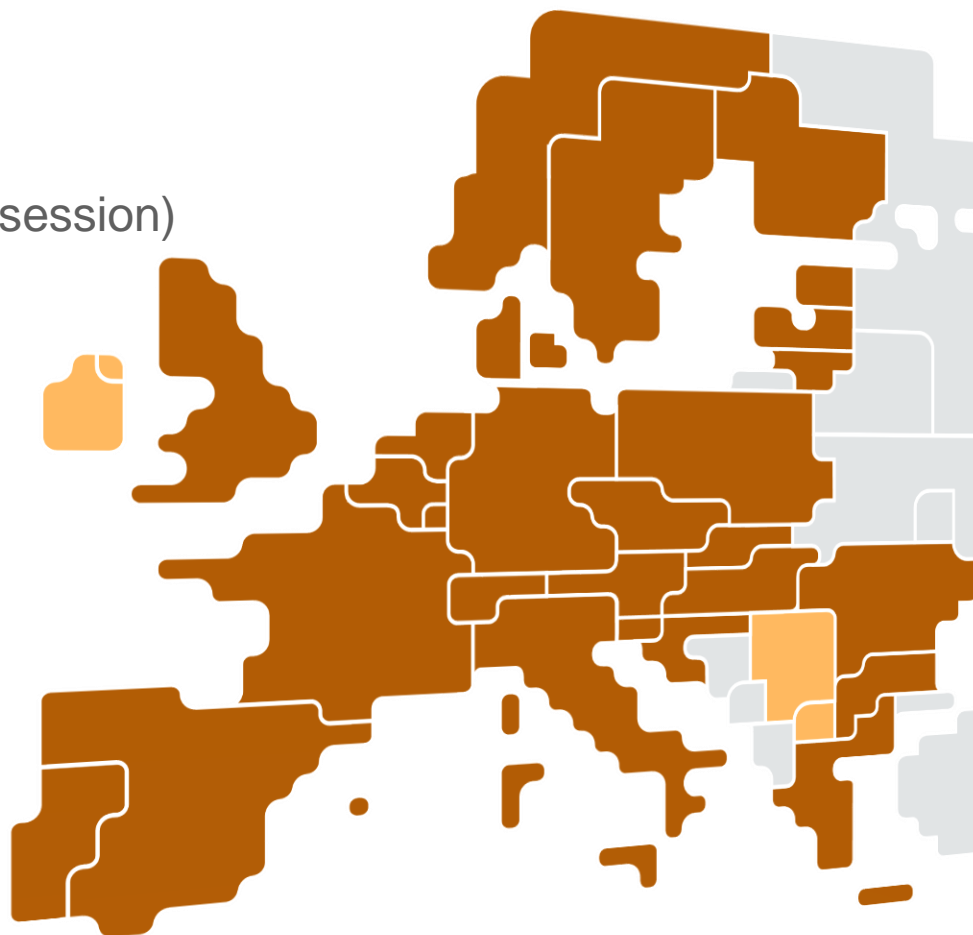


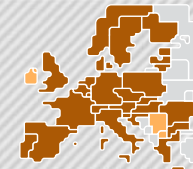


# PICASSO MARI

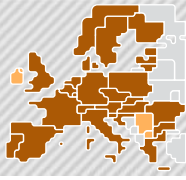
Stakeholder Workshop

02 December 2021 (webinar session)





No.	Subject	Duration
1	<b>Welcome &amp; Introduction</b> <ul style="list-style-type: none"> <li>- Welcome to participants</li> <li>- Agenda</li> </ul>	09:00 - 09:10
2	<b>MARI</b> <ul style="list-style-type: none"> <li>- Project planning and progress</li> <li>- Recap on platform design</li> <li>- mFRR bidding design                             <ul style="list-style-type: none"> <li>- Exclusive bids</li> </ul> </li> <li>- MARI's TSO accession roadmap</li> </ul> <p>Q&amp;A</p>	09.10 - 10.40
3	<b>Coffee Break</b>	10.40 - 11.00
4	<b>PICASSO</b> <ul style="list-style-type: none"> <li>- Project planning and progress</li> <li>- Recap on platform design                             <ul style="list-style-type: none"> <li>- High-level-design</li> </ul> </li> <li>- Pricing (with focus on BSP price determination)</li> <li>- Interaction with IGCC</li> <li>- PICASSO's TSO accession roadmap and go-live planning</li> </ul> <p>Q&amp;A</p>	11.00 - 12.30
5	<b>General (common for MARI and PICASSO)</b> <ul style="list-style-type: none"> <li>- Transparency and reporting</li> </ul> <p>Q&amp;A</p>	12.30 - 12.50
6	<b>AOB</b>	12.50 - 13.00



### Physical attendance

- Due to COVID-19 restrictions, the stakeholder workshop is a webinar only

### Online attendance

- All conference participants should mute themselves (and are muted otherwise) to avoid disturbance
- Questions and answers can be provided in the chat function, which is only available when joining the conference on a computer
- Q&A are to be sent to the participant 'Questions & Answers'

### General

- Questions and answers that cannot be answered during the conference will be answered afterwards
- Coffee at 10:40
  - During coffee break, the webinar will remain open



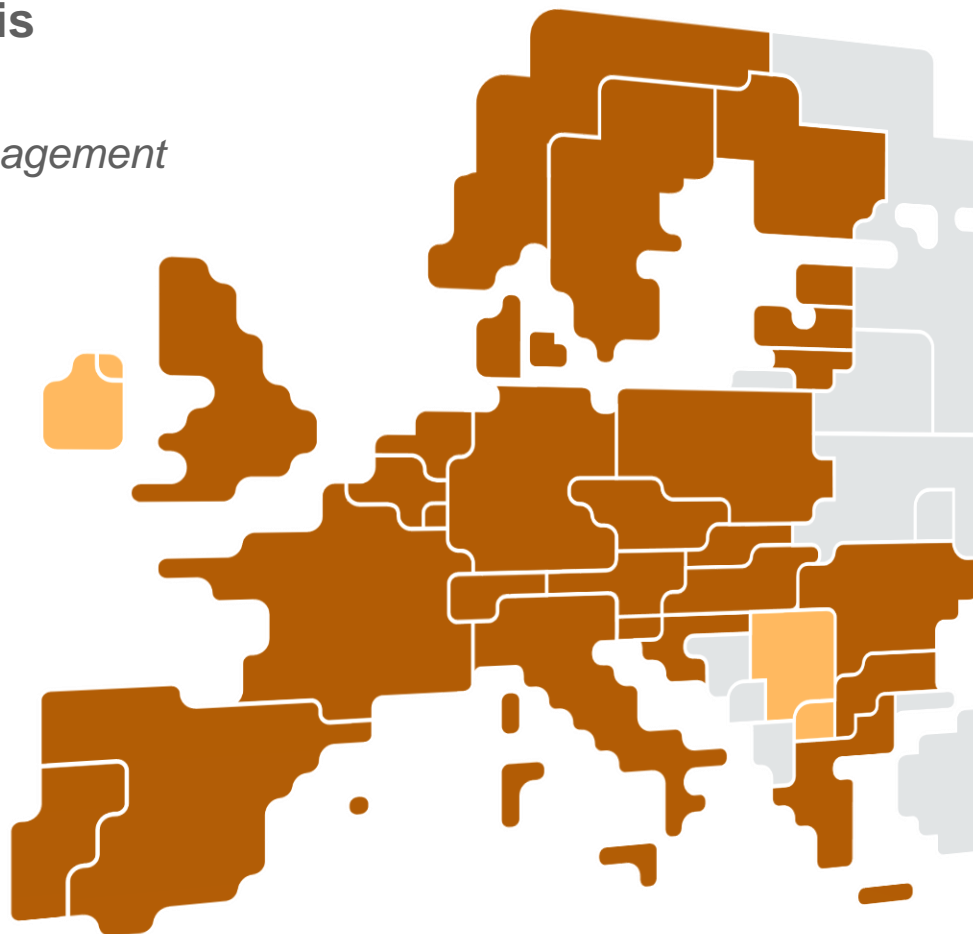
# MARI Project Planning and Progress



**Iason Avramiotis**

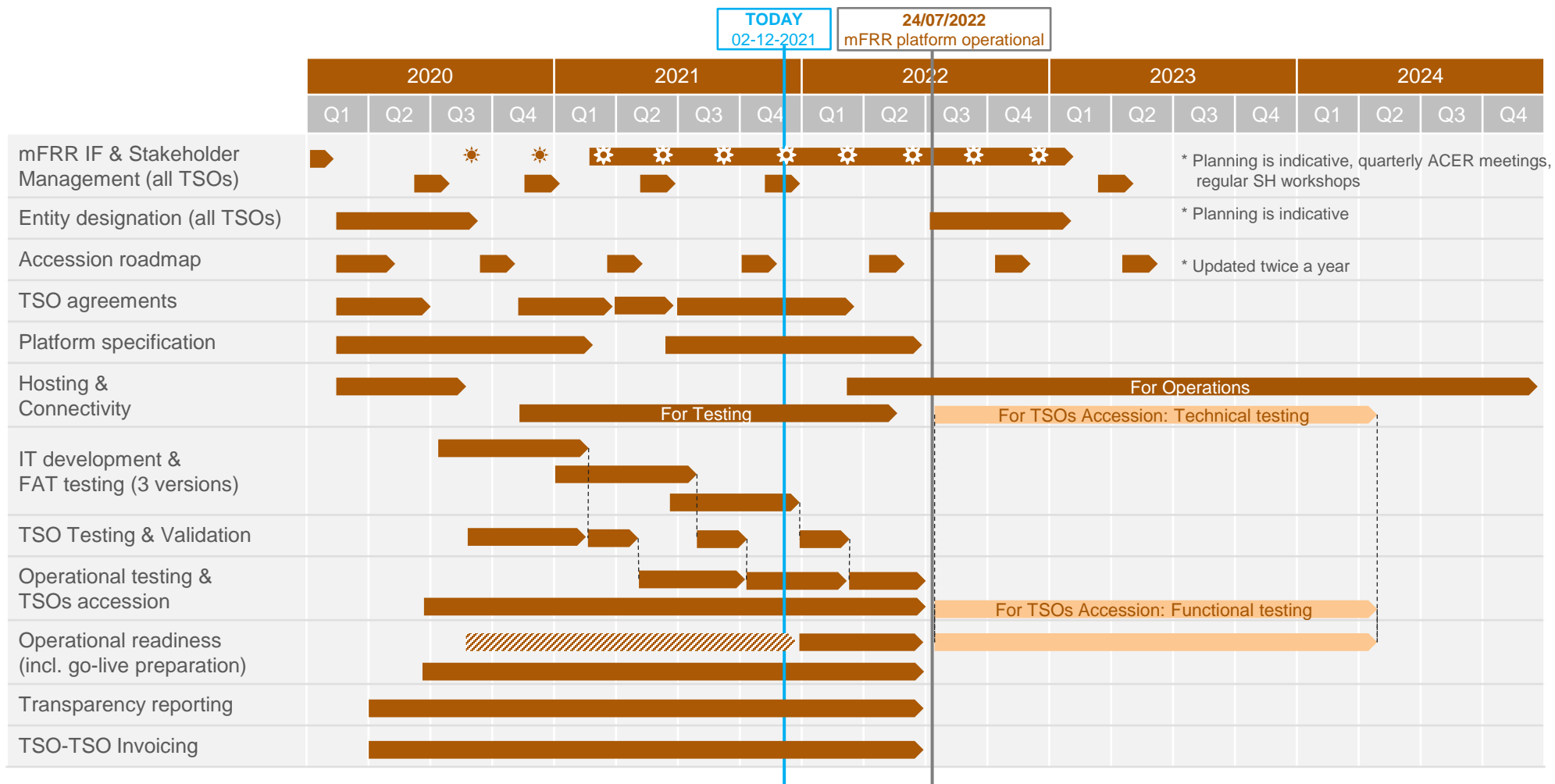
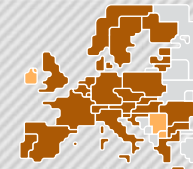
Swissgrid

*MARI Project Management  
Team Member*



# MARI Project Overview

## Project planning

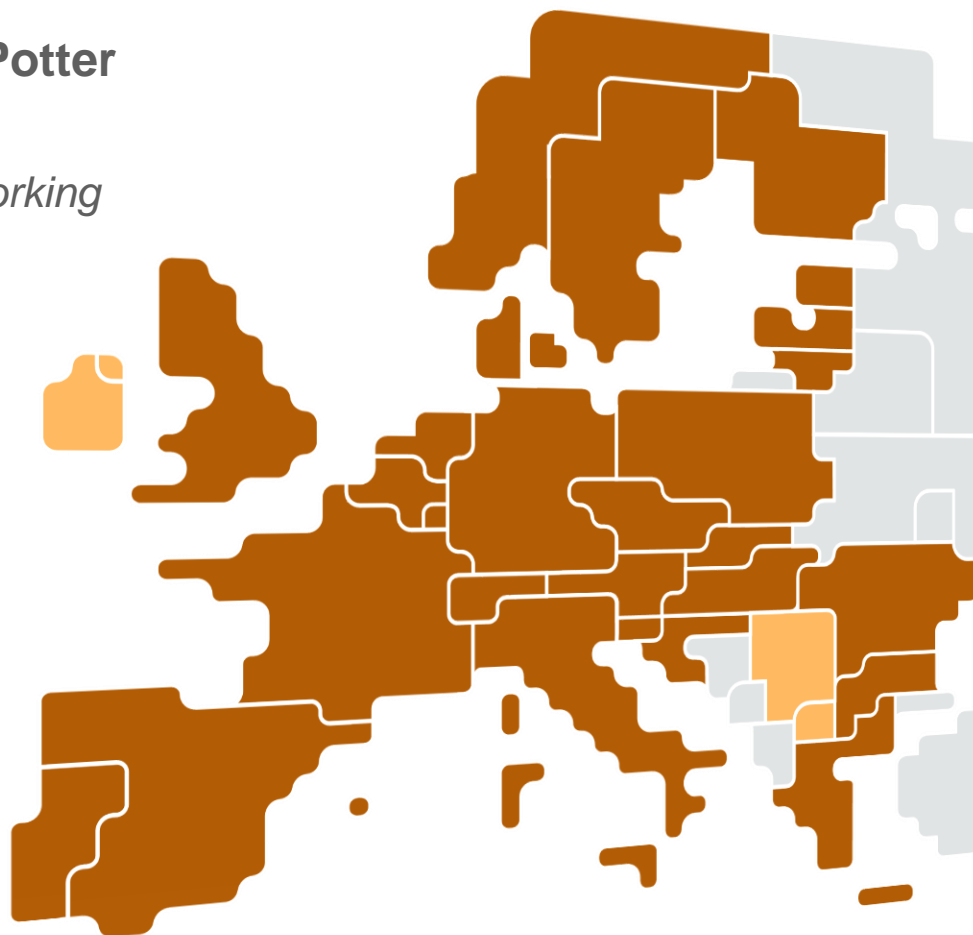




# Recap on MARI Platform Design

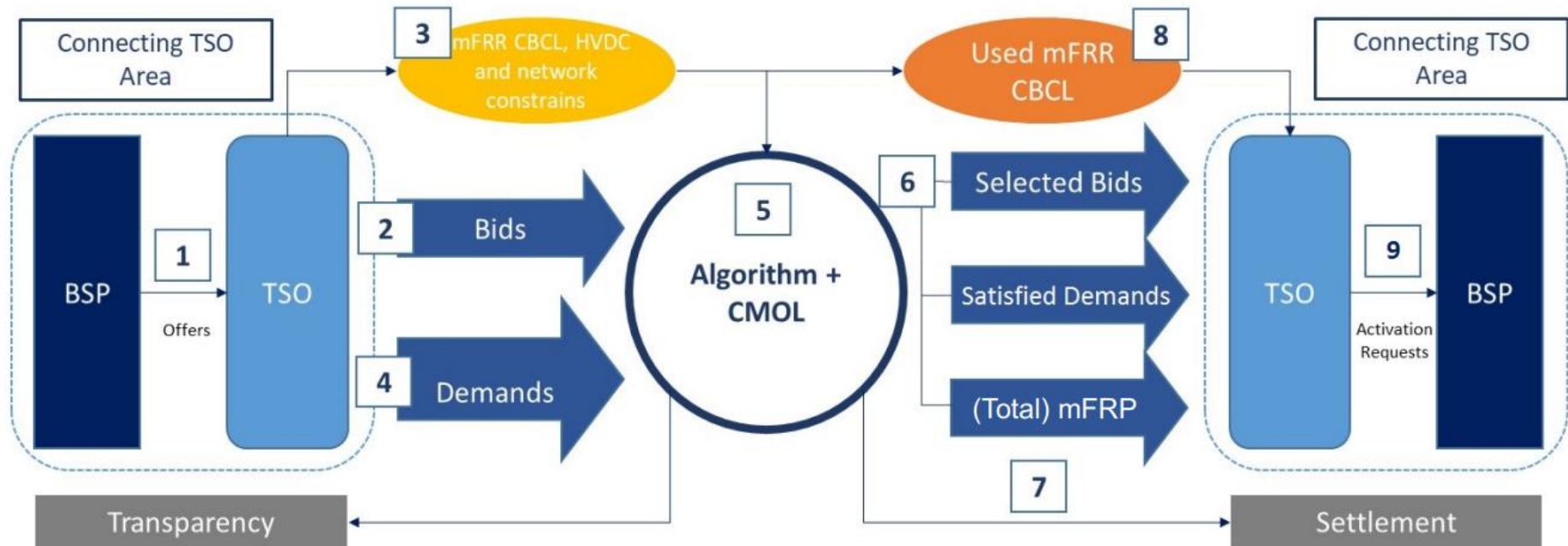
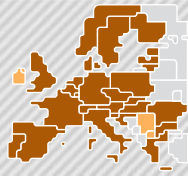


**Caroline Strøh Potter**  
 Energinet  
*MARI Technical Working  
 Group Member*



# The mFRR process

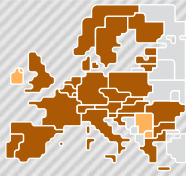
## General Process of mFRR Activation



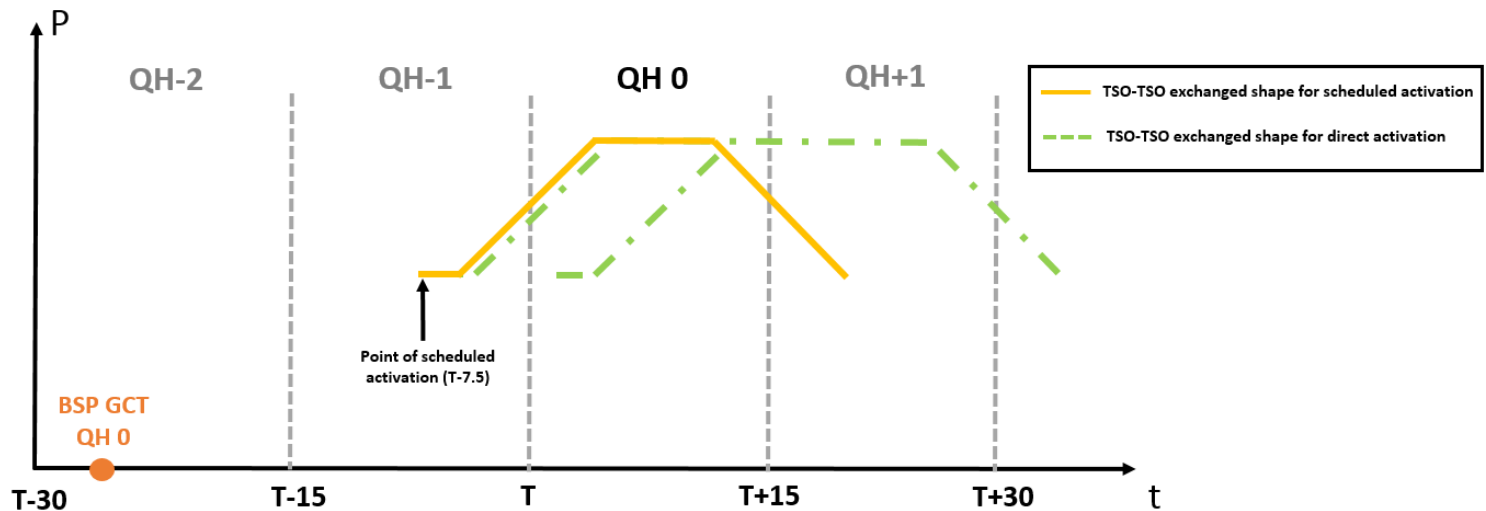
1. TSOs receive bids from BSPs in their imbalance area
2. TSOs forward standard mFRR balancing energy product bids to the mFRR Platform
3. TSOs communicate the available mFRR cross border capacity limits (CBCL) and any other relevant network constraints as well HVDC constraints
4. TSOs communicate their mFRR balancing energy demands

5. Optimization of the clearing of mFRR balancing energy demands against BSPs' bids
6. Communication of the accepted bids, satisfied demands and prices to the local TSOs as well as the resulting (total) mFRP\*
7. Calculation of the commercial flows between imbalance areas and settlement of the expenditure and revenues between TSOs
8. Remaining mFRR CBCL are sent to the TSOs
9. TSOs send activation requests to BSPs in their imbalance area



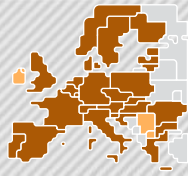


- The standard mFRR product can be ordered either through **Scheduled Activation** or **Direct Activation** with minimum quantity 1 MW.
- BSP's **may choose** if their bids are available for **Direct Activation**.
- The **Full Activation Time** is the **same for both** Scheduled Activation and Direction Activation (12.5 minutes).
- **Scheduled Activation** will be **run every 15 minutes**, once for each quarter hour throughout the day, with delivery for the next full quarter hour.
- **TSO – TSO delivery shape\***:
  - 12.5 minutes Full Activation Time, consisting of
    - 2.5 minutes preparation time (from T-7.5 to T-5)
    - 10 minutes start ramping (T-5 to T+5)
  - **5 minutes full delivery (from T+5 to T+10)**
  - 10 minutes end ramping (from T+10 to T+20)
- **Direct Activation** will **run on-demand**, with delivery from the **remainder of one quarter hour and to the end of the subsequent quarter hour**.
- **TSO – TSO delivery shape\*** (**Direct Activation** in QH0):
  - 12.5 minutes Full Activation Time, consisting of
    - 2.5 minutes preparation time
    - 10 minutes start ramping
  - **5 – 20 minutes full delivery (from T+X to T+25)**
  - 10 minutes end ramping (around the end of QH+1, i.e. from T+25 to T+35)

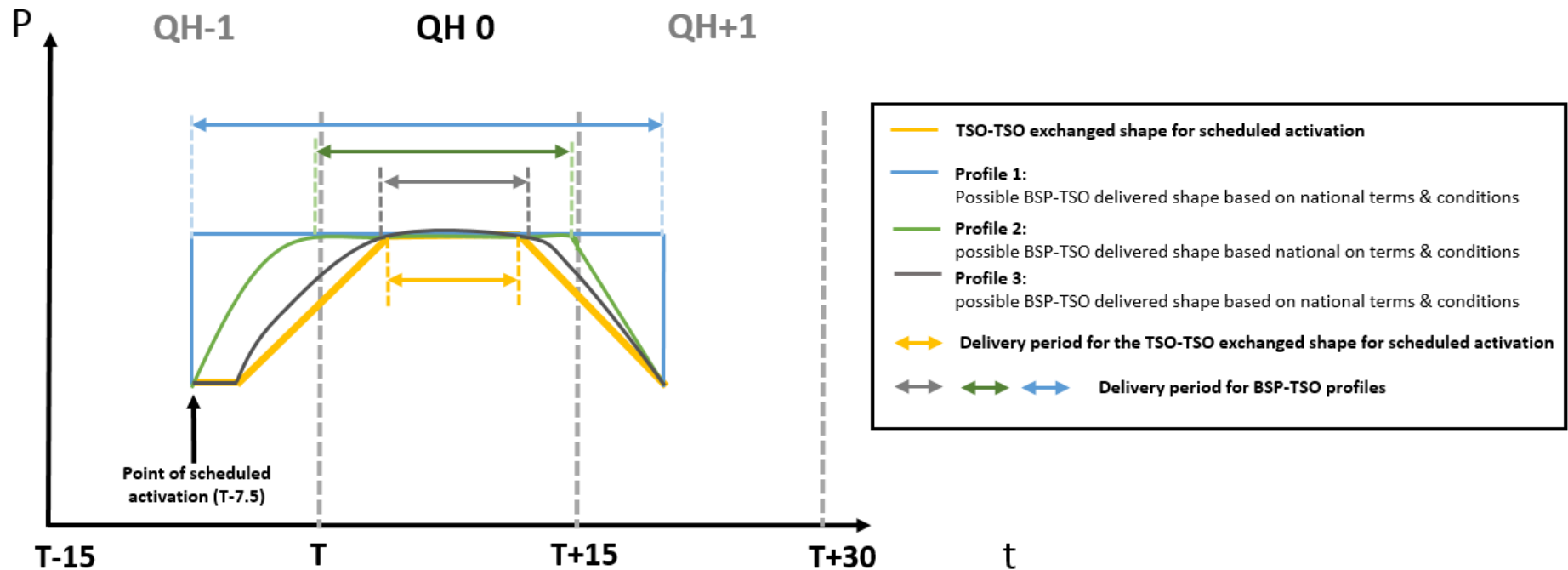


\*TSO – BSP delivery shape will be defined in the national terms and conditions





- The '*BSP-TSO delivered shape*' refers to the actual delivery/withdrawal of certain units.
- Given the variety of **intrinsic differences** between local markets, TSOs management of the system, and pre-qualification requirements **defined in the terms and conditions for BSPs**, bid characteristics defined in the terms and conditions for BSPs **cannot easily be harmonized across Europe at this moment**.
- Below, different possible BSP-TSO delivered shapes are illustrated. These are **examples only** (for scheduled activation) and will be defined locally within each country. **Similar or same rules** shall be defined for **direct activation**.

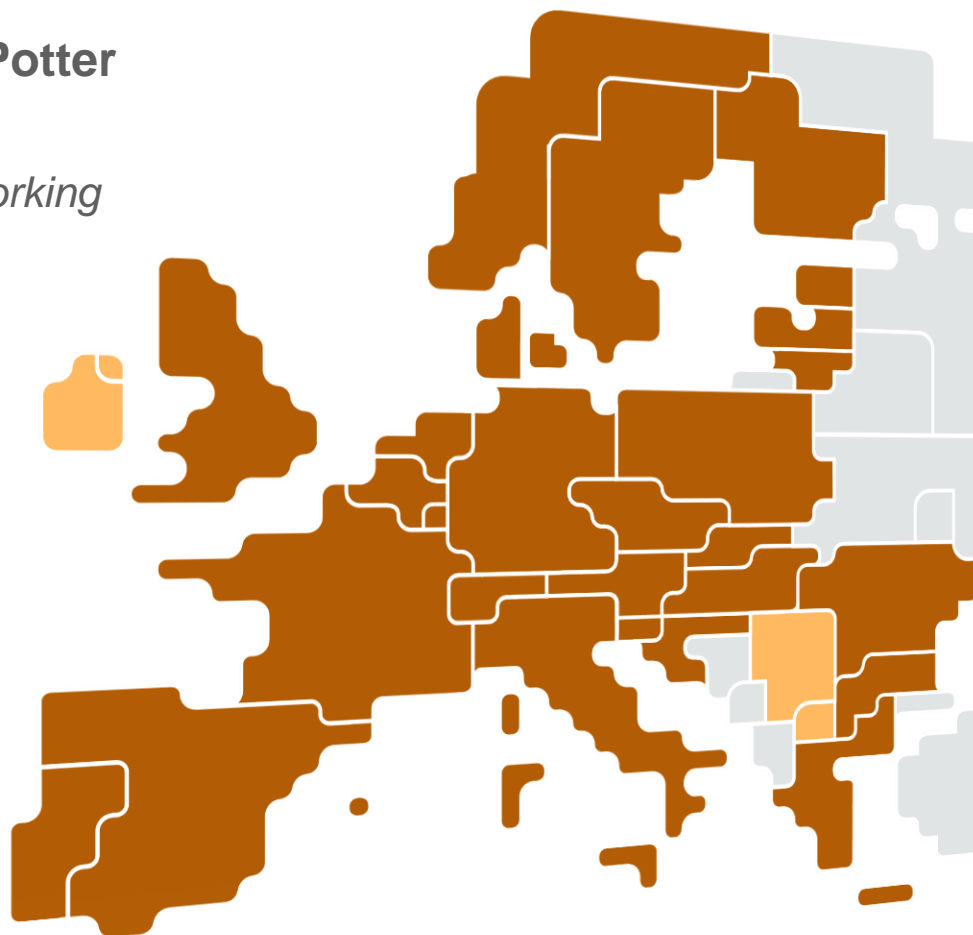


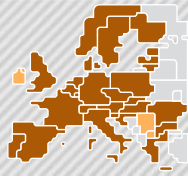


# mFRR Bidding Design



**Caroline Strøh Potter**  
 Energinet  
*MARI Technical Working  
 Group Member*



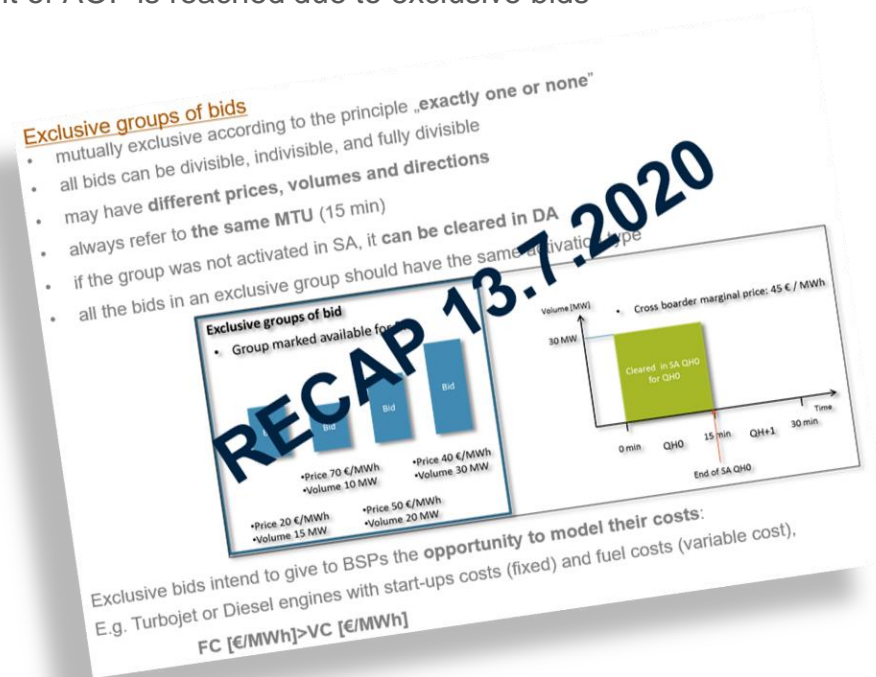


### Introduction

- Each optimization software has certain limits
- There is no risk that no solution will be found by AOF, but when certain limits are reached, the solution may not be optimal
- Early performance study indicated that potentially a technical limit of AOF is reached due to exclusive bids

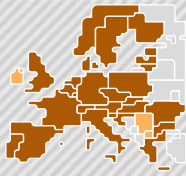
### Exclusive bids - recap

- Exclusive bids are mutually exclusive according to the principle “exactly one or none”.
- They may have different prices, directions and volumes. They must have the same activation type and availability status.
- Exclusive bids always refer to the same MTU period.



### Way forward

- Design of limitations rules including Action plan (see next slide)
- Target limitation solution
- Design of monitoring solution
- Detailed performance study to assess maximum algorithm can process (during V3 phase)
- Technical study to assess how the algorithm can be optimized to improve the performance



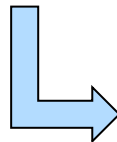
Process for evaluation of applying limitations:

### 1. Improvement of AOF

(continuously improve the performance of the AOF regarding acceptable volumetrics of exclusive bids)

### 2. Monitoring & Guidance

(starting from MARI platform go-live, avoid having non optimal results from the AOF)



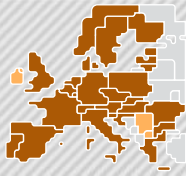
### 3. Applying of hard limitations

(when total limit exclusive bids is reached or if optimality gap is  $>10\%$ )

#### 1. Improvement of AOF

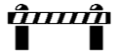
- Technical study to assess how the algorithm can be optimized to improve the performance indicated following possible improvements of AOF:
  - Optimization parameters of AOF - optimized based on the performance and production test cases.
  - New developments of AOF:
    - Improve data process
    - Improve numerical stability

If improvements are insufficient or no further AOF improvement is possible in due time, then limits on the number of exclusive bids shall be applied on platform level & TSO level.



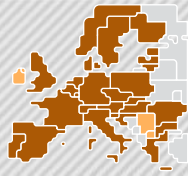
### 2. Monitoring & Guidance

- Monitoring: starting from go-live based on KPIs (usage and optimality indicators) on platform level
- Principle: the amount of restriction is known beforehand so that the BSPs may adapt their bidding strategy to prevent the occurrence of non optimal solution and so the application of a hard limitation
- Goal: Avoid having too often a non optimal solution from the AOF due to an excessive number of exclusive bids
- Solution: to apply **soft cap** on exclusive bids (i.e. each TSO has an assigned limit on the number of exclusive bids, sharing key under discussion), which will be communicated to the local BSPs as guidance



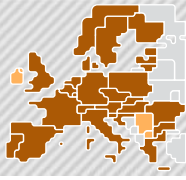
### 3. Applying of hard limitations

- In case that the guidance (i.e. soft cap) is not successful (i.e. BSPs will submit a larger number of exclusive bids than the technical limit on the platform), which will result in reaching the overall limit of exclusive bids, a **hard cap** will be applied, (i.e. recommended limits will be strictly applied and validated in local systems and also on platform level, therefore exclusive bids would be rejected if for one MTU the cap is reached)
- How to set limits per TSO:
  - Exclusive bids sharing key
- How to split each TSO limit within local BSPs
  - It is up to each TSO how to split limits within local BSPs
- When to start with applying limits:
  - How often to monitor
  - Decision body for applying mitigations
  - Timeline for applying mitigations
  - Each TSO to provide guidance on possible limitation to local BSPs


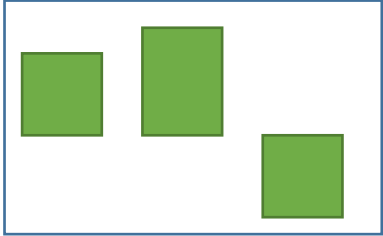
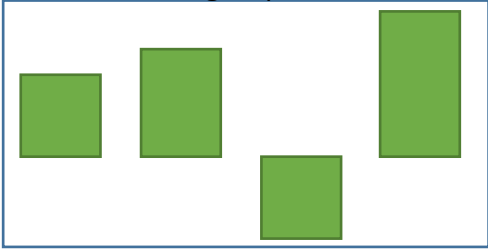

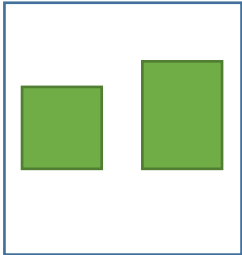
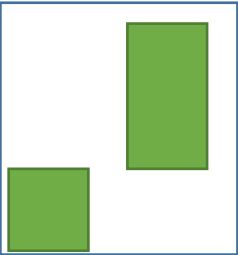


### Summary

- At the Go-Live, no Hard restriction regarding exclusive bids will be imposed to any BSPs (only guidance)
- For the purposes of triggering the application of limits (hard cap), three of the following conditions must be fulfilled.
  1. No further AOF improvement is possible in due time.
  2. Gap from optimal solution due to the high number of exclusive bids is above 10 %
  3. Occurrence of above-mentioned gap is more than 4 times per day during period of 7 consecutive days.



Note: It does not matter the number of exclusive groups but the number of bids included in the exclusive groups, i.e "Exclusive bid" (see example below)

Example 1	<div>Simple bid</div>  <div>Exclusive group</div> 	Number of exclusive bids = 3
Example 2	<div>Simple bid</div>  <div>Exclusive group</div> 	Number of exclusive bids = 4
Example 3	<div>Simple bid</div>  <div>Exclusive group 1</div>  <div>Exclusive group 2</div> 	Number of exclusive bids = 4





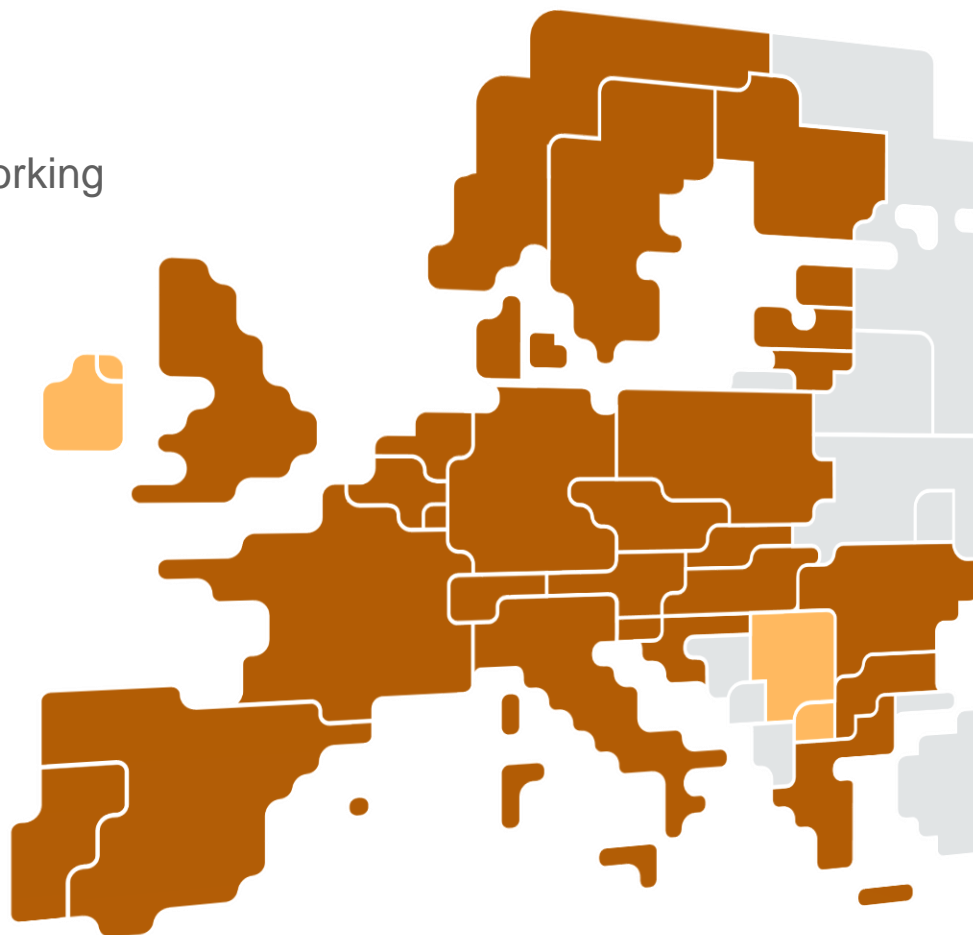
# MARI Project Timing

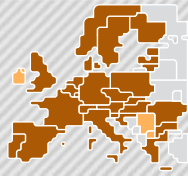


**Fabian Heus**

E-bridge

MARI Technical Working  
Group Convener

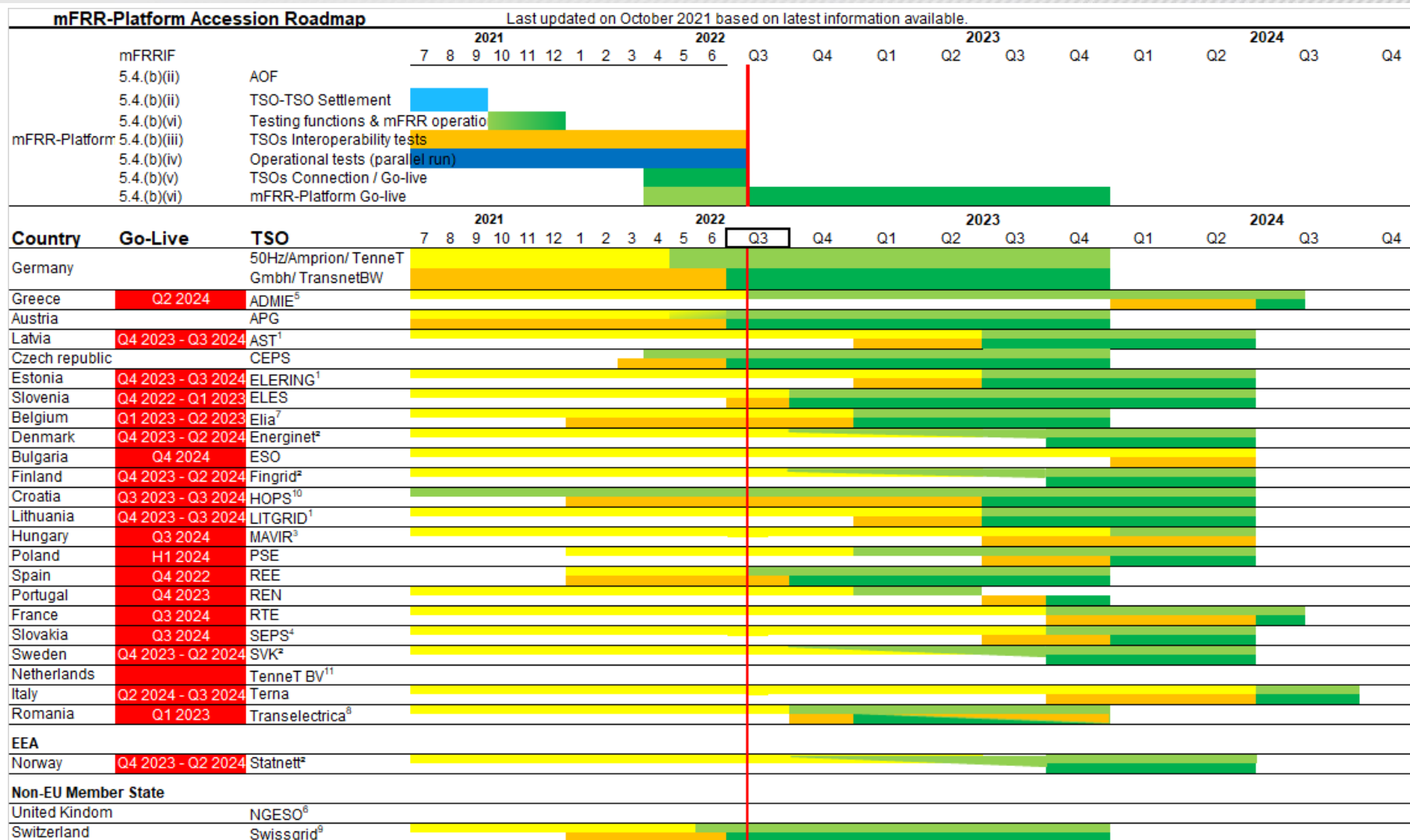
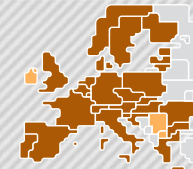




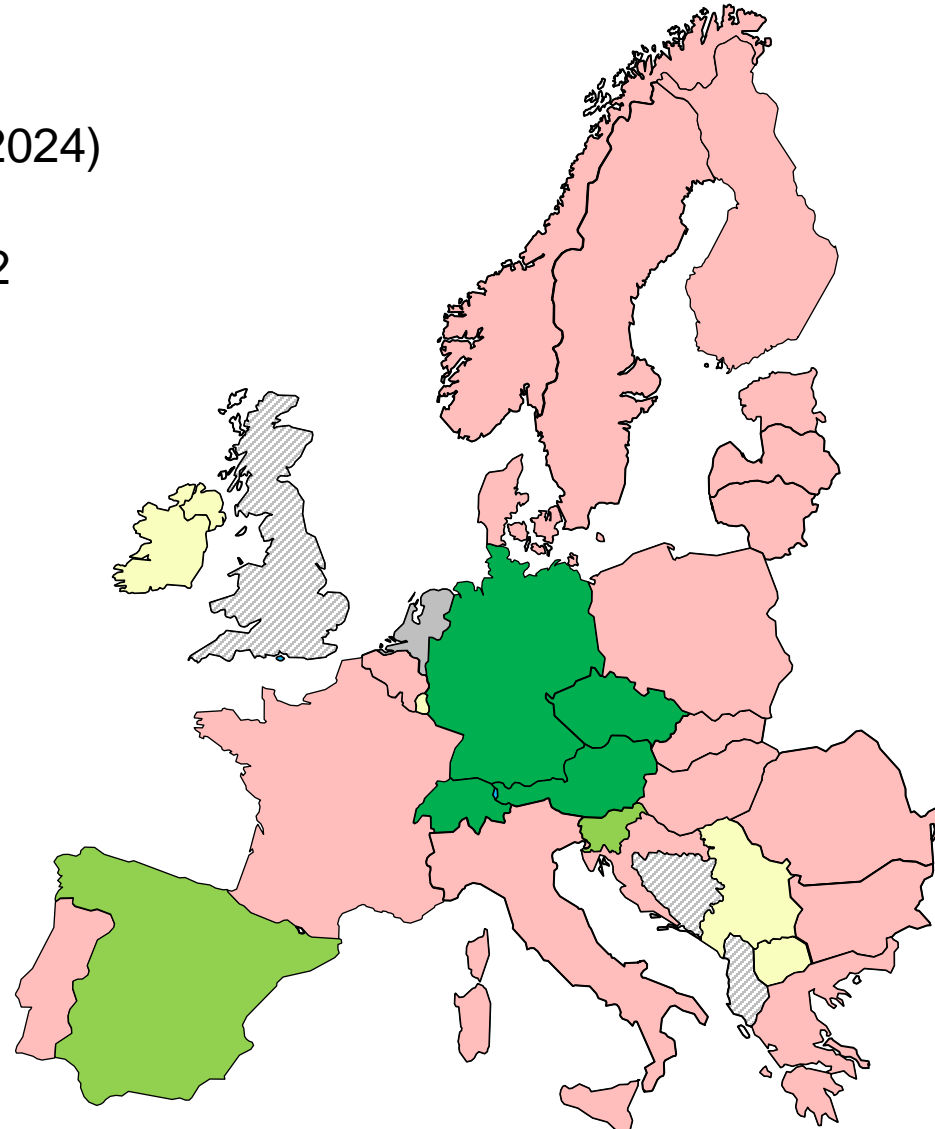
- EB GL article 20(6): *By thirty months after the approval of the proposal for the implementation framework for a European platform for the exchange of balancing energy from frequency restoration reserves with manual activation (...) all TSOs shall implement and make operational the European platform (...).* => Legal deadline 24/07-22
- TSOs can request a derogation until two years after the legal deadline
- An increasing number of TSOs have applied or are applying for a derogation
- Current status is that Transnet BW, 50Hz, Tennet Gmbh, Amprion (Germany), APG (Austria), Swissgrid and CEPS (Czech Republic) will connect to MARI prior to the legal deadline

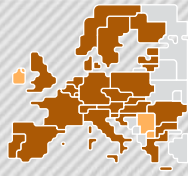
# MARI Accession Roadmap

## Full overview



	5.4.(b)(i)	National terms and conditions development
	5.4.(b)(i)	National terms and conditions entry into force
	5.4.(b)(iii)	Interoperability tests between TSO and mFRR-Platform
	5.4.(b)(v)	TSO connection to mFRR-platform / Go-live
	5.4.(b)(vii)	EBGL Article 62 Derogation considered / requested / granted





1 Derogation request submitted by Baltic TSOs is approved by the Baltic NRAs. According to the NRAs decision, the planned connection time will be aligned with the Nordic TSOs, expected in the period Q4 2023 – Q2 2024.

2 The Nordic TSOs are currently preparing their request for derogation. The detailed steps towards accession to MARI will be assessed as part of this process. The plan presented in this roadmap shall be regarded as a preliminary, non-binding estimate. The planned connection time is expected in the period Q4 2023 - Q2 2024.

3 MAVIR has asked for derogation until 24.07.2024.

4 SEPS - derogation was granted by local NRA until 24.7.2024, but SEPS ambition is to join Mari Platform in Q1 2024 (depends on advancement of processes related to local implementation).

5 ADMIE requested form its NRA derogation until 24.07.2024.

6 The situation of NGESO is still under consideration.

7 Elia is planning to submit a derogation request according to the results of coming public consultation. The plan presented in this roadmap shall be regarded as a preliminary, non-binding estimate.

8 Transelectrica has asked for derogation until 01.12.2022. Transelectrica Connection / Go-live will be aligned with MAVIR

9 The participation of Switzerland in the mFRR-Platform is regulated based on article 1.6 and 1.7 of the EB Regulation and currently the subject of litigation by Swissgrid at the General Court of the European Union.

10 HOPS - derogation was granted by local NRA until 24.7.2024., but HOPS's ambition is to join MARI Platform earlier (depends on progress of processes related to local implementation).

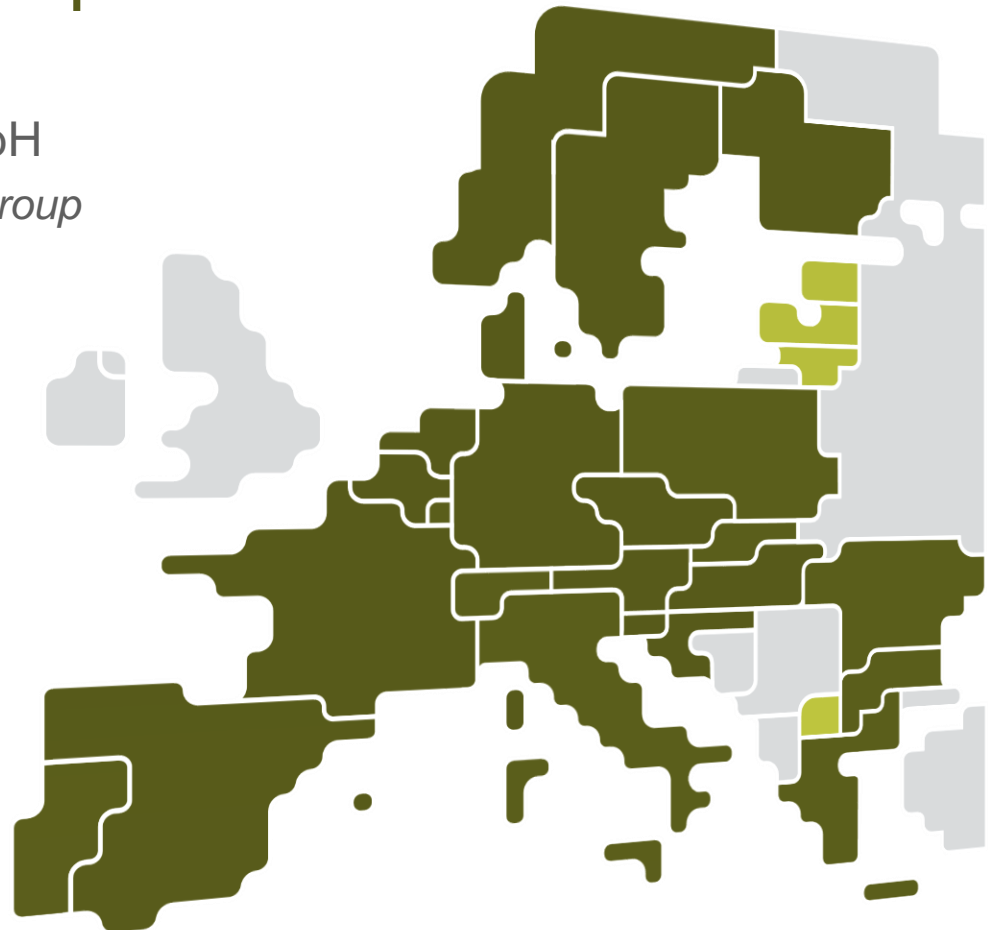
11TenneT BV is in process of aligning with National Regulator on the derogation. More information on the aligned planning can be expected by the end of January 2022

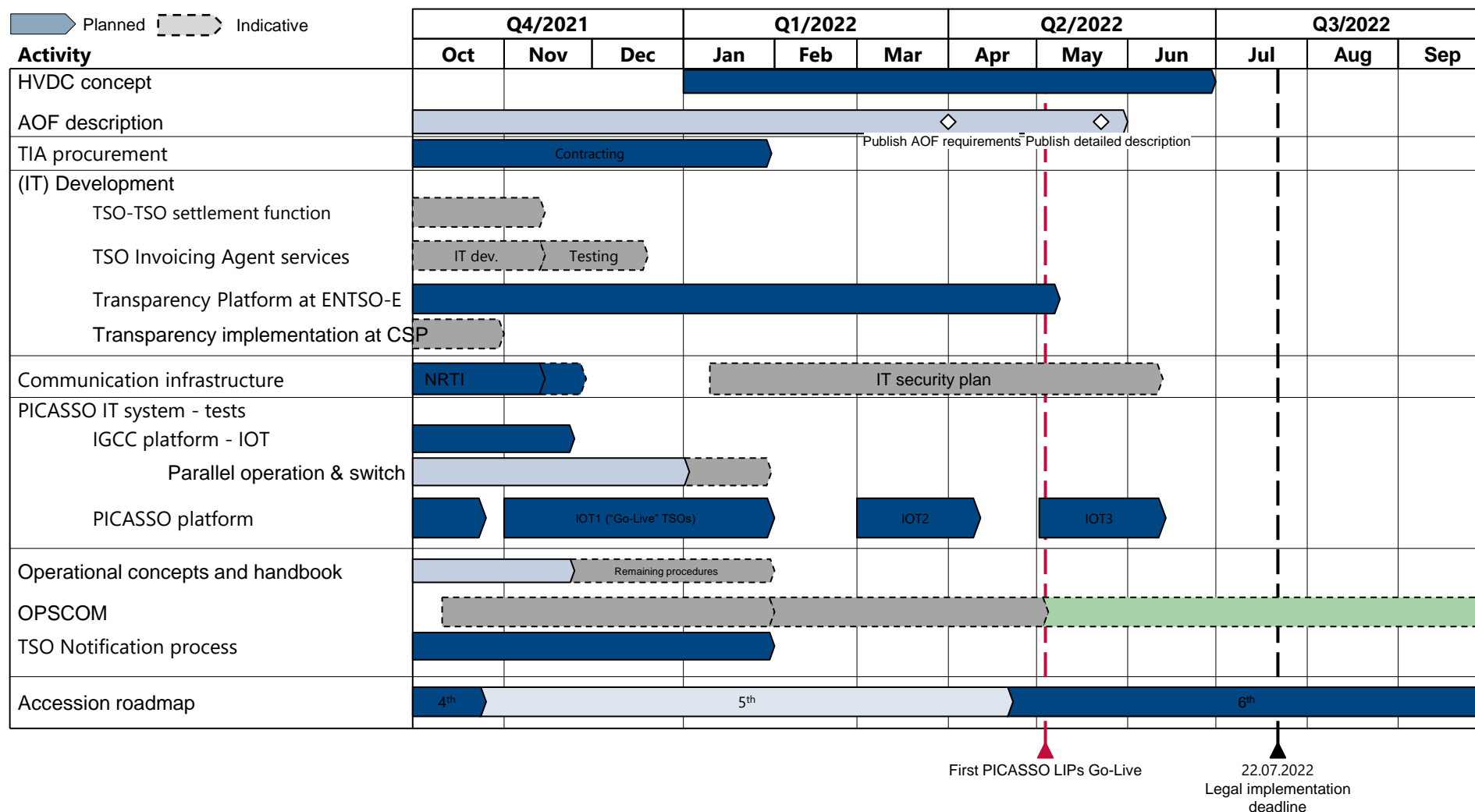


# PICASSO project update



**Simon Remppis**  
 TransnetBW GmbH  
*PICASSO Expert Group*  
*Convener*





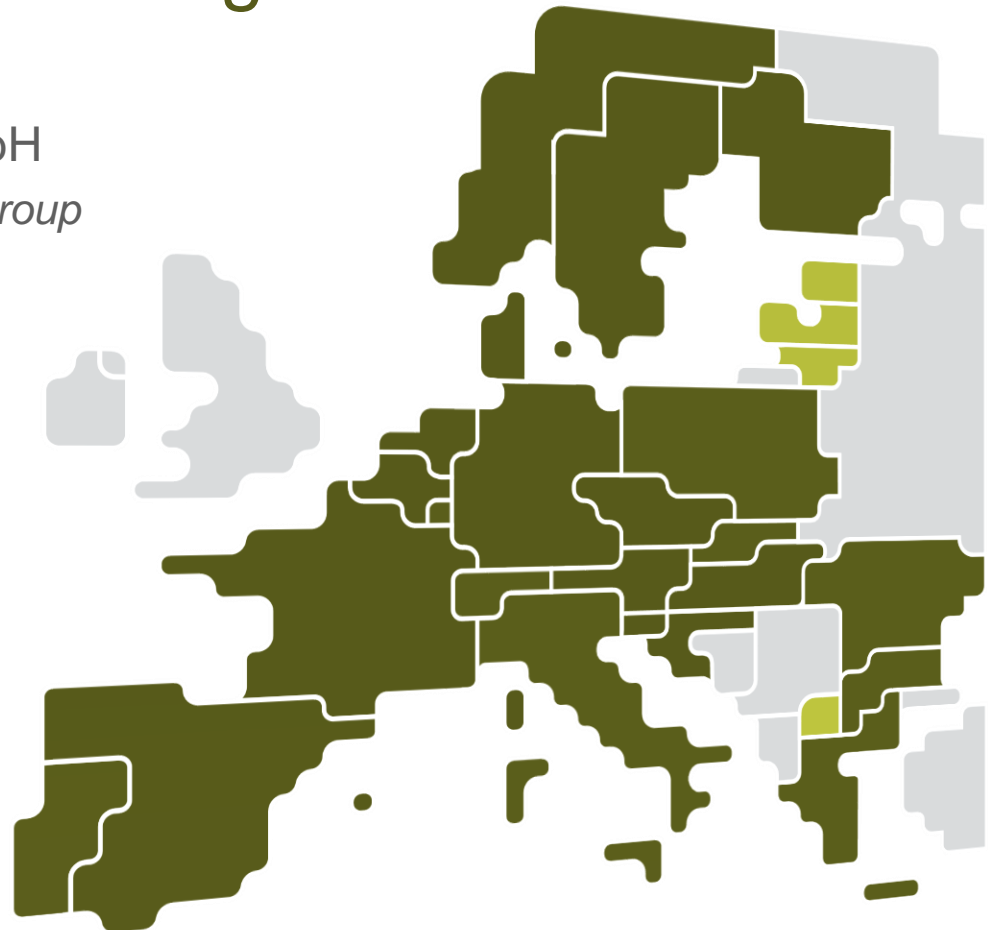


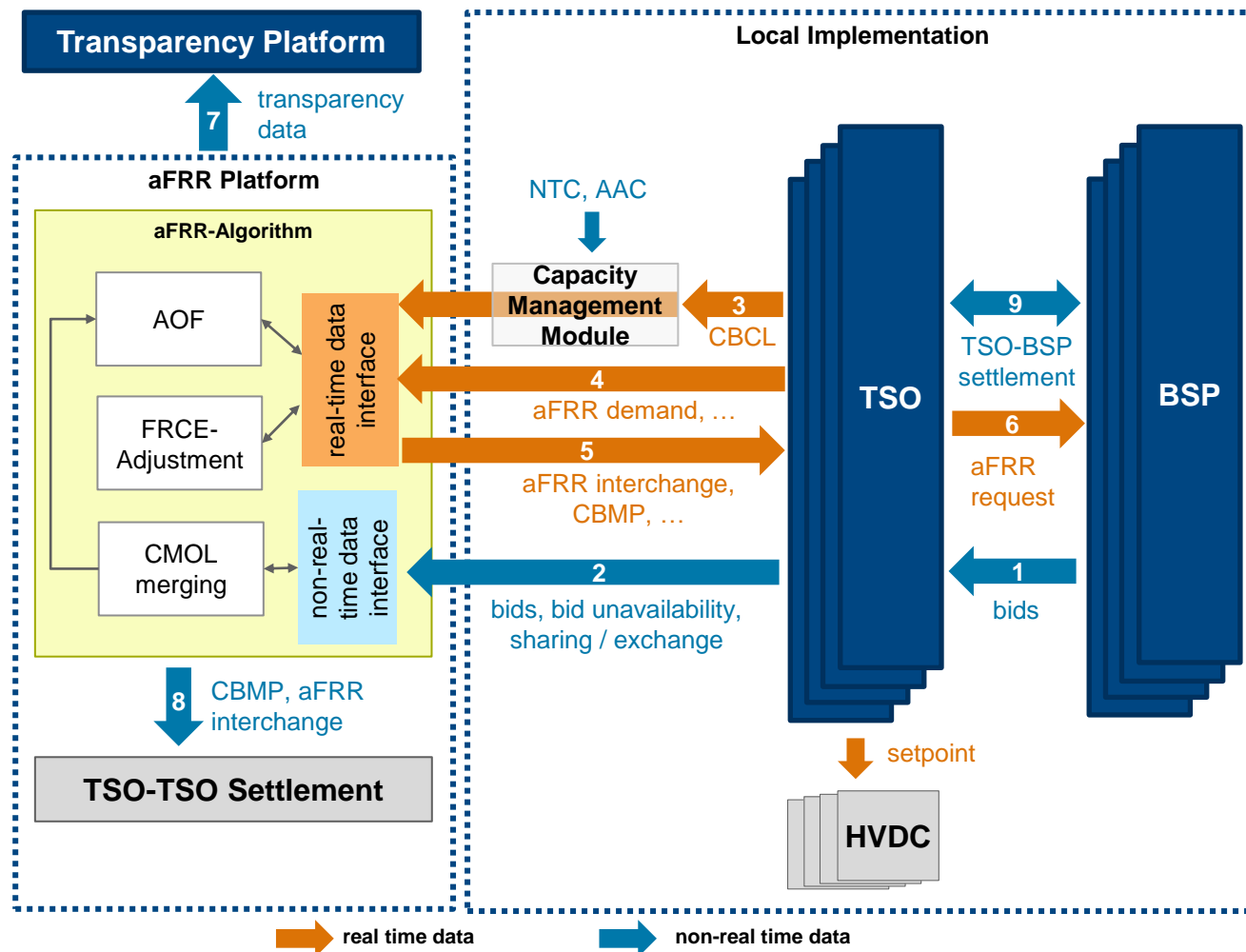


# PICASSO platform design



**Simon Remppis**  
 TransnetBW GmbH  
*PICASSO Expert Group*  
*Convener*





1. TSO receives bids from BSPs in their LFC area
2. TSO forwards standard aFRR balancing bids to platform
3. TSOs communicate Cross-Border Capacity Limits to Platform
4. TSOs communicate aFRR demands to platform
5. Communication of clearing results to TSO
6. Communication of aFRR request from each LFC to BSP
7. Data Publication
8. TSO-TSO settlement process and invoicing
9. TSO-BSP settlement process and invoicing

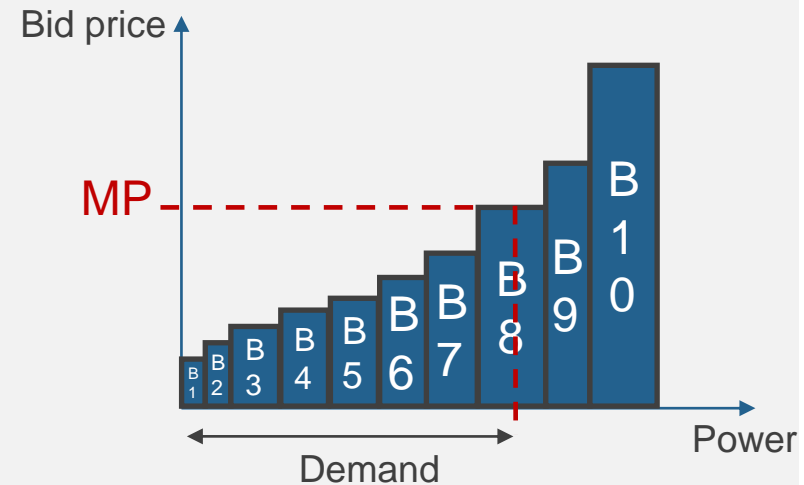
AOF    Activation Optimisation Function  
 FRCE    Frequency Restoration Control Error  
 CMOL    Common Merit Order List  
 CBMP    Cross-Border Marginal Price

NTC    Net Transfer Capacity  
 AAC    Already Allocated Capacities  
 CBCL    Cross-Border Capacity Limits  
 HVDC    High Voltage Direct Current



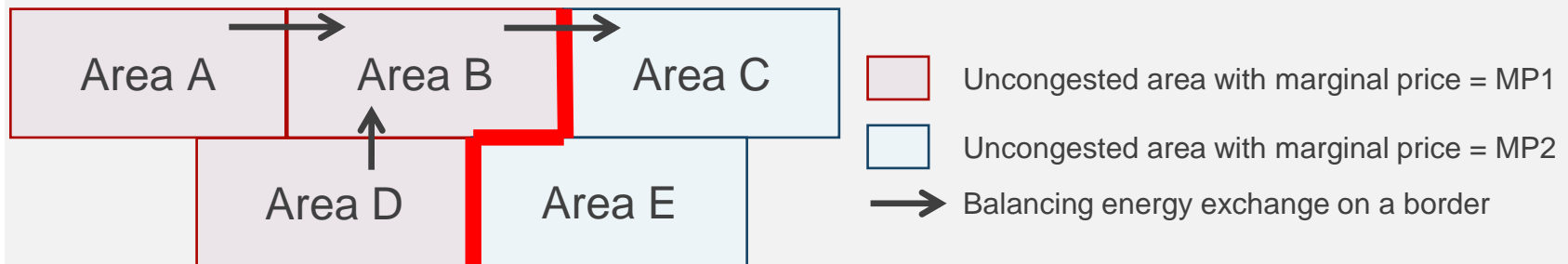
### Marginal pricing principles

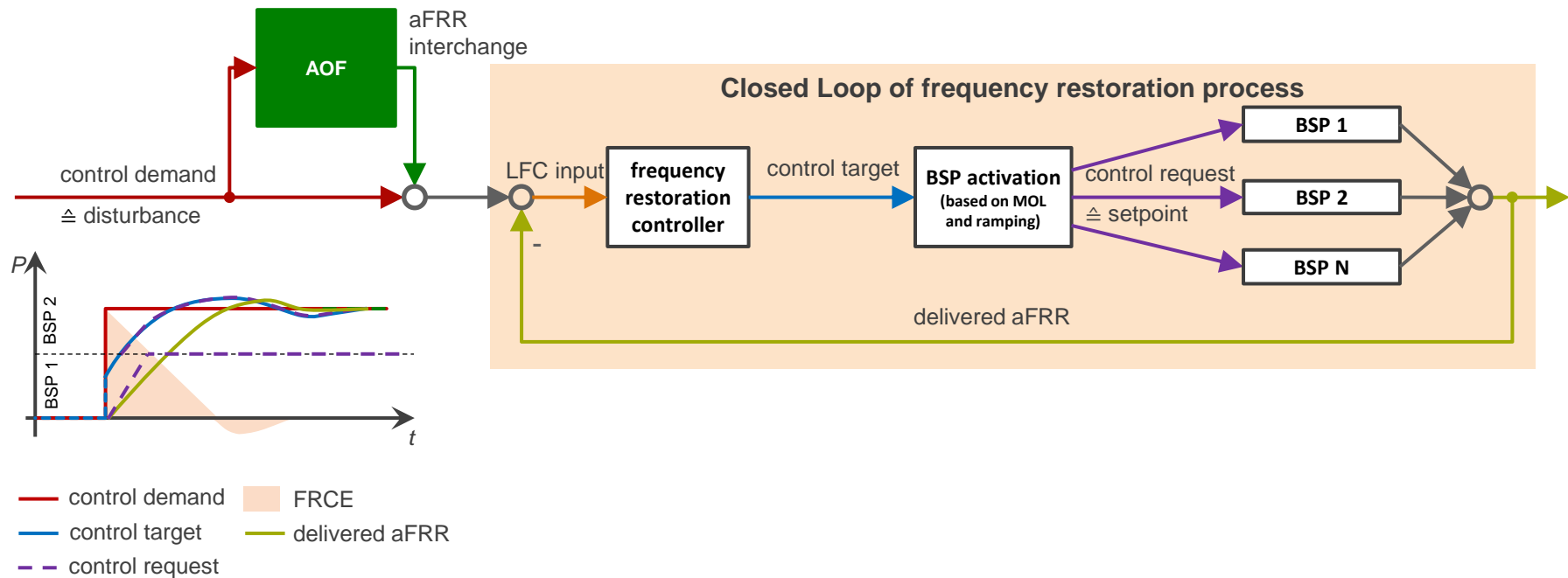
- According to EBGL, pricing for balancing energy shall be based on marginal pricing
- The Marginal Price (MP) represents the price of the highest price bid of a standard product which has been selected to cover the energy need for balancing purposes within a specified area.
- The PICASSO AOF will compute the balancing energy price per LFC area and optimization cycle



### Cross-Border Marginal Pricing

- In case there is no congestion between adjacent LFC areas, the Cross-Border Marginal Price (CBMP) will be the same in these areas
- In case there is a congestion, there will be a price split and congestion rent will be allocated to the respective TSOs (c.f. day-ahead or intraday markets)



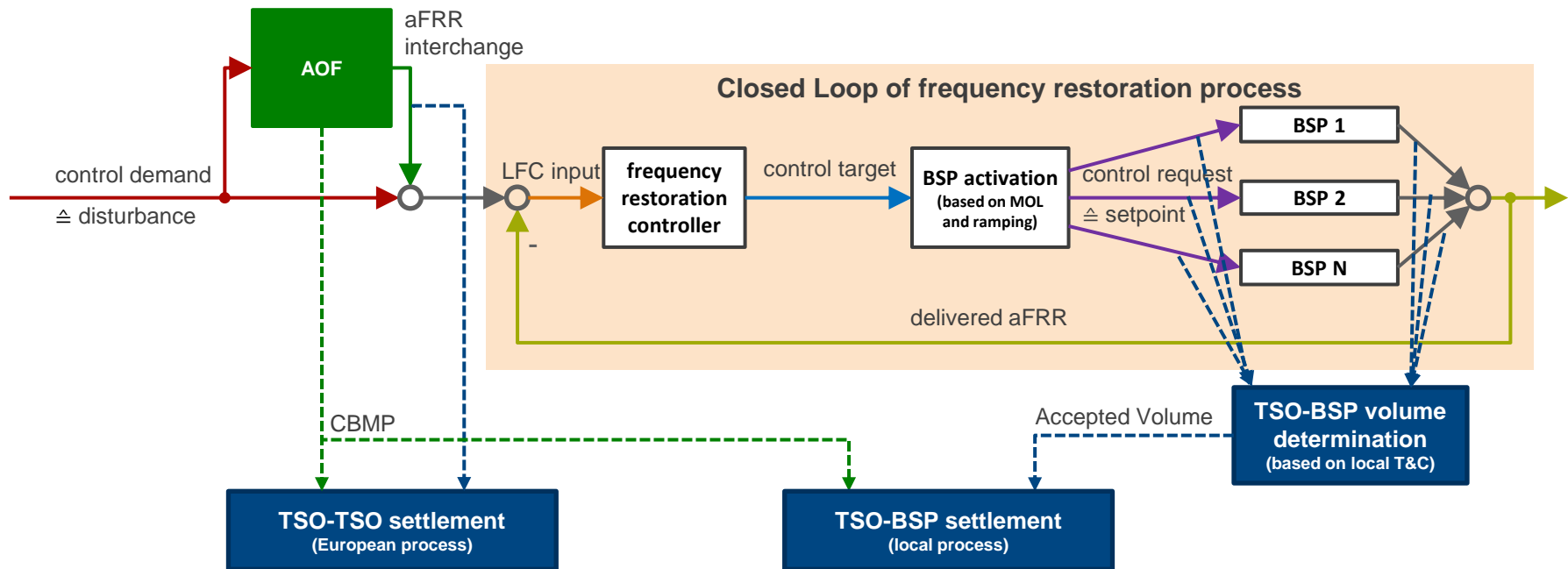


### Frequency Restoration control

- Objective: Regulate LFC input (difference between disturbance and activated aFRR) to zero and by this restore frequency deviations
- The control target (LFC output) follows the control demand with a certain delay, depending on the controller settings that are adjusted to the expected dynamic BSP behavior

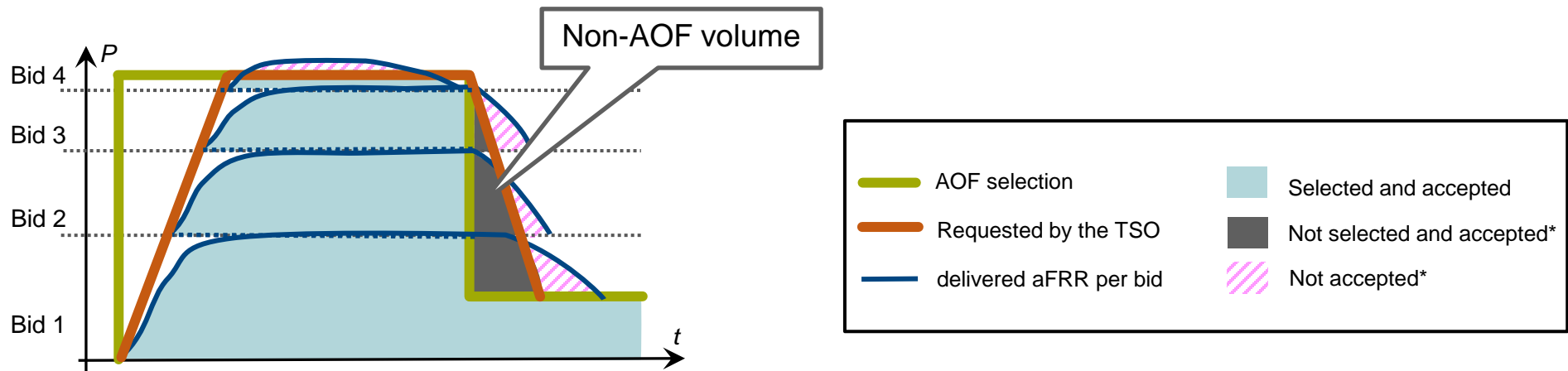
### Control Demand model

- Each TSO calculates in each control cycle the demand, which resembles the imbalance before any aFRR activation and provides it to the AOF
- The AOF determines the aFRR interchange based on the CMOL, without considering any ramping constraints



### PICASSO settlement

- TSO-TSO settlement is based on a aFRR interchange calculated by the AOF, multiplied with CBMP, not taking into account activation delays
- TSO-BSP settlement is based on "accepted volumes" determined by each TSO based on local terms and conditions (e.g. on basis of control request and/or measures/metered physical aFRR delivery)
- Accepted volumes are multiplied with CBMP, centrally determined on basis of the bid selection by the PICASSO AOF



\*Bid acceptance depends on local terms & conditions. In this figure, a volume determination scheme based on measured volume capped by requested volume is assumed

### TSO-BSP settlement

- Due to the dynamic behaviour of the LFC and the BSPs, discrepancies between AOF bid selection, aFRR request and aFRR delivery cannot be prevented
- Remuneration of accepted bid activation is based on the maximum of the CBMP determined by the PICASSO platform and bid price  
→ Non –AOF volumes are remunerated with the bid price



### Requirements

#### IGCC

- Imbalance netting process pursuant to SOGL 146
- No Cross-border exchange of activated FRR
- No maximization of social welfare
- Implementation deadline: July 2021
- Well-established process (since 2011)
- Will cease to exist when all IGCC members are participating in PICASSO

#### PICASSO

- Cross-border aFRR activation process pursuant to SOGL 146
- Maximization of social welfare by Cross-border activation according to Common Merit Order
- Implementation Deadline: July 2022
- New process (but predecessors exist on a regional level, e.g. DE/AT)

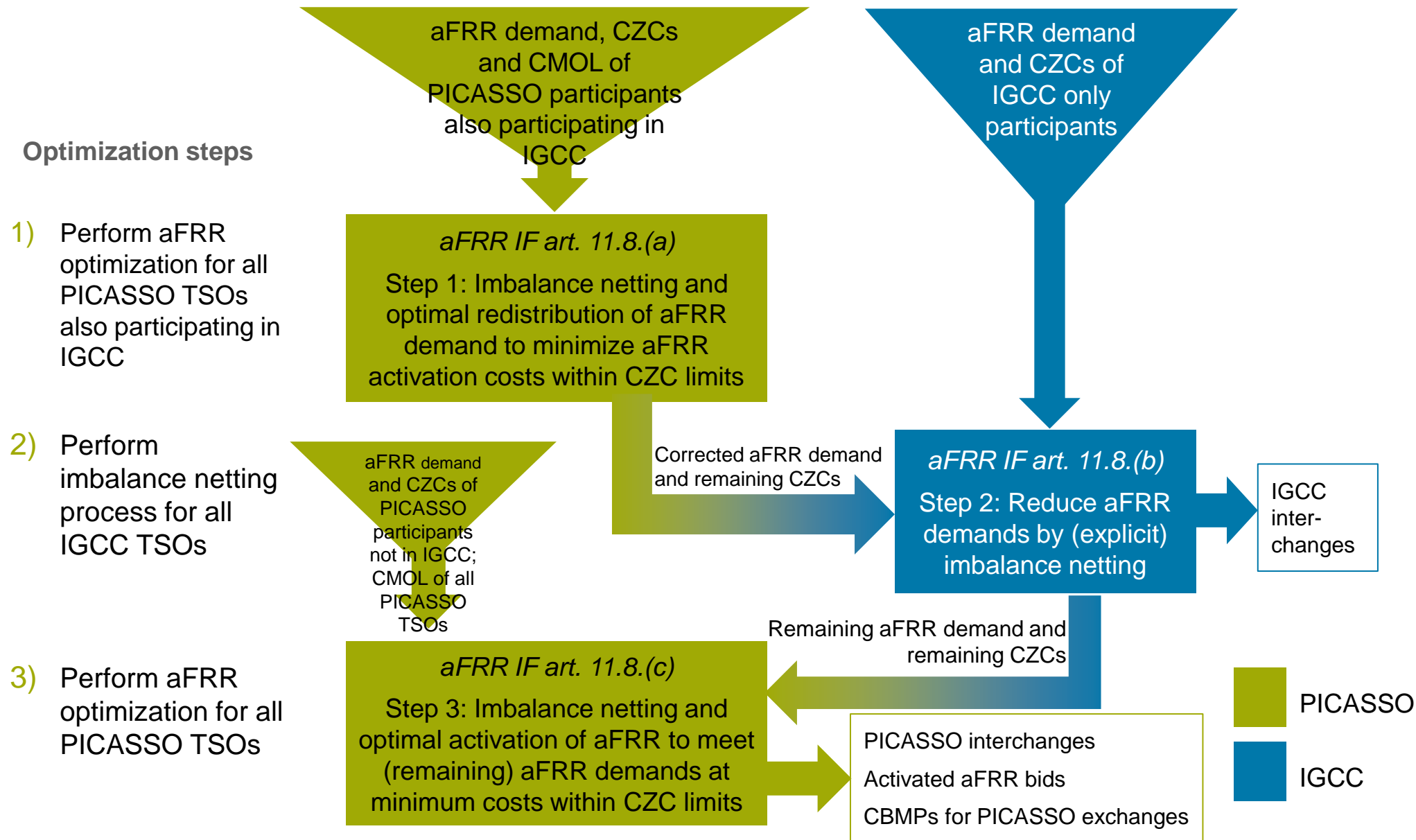
### Individual Characteristics

- Individual participation of each TSO in one or both platforms possible
- Individual optimization steps
- Individual use of cross-border capacities
- Individual Settlement
- Individual Governance / Steering Committees

### Common Characteristics

- Common software solution
- Common management of Transmission capacity
- Similar interaction with LFC loops
- Common Host TSO
- Common operational governance / OPSCOM envisioned







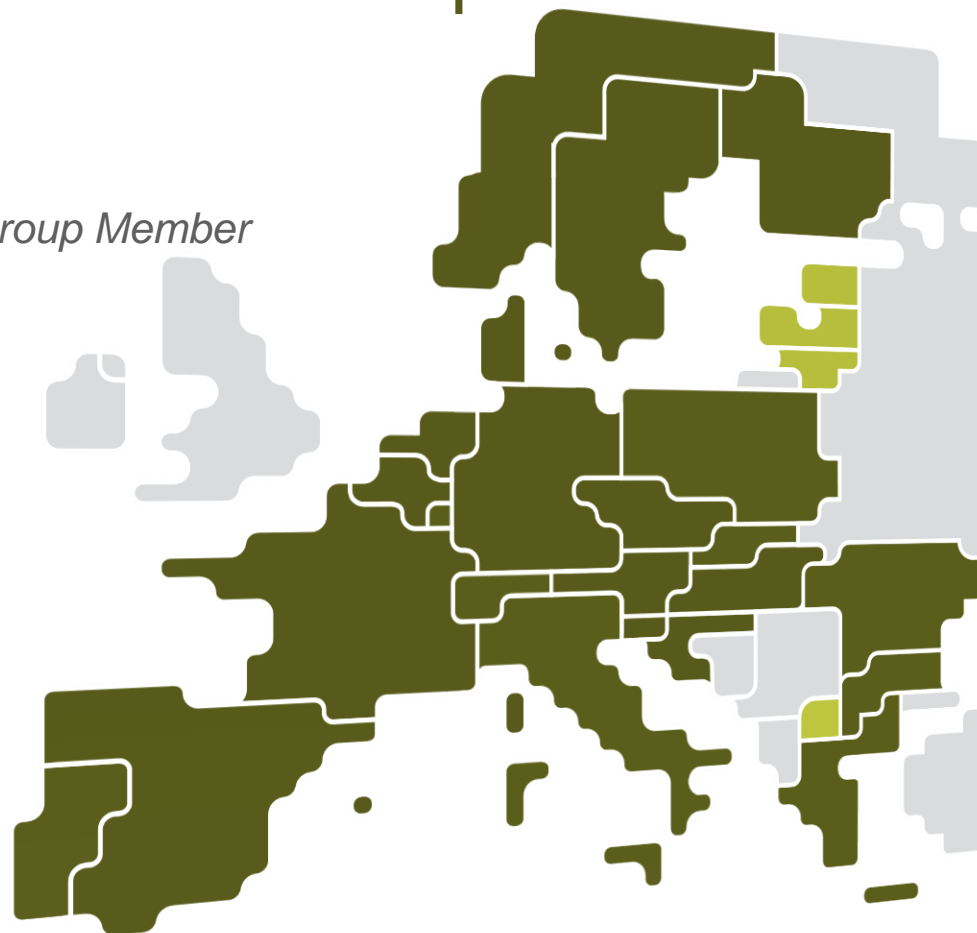
# PICASSO Accession Roadmap



**Jiří Salavec**

ČEPS

*PICASSO Expert Group Member*





First PICASSO Accession Roadmap was published on 24 April 2020.

Second PICASSO Accession Roadmap was published on 13 October 2020.

Third PICASSO Accession Roadmap was published on 27 April 2021.

Fourth PICASSO Accession Roadmap was published on 29 October 2021.

PICASSO Accession Roadmap is publicly available on ENTSO-E website:

[https://www.entsoe.eu/network\\_codes/eb/picasso/](https://www.entsoe.eu/network_codes/eb/picasso/)

All TSOs will update Accession Roadmap every 6 months (in accordance with aFRRIF).

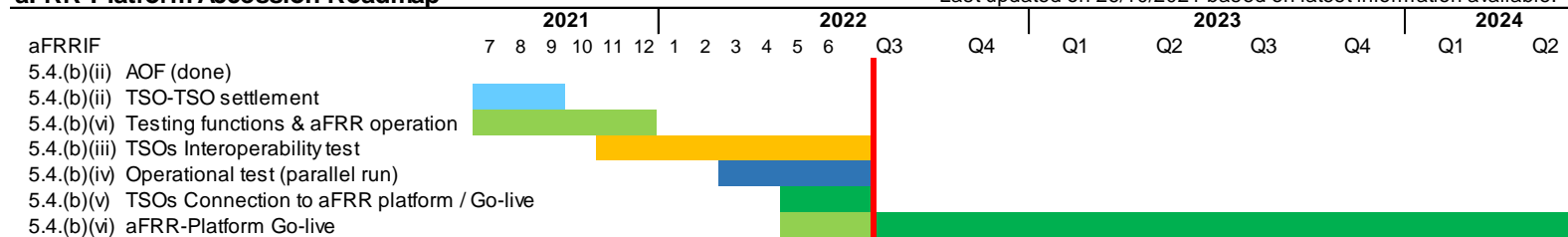
# PICASSO Accession Roadmap

4th version (October 2021)



## aFRR-Platform Accession Roadmap

Last updated on 26/10/2021 based on latest information available.

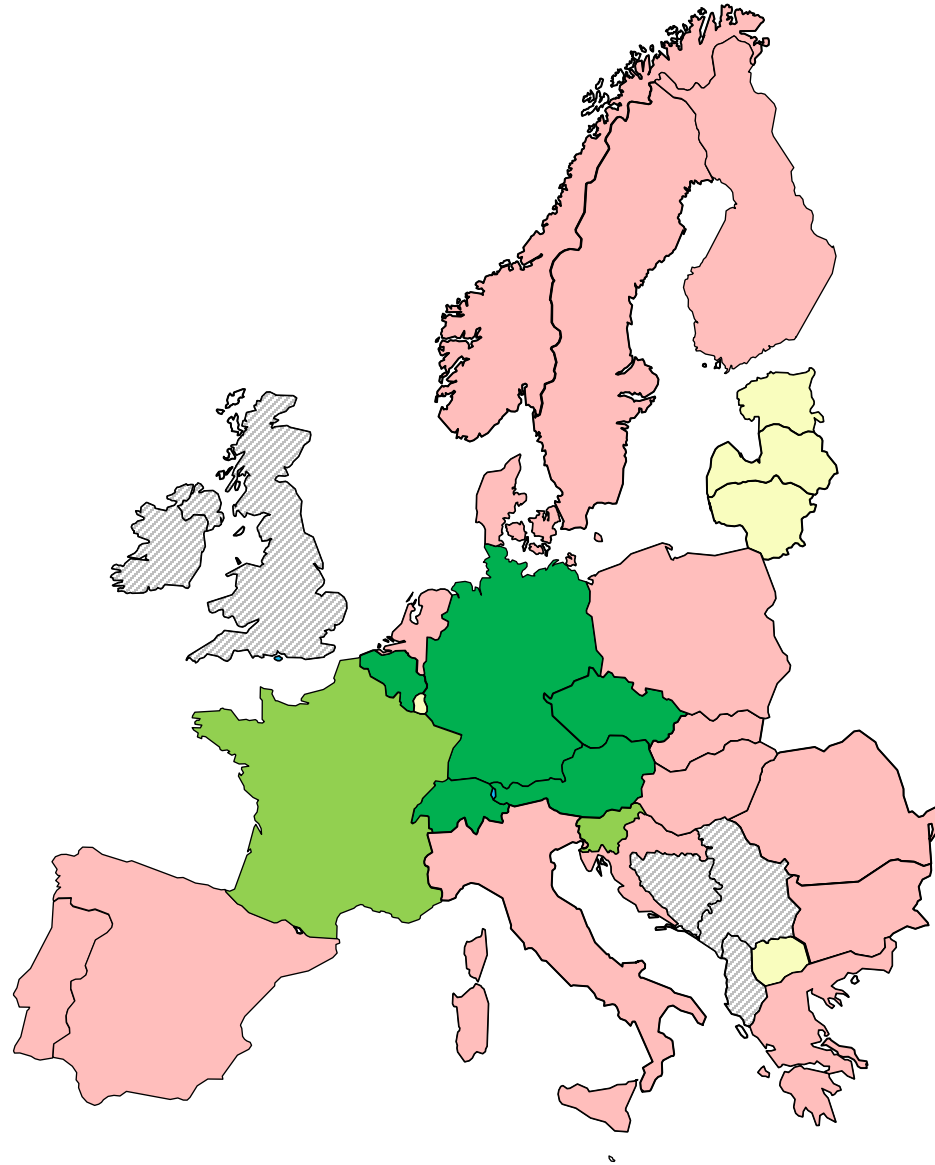


- 5.4.(b)(i) National terms and conditions development
- 5.4.(b)(i) National terms and conditions entry into force
- 5.4.(b)(iii) Interoperability tests between TSO and aFRR-Platform
- 5.4.(b)(v) TSO connection to aFRR-platform / Go-live
- 5.4.(b)(vii) EBGL Article 62 Derogation considered (no deadline listed) / requested (no deadline listed) / granted (new deadline listed)

1) The Nordic TSOs are currently preparing their request for derogation. The detailed steps towards accession to PICASSO will be assessed as part of this process. The plan presented in this roadmap shall be regarded as a preliminary, non-binding estimate. The planned connection time is expected in Q2 2024. 2) MAVIR has already initiated discussions with its NRA with the intention to ask for derogation. 3) Derogation was granted by local NRA until 24. 7. 2024, but SEPS ambition is to join aFRR-Platform in Q1 2024 (depends on advancement of processes related to local implementation). 4) The participation of Switzerland in the aFRR-Platform is regulated based on article 1.6 and 1.7 of the EB Regulation and currently the subject of litigation by Swissgrid at the General Court of the European Union.



- Q2 2022
- Derogation (in 2022)
- Derogation (2023 - )
- Observers





PICASSO Accession Roadmap is publicly available on ENTSO-E website:  
[https://www.entsoe.eu/network\\_codes/eb/picasso/](https://www.entsoe.eu/network_codes/eb/picasso/)

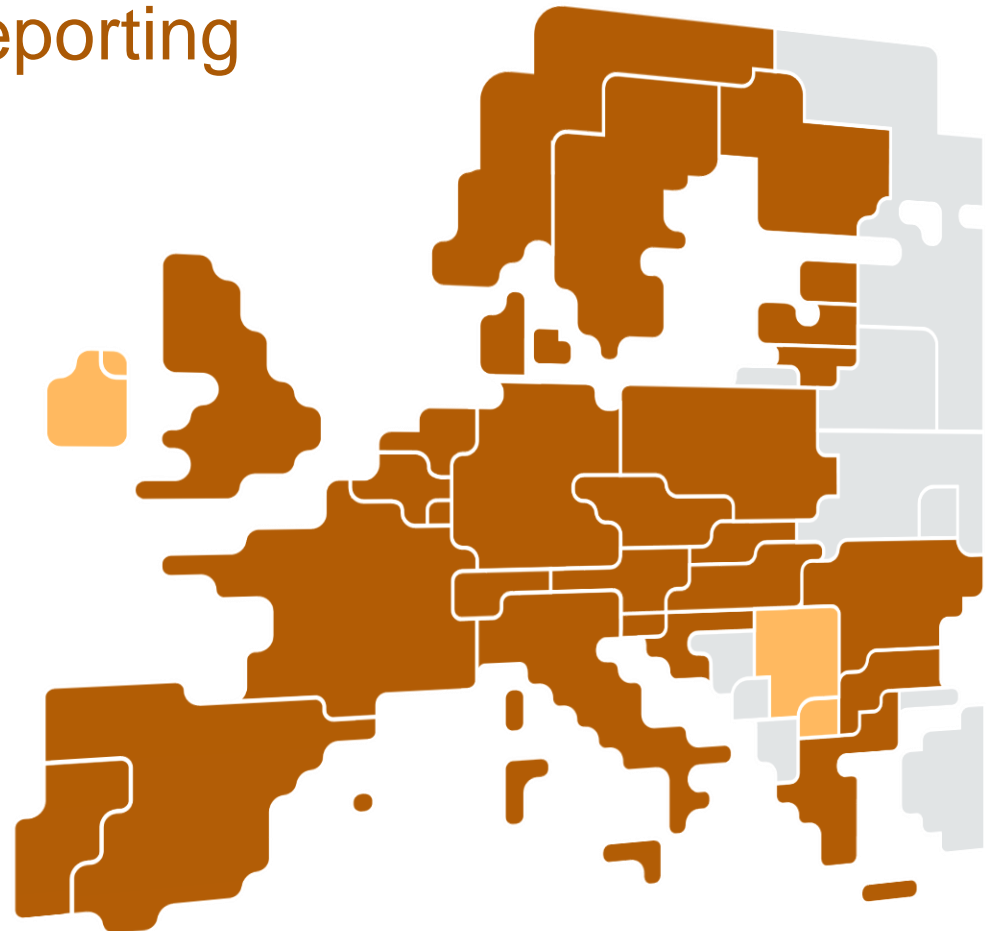
aFRR-Platform will be ready by Q1 2022

- 8 TSOs plan to join before aFRRIF deadline on 24 July 2022
- 17 TSOs are in the process of asking their NRA for derogation
  - 1 TSO already received derogation
  - 2 TSOs plan to join in H2 2022



# MARI and PICASSO Transparency & Reporting

Anna Kamila Szer  
SEPS



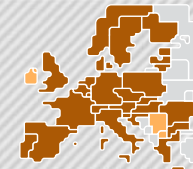




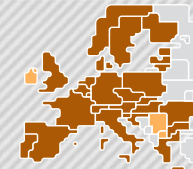
Obligation	Responsible	Publication	aFRR IF	mFRR IF
Elastic demand curves (MARI)	TSO*	publish on ETP**	N/A	Art. 3 (4)
Disconnection of the aFRR-platform, fall-back utilisation status as well as restoration of operation	TSO*	publish on ETP**	Art. 3 (10)	Art. 3 (11)
Publication of the volumes exchange and prices provided by the AOF	TSO*	publish on ETP**	Art. 3 (16)	Art. 3 (17)
Adjustments to capacity limits	TSO*	publish on ETP**	Art. 4 (3)(4)	Art. 4 (3)(4)
HVDC limits	TSO*	publish on ETP**	Art. 4 (5)	Art. 4(5)
Changes to bid availability	TSO*	publish on ETP**	Art. 9 (3)(6)(8)	Art 9. (3)(7)(9)
Yearly report on implementation and operation of platform	All member TSOs	on ENTSO-E website and reported to regulatory authorities	Art. 13 (1)	Art. 13 (1)
Annual public stakeholder workshop	All member TSOs	on ENTSO-E website and reported to regulatory authorities	Art. 13 (5)	Art. 13 (5)

\*publication requirement is a legal obligation of TSO, in most cases it was agreed to be publish by the aFRR/mFRR Platforms, in case of any problems with publication, TSOs are responsible for publication.

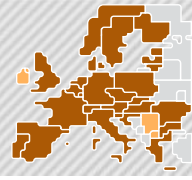
\* \* Publication on the ENTSO-E Transparency Platform (ETP) was selected as a target solution and confirmed by ENTSO-E.



Obligation	Balancing Platform	Comment
Elastic demand curves (MARI)	mFRR IF	<ul style="list-style-type: none"> <li>The publication of all elastic demands for scheduled activation of standard mFRR product, no matter whether they were satisfied or not;</li> <li>There may be more than one demand per area and MTU period. In such situation, the demands typically have different prices.</li> </ul>
Disconnection of the aFRR-platform, fall-back utilisation status as well as restoration of operation	mFRR IF aFRR IF	<ul style="list-style-type: none"> <li>In case of following events: Disconnection and reconnection of TSOs from/to European platform, unavailability of European platform and algorithm failure in European platform - the Fall-back shall be published;</li> <li>End date and time or estimation must always be provided.</li> </ul>
Publication of the volumes exchange and prices provided by the AOF	mFRR IF aFRR IF	<p><u>CBMPs for standard products:</u></p> <ul style="list-style-type: none"> <li>aFRR: There may be a single price for either Up or Down direction or the same price may apply to both directions; MTU – 4sec.; reported separately under art. 3.16 IF</li> <li>mFRR: prices shall be published separately for scheduled and direct activation; publication under art.17.1.f</li> </ul> <p><u>Volumes exchanged:</u></p> <ul style="list-style-type: none"> <li>net positions (mFRR/aFRR) which are deemed equivalent to exchanged volumes;</li> <li>mFRR - ISP resolution, aFRR - MTU (4 sec.);</li> <li>at a later stage for mFRR will introduce disaggregated publication for SA/DA</li> </ul>



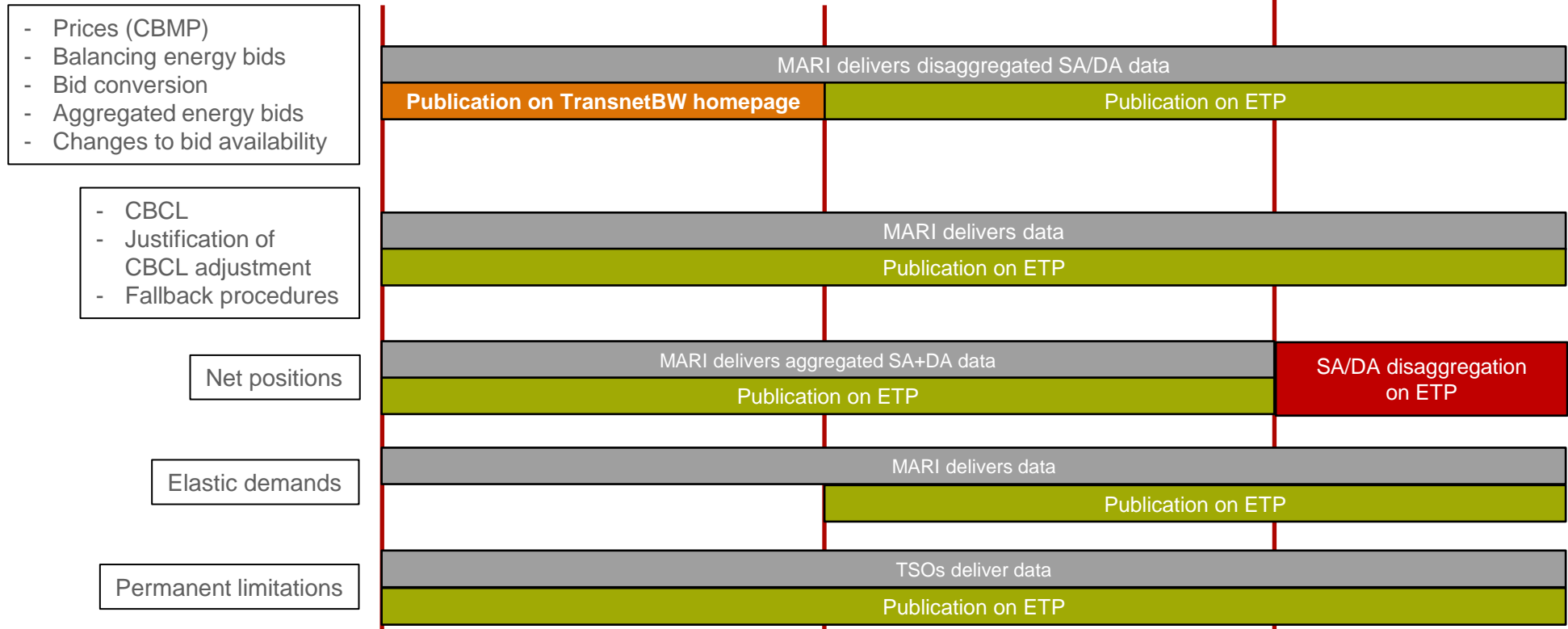
Obligation	Balancing Platform	Comment
Adjustments to capacity limits	mFRR IF aFRR IF	<ul style="list-style-type: none"> <li>• Publication of the temporary adjustments defined as the difference between originally foreseen capacity limit and the updated capacity limit actually being applied;</li> <li>• Initially, Mari project will publish all capacity limits, including updates due to operational security constraints;</li> <li>• At a later stage the publication will be extended with information about TSOs requesting the limits or adjustments;</li> <li>• The list of possible reasons (currently operational security reason only) may be extended in the future to align with the evolution of capacity calculation methodologies;</li> <li>• A free-text comment shall be included to provide additional explanation and justification.</li> </ul>
HVDC limits	mFRR IF aFRR IF	<ul style="list-style-type: none"> <li>• This publication concerns permanent allocation limitation due to technical inability to facilitate cross-zonal exchange on a HDVC interconnector;</li> <li>• A free-text comment shall be included to provide additional explanation and justification;</li> <li>• IN/aFFR platforms will analysis to ensure the correct integration of HVDC interconnectors between synchronous areas.</li> </ul>
Changes to bid availability	mFRR IF aFRR IF	<ul style="list-style-type: none"> <li>• When the availability or offered volume of a bid for a standard aFRR or mFRR product has been modified after its submission to TSO, the TSO shall provide details of the party requesting the change and the reasons (which will adapted at the later stage).</li> <li>• The reason: Activation(s) of conditional bid(s), insufficient reserve capacity, unavailability of unit(s), internal congestion, operational security constraints, unavailability of automatic protection systems, failure</li> </ul>

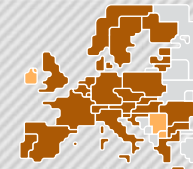


**07.2022**  
Early accessing TSOs

**24.07.2022**  
ETP target solution

**Q4/22**





**05.2022**

Early accessors Picasso

**24.07.2022**

ETP target solution

Art. 12.3 EBGL:

- B). Balancing energy bids

Art. 9.6,9.8 aFRR IF:

- Changes to bid availability

Articles 4.3 & 4.4 of aFRR IF

- CBCL
- Justification of CBCL adjustment

art. 3.10 aFRR IF

- Fallback procedures

Art. 12.3 EBGL:

- C). Bid conversion
- E). Aggregated energy bids

Prices (CBMP) - Art. 3.16 aFRR IF \*\*

Net positions - Art. 3.16 aFRR IF

Permanent limitations

– art. 4.5 aFRR IF

Picasso delivers data

**CR on TP side needed for Art. 9.6,9.8 aFRR IF \***

ETP can publish data

Picasso delivers data

ETP can publish data

Picasso delivers data with 4 sec. resolution and publish on TNG website

Publication on TransnetBW homepage

Picasso delivers 4 sec. data

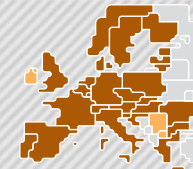
ETP can publish data

TSOs deliver data

ETP can publish data

\*Change Request on TP side, Changes to bid availability will be reported on TP under art. 12.3.b till TP target solution for balancing platforms

\*\* Since July 2022 information under TR art. 17.1.f



Balancing Platform	Obligation	KPI
aFRR	13(1)(a)	<ul style="list-style-type: none"> <li>the implementation progress and roadmap in accordance with Article 5;</li> </ul>
aFRR	13(1)(b)	<ul style="list-style-type: none"> <li>total volume of balancing energy pursuant to Article 29(12) of the EB Regulation;</li> </ul>
aFRR	13(1)(c)	<ul style="list-style-type: none"> <li>the frequency and volume of deviations between the activation of bids by each participating TSO and the selection of bids by the AOF as referred to in paragraph 3(b) and (c), pursuant to Article 29(5) of the EB Regulation;</li> </ul>
aFRR	13(1)(d)	<ul style="list-style-type: none"> <li>the impact on the economic surplus of minimising the volume of selected standard aFRR balancing energy product bids for balancing energy pursuant to Article 11(2)(b);</li> </ul>
aFRR	13(1)(e)	<ul style="list-style-type: none"> <li>aggregated information and detailed statistics on the bids which were declared as unavailable by TSOs in accordance with Article 9;</li> </ul>
aFRR	13(1)(f)	<ul style="list-style-type: none"> <li>the efficiency of the pricing method for aFRR pursuant to Article 30 of the EB Regulation;</li> </ul>
aFRR	13(1)(g)	<ul style="list-style-type: none"> <li>the availability of cross-zonal capacity for the aFRR exchange on the platform;</li> </ul>
aFRR	13(1)(h)	<ul style="list-style-type: none"> <li>the results of the survey conducted in accordance with Article 16(2)(a)</li> </ul>

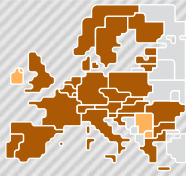


Balancing Platform	Obligation	KPI
mFRR	13(1)(a)	<ul style="list-style-type: none"> <li>the implementation progress and roadmap in accordance with Article 5;</li> </ul>
mFRR	13(1)(b)	<ul style="list-style-type: none"> <li>the usage of elastic mFRR demand pursuant to Article 3(4), including:                             <ul style="list-style-type: none"> <li>(i) an assessment by TSOs if the principle in Article 3(4)(d) was complied with;</li> <li>(ii) situations where elastic demand was satisfied and to which degree the elastic demand was fulfilled and the influence of satisfying elastic demand on the CBMP;</li> <li>(iii) the frequency of elastic demands setting the cross-border marginal price;</li> </ul> </li> </ul>
mFRR	13(1)(c)	<ul style="list-style-type: none"> <li>the amount of mFRR balancing energy requested by each participating TSO in relation to the total volume of balancing energy pursuant to Article 29(12) of the EB Regulation;</li> </ul>
mFRR	13(1)(d)	<ul style="list-style-type: none"> <li>the frequency and volume of deviations between the activation of bids by each participating TSO and the selection of bids by the AOF as referred to in paragraph 3(b) and (c), pursuant to Article 29(5) of the EB Regulation;</li> </ul>
mFRR	13(1)(e)	<ul style="list-style-type: none"> <li>the total volume of paradoxically rejected bids separately for divisible and indivisible bids;</li> </ul>
mFRR	13(1)(f)	<ul style="list-style-type: none"> <li>aggregated information and detailed statistics on the bids which were declared as unavailable by TSOs in accordance with Article 9;</li> </ul>
mFRR	13(1)(g)	<ul style="list-style-type: none"> <li>the impact of scheduled counter-activations on balancing energy prices and on the efficient functioning of the mFRR Platform and intraday market;</li> </ul>
mFRR	13(1)(h)	<ul style="list-style-type: none"> <li>the availability of cross-zonal capacity for the aFRR exchange on the platform;</li> </ul>
mFRR	13(1)(i)	<ul style="list-style-type: none"> <li>the results of the survey conducted in accordance with Article 16(2)(a)</li> </ul>



## Closure

Request for feedback (*1 minute survey with 3 star-questions and 1 comment box*)



Participants are kindly requested to provide a short feedback to the workshop. The survey will be open to participants for the next one hour following the closure of the workshop:

- Was it complete
- Was it clear
- Was it satisfactory
- If not, or not 100%, to provide comments

Link to survey: <https://www.surveymonkey.com/r/WNHHBKR>

*“This survey is administered by the balancing platforms who act as data controllers for the data submitted to the survey”.*