

BGM Partner Meeting 2021

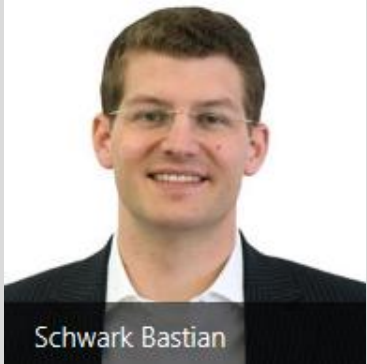


9. November 2021, Zoom Online Meeting

Agenda

09:00	Welcome address	Bastian Schwark
09:10	70% minimum Remaining Available Margin (minRAM) on the Swiss borders	Julius Schwachheim
09:30	News on Cross Border Capacity	Constanze Mende
09:55	Cross border intraday capacity allocation on the Swiss – Italian border	Theodoros Sevdas
10:05	EPEX Spot market developments	Davide Orifici, EPEX Spot
10:20	Power break	
10:35	International balancing cooperations and impact on imbalance price	Tobias Ott
10:55	The new intraday market model in Italy	Paolo Fanelli, TERNA
11:10	Swiss balance group management and operational incidents	Marco Lenzin
11:25	Power break	
11:35	Breakout Sessions: <ul style="list-style-type: none"> • Technical questions with regards to the secure connection via ECP / sFTP • Impact of weather forecast on BRPs imbalances • Development of Equigy platform 	Timo Caspar Markus Imhof Evangelos Vrettos
12:00	EFETs international perspective on power markets and energy trading	Federico Barbieri, EFET
12:20	Feedback and questions	Bastian Schwark
12:30	End of event	

These are your contact persons for balance group management at Swissgrid



Head of Market Operations



Head of Capacity
Allocation & Market Systems



Head of Capacity & Congestion
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Responsible for
BGM Partner Meeting



Head of Balancing
& Scheduling



Responsible for
BGM Expert Group



70% minimum Remaining Available Margin on the Swiss borders

Julius Schwachheim
Head of Capacity and Congestion Management

The Clean Energy Package (CEP) requires TSOs to provide a minimum amount of cross-border (XB) capacity to the market – «70% rule».

Legal text «Clean Energy Package» - Regulation (EC) 2019/943:

Art. 16 (4): « ... **Counter-trading and redispatch**, including cross-border redispatch, **shall be used** to maximize available capacities to reach the minimum capacity provided for in paragraph 8 ... »

Art. 16 (8): «Transmission system operators shall **not limit the volume of interconnection capacity** to be made available to market participants as a means of **solving congestion inside** their own bidding zone or as a means of managing flows resulting from transactions internal to bidding zones... »

Art. 16 (8)a): «... the **minimum capacity** shall be **70% of the transmission capacity** respecting operational security limits after deduction of contingencies ... »

In the past ...

Usually **no redispatch** measures were implemented to increase XB capacities

internal congestions could limit XB capacities

There was **no provision** for a «minimum» capacity to be provided to the market

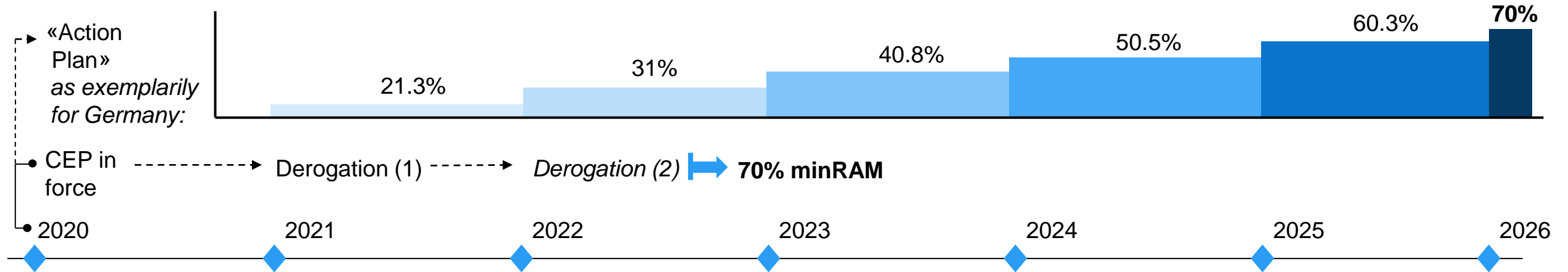
With the new regulation ...

Redispatch has to be implemented in order to reach the minimum capacities

It is ensured that only **XB relevant** elements will limit capacities

At least **70% of the capacity** of the relevant element shall be provided to the market

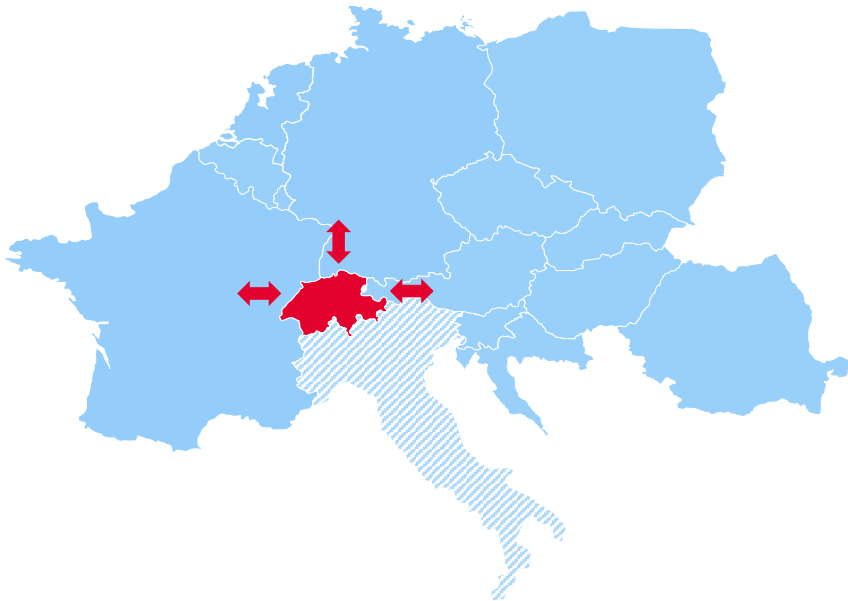
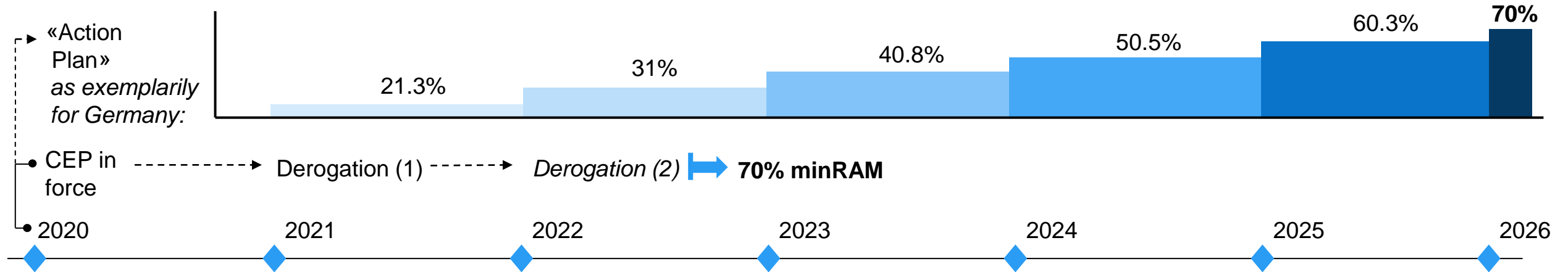
The Regulation is in force since 2020 – however EU TSOs had the possibility to request an extension for the implementation of the 70% provision.



Switzerland is not bound to EU-law – is there an impact on the capacities provided?
Certainly!

- Provisions are implemented in the **regional** capacity calculation processes.

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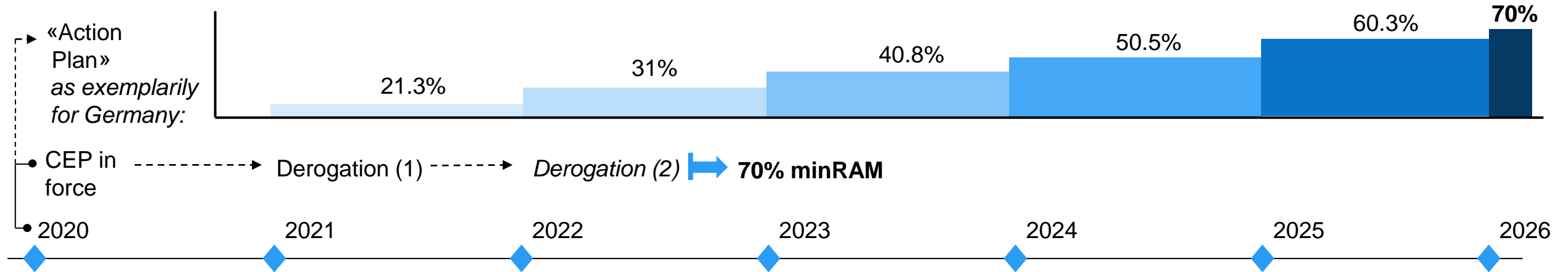
Switzerland is not bound to EU-law – is there an impact on the capacities provided?
Certainly!

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Swiss Northern Borders:

- Swissgrid works together with Core TSOs on a future joint process.
- Until then, Swissgrid voluntarily improves the bilateral NTCs.

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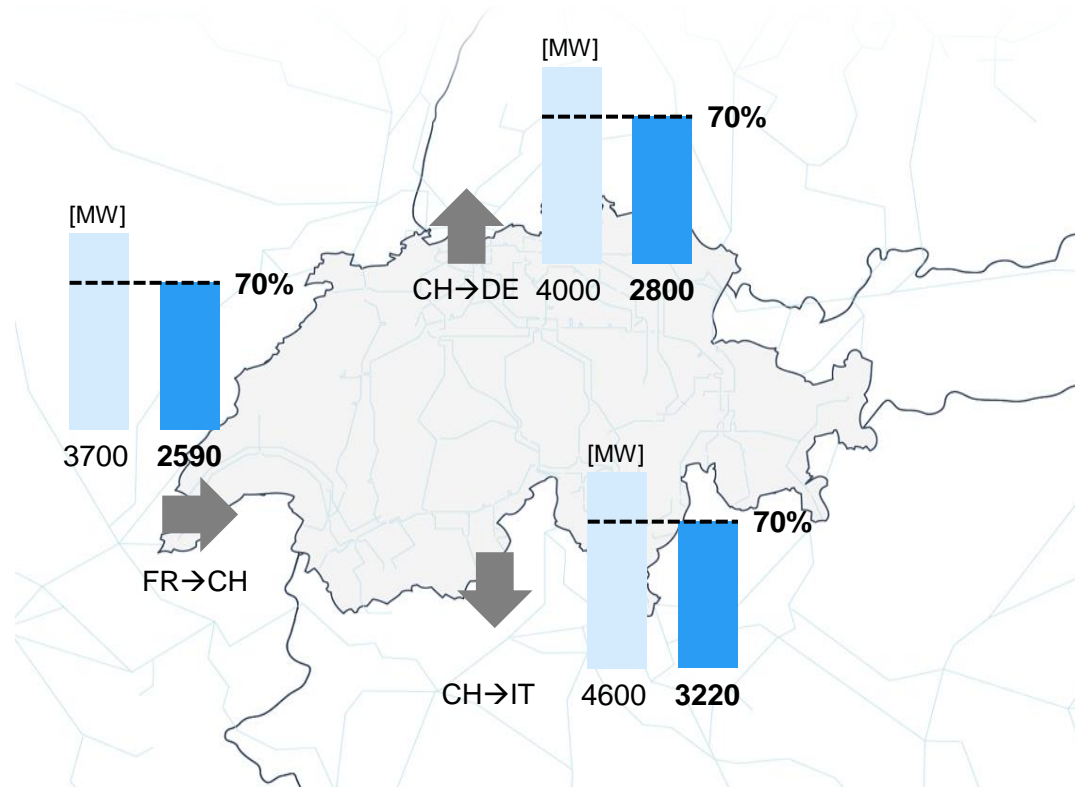
Swiss Northern Borders:

- Swissgrid works together with Core TSOs on a future joint process.
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Swiss-Italian borders:

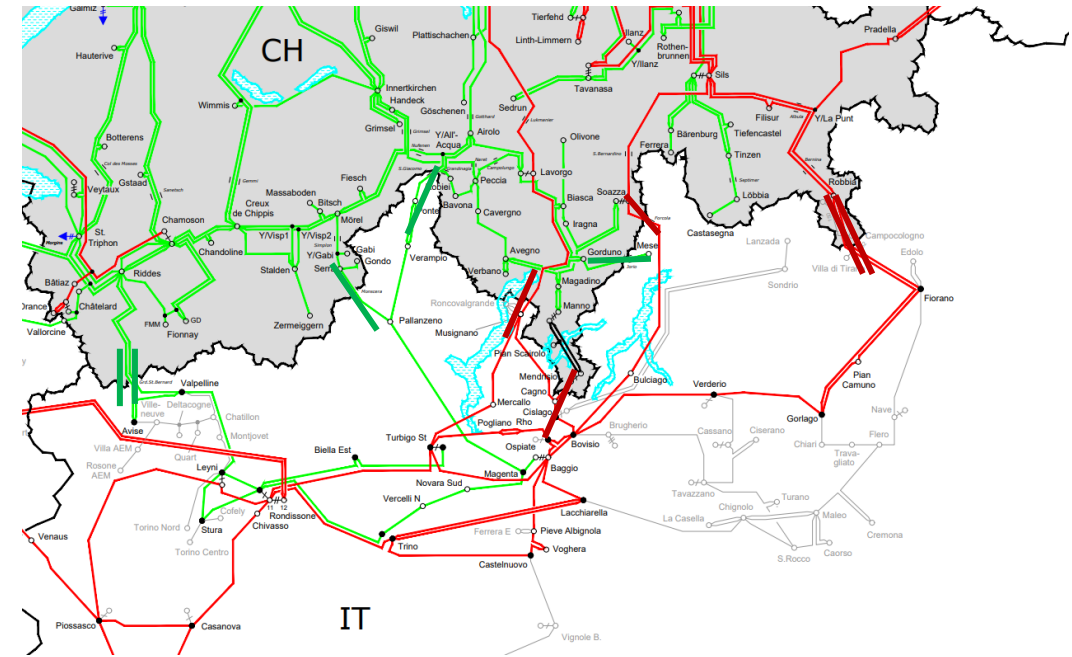
- Swissgrid fully participates in the **Italy North Capacity Calculation** process.

What exactly does the 70% then mean?



70% of the maximum NTC so far?

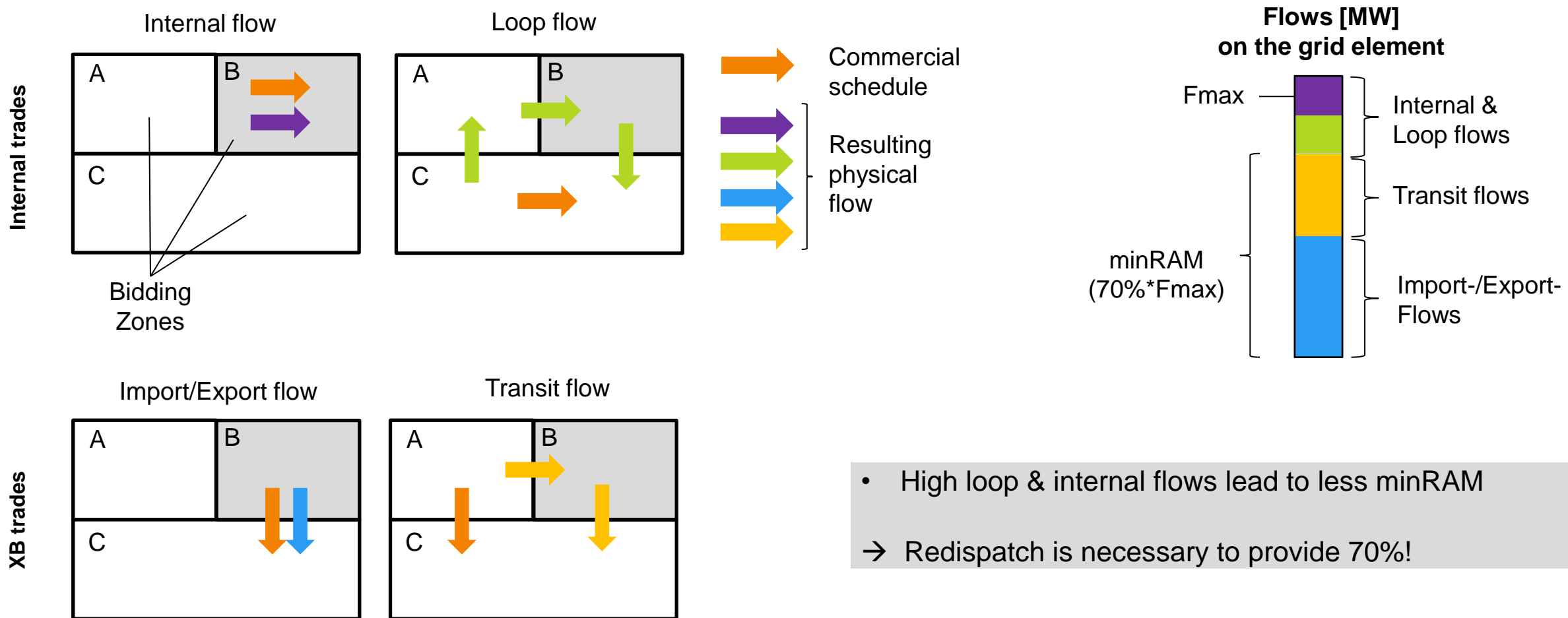
70% of the cross-border lines' thermal capacities?



- CH→IT
- 10 220/380 kV tie-lines with approximately 10100 MW in total
- **70% = 7070 MW**

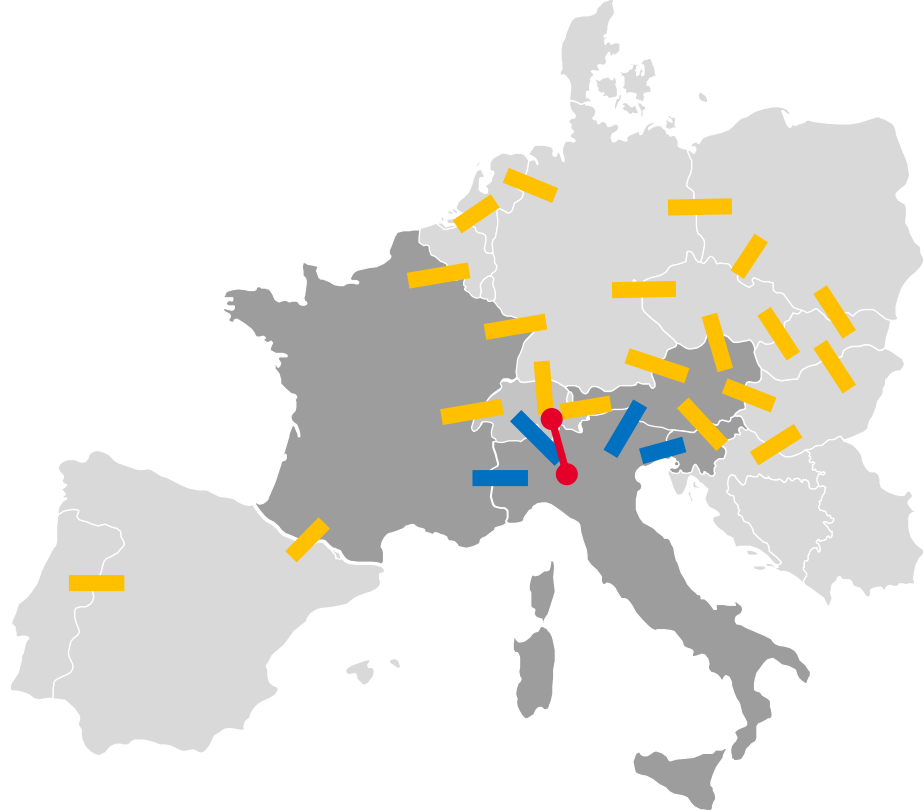
The critical network elements must have at least 70% of their capacity available for capacity calculation respectively cross-border trade.

Or in other words: Summing up all cross-border trades must lead to flows that load the relevant element to at least 70%.



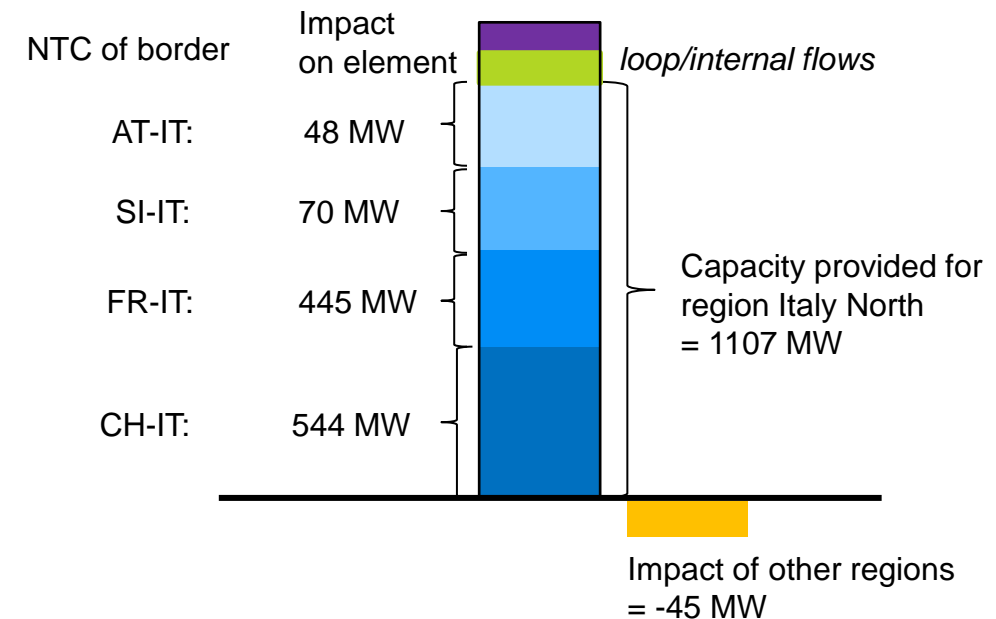
On the Italian Northern Borders, congestions are typically mainly influenced by cross-border trade – the capacity made available for NTC is therefore high.

Attribution of cross-border trades to Transit and Import/Export* from the Italy North view



- Trade that contributes to **Import/Export** flows on the elements
- Trade that contributes to **Transit** flows on the elements

- Typical late summer situation: Monday night (22:30)
- NTC in import direction to Italy approx. 6500 MW
- **Congestion** lies on the border Switzerland-Italy
- Congested element can provide 1180 MW in total

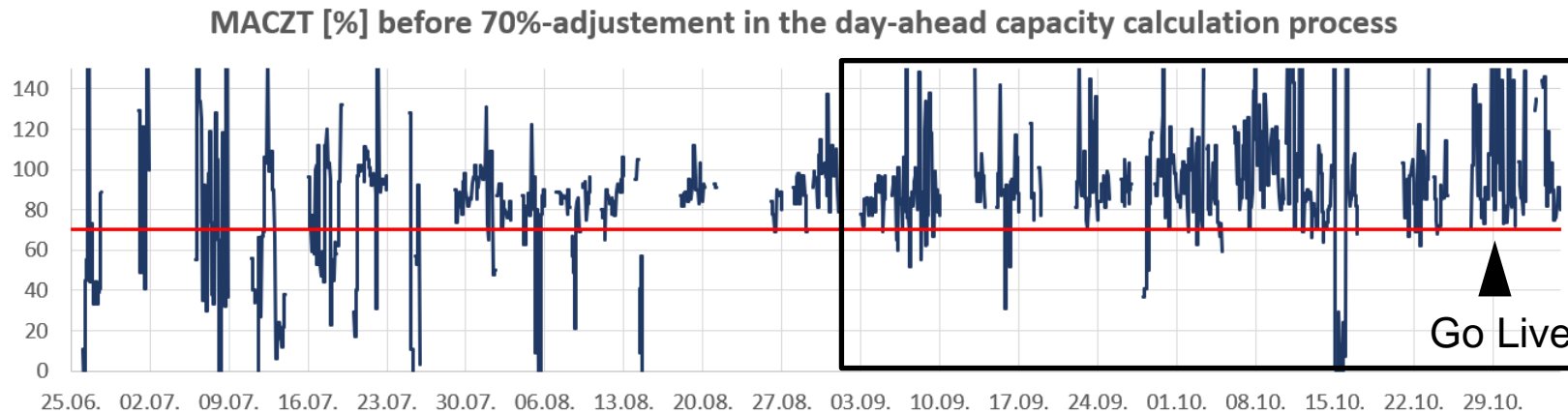


70% reached?

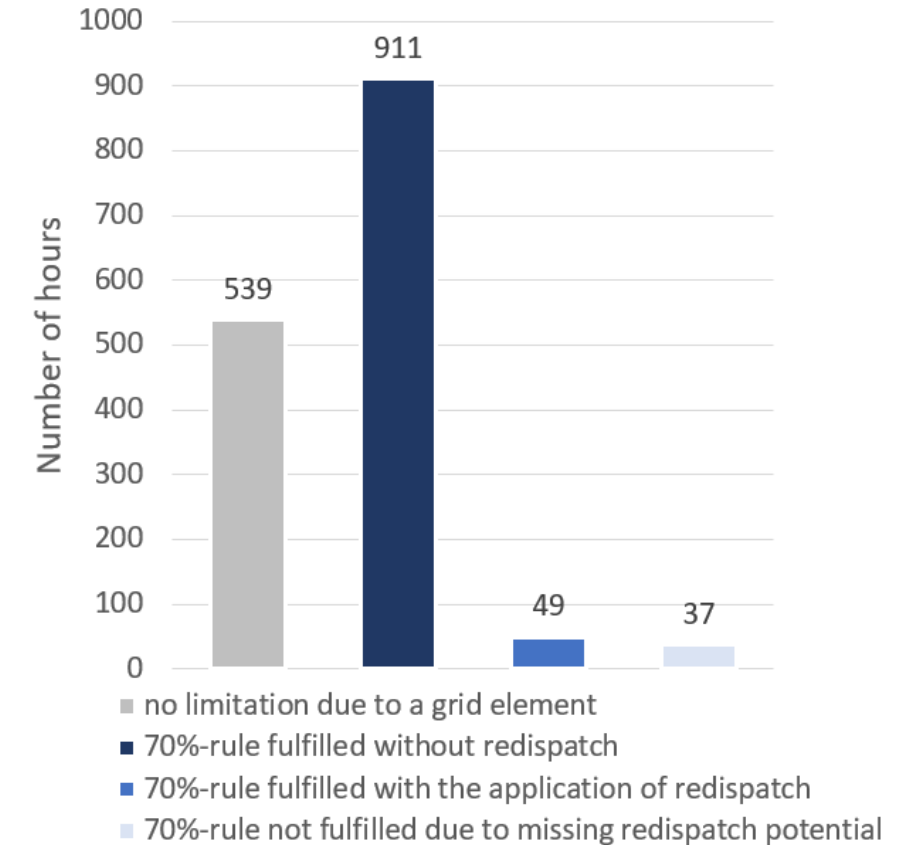
$$\frac{1107 - 45 \text{ [MW]}}{1180 \text{ [MW]}} = 90\%$$

*ACER uses the terminology «MCCC» and «MNCC» for their monitoring.

The application of the 70%-rule went live on the 29.10.2021 in Italy North. The rule is fulfilled in the majority of time.



Fulfillment 70%-rule in Italy North [01.09.-03.11.2021]

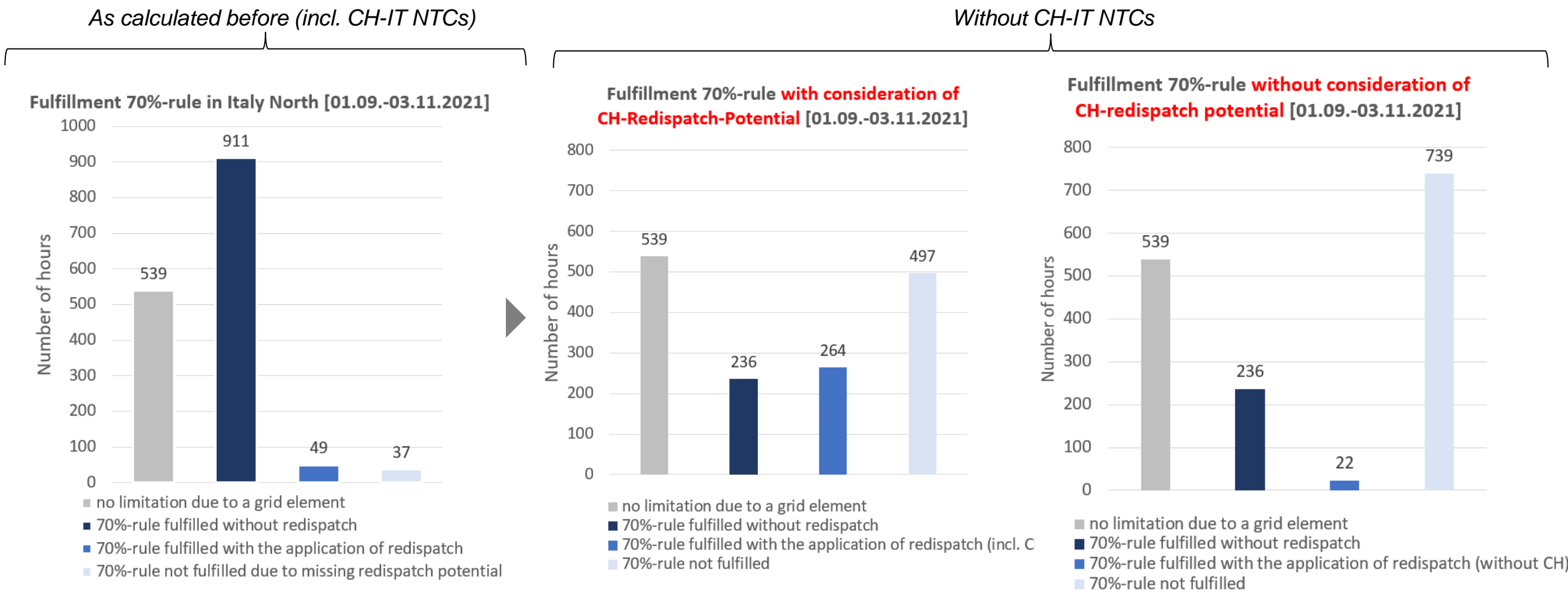


Main take-aways

- Taking into account the parallel run and the live results, the **70%-rule is mainly fulfilled, even without application of Redispatch.**
- Hence, an **increase in capacities CH → IT** should **not** be expected generally.
- The capacities & process already **fulfill** the latest **EU provisions.**

- Ca. 91,4% fulfilment without increase
- Ca. 4,9% small increase
- Ca. 3,7% no increase possible

If EU-Swiss* trades cannot be accounted to the calculation of the minRAM, the fulfilment of the 70%-rule drops heavily in Italy North.



(*) For this exemplary calculation, only the NTC CH-IT was excluded. Also CH-DE, CH-FR and CH-AT would need to be excluded.

News on Cross Border Capacity



Constanze Mende

Principal Market Operations



Review Swiss German export capacities of Summer 2021

The Swiss-German Export NTC for the DayAhead auction is assessed with the help of a methodology developed and presented last year.

- Methodology: <https://www.swissgrid.ch/en/home/customers/topics/congestion-mgmt.html>
- Main features:
 - Selection of limited set of **critical network elements** that can limit the NTC
 - Progressive acceptance of **redispatch** to support the NTC
 - **Minimum** level of capacity
 - Application of 2 market scenarios: [CH fully exports] vs. [CH transits from France]
- The NTC is calculated on a **weekly basis** for the «**Full Export**»- and «**Transit**»(FR>CH>DE)-scenario.
- The decision which scenario is used for the allocation is taken in D-2 based on a **FR- and CH spot price forecast**

Impacting factors for the CH→DE NTC

- General Maintenance in the grid
- Availability of Swiss nuclear power plants
- NTC Switzerland-Italy

Qualitative rule of thumb

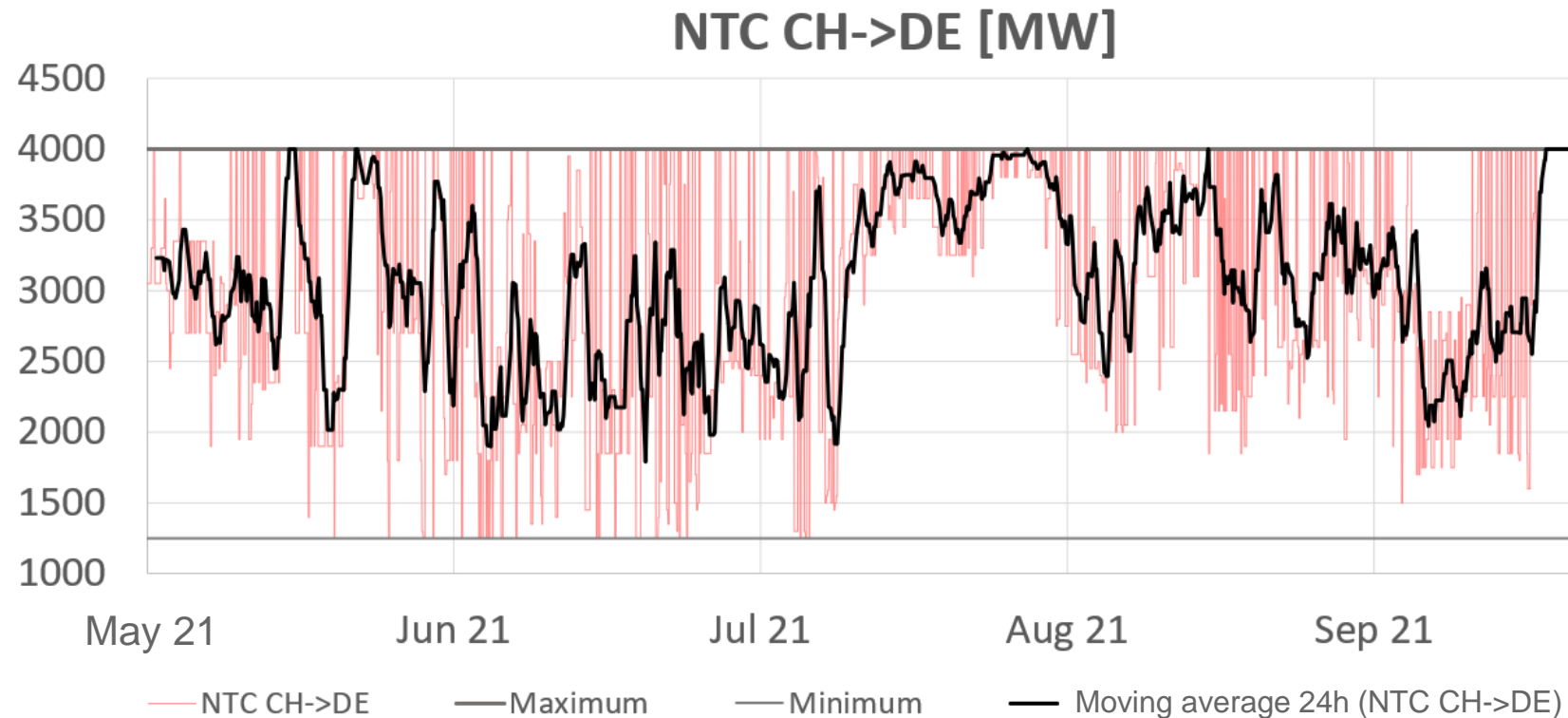


up

NTC

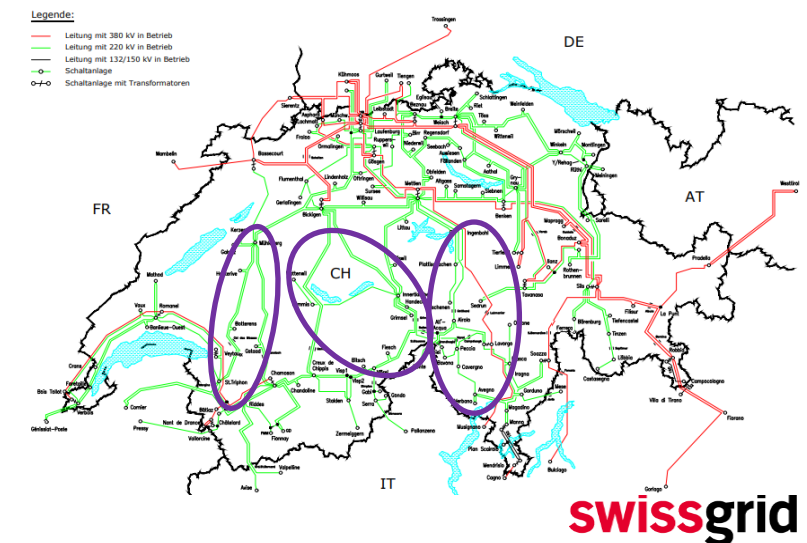
- Less maintenance (unusual in summer)
- More nuclears available (counterpressure)
- Reduced NTC with Italy (e.g. low consumption)

The summer of 2021 was characterized by a lot of maintenances having an impact on the NTC CH->DE



- The upper NTC-limit of **4000 MW** is determined by the German TSOs
- The lower NTC limit of **1250 MW** is always ensured by Swissgrid.
- High values on the weekends are caused by **low NTC CH-IT values**.

Localisation of the most influencing outages



Swissgrid aims at improving the NTC CH-DE process for summer 2022

- A Technical Workshop is planned to be organized in January/February 2022 similar to the one held in 2020.
- Main aim: create **transparency** about the current methodology and collect inputs and ideas for **improvement**.
- Swissgrid will give insight:
 - Examples how the NTC is limited in certain situations
 - Reliability of the price forecast to determine the market scenario
 - Application of redispatch
 - Outlook for the long-term improvement: Core-Swiss Northern Borders Capacity Calculation
- Market participants will get the opportunity to bring in their ideas to level-up this process.

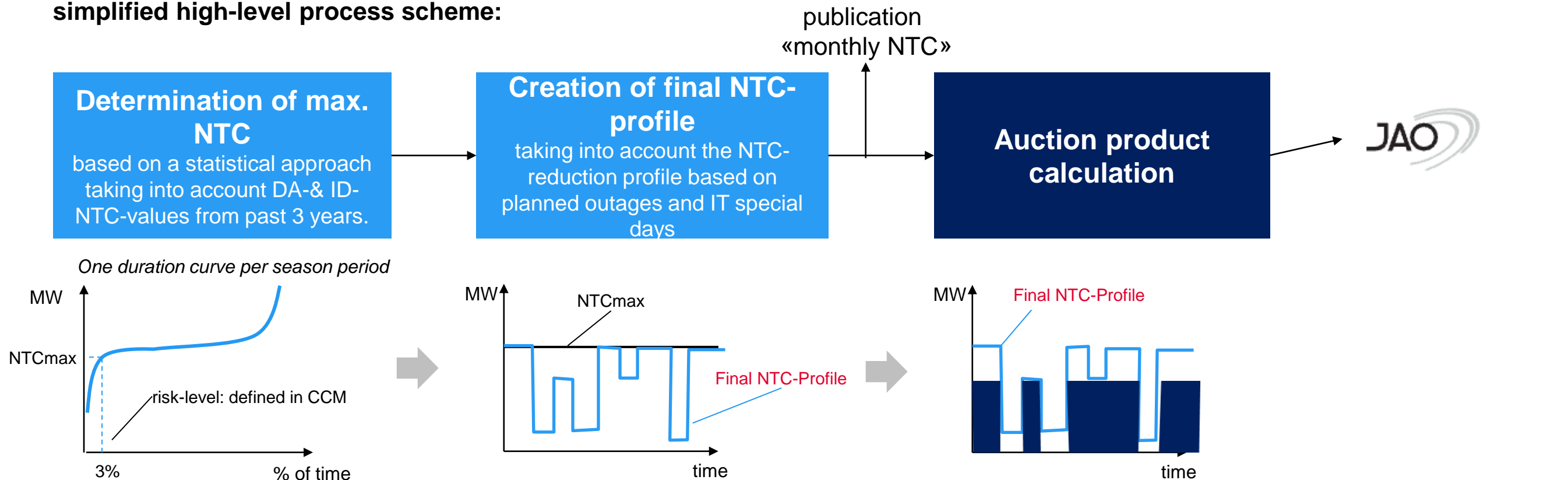


New long term capacity process in Italy North

Starting from 2022, a new coordinated long-term capacity calculation and auction product calculation process will be implemented on the Italian borders

- This new process, which is coordinated within Italy North, is in line with Network Code «Forward Capacity Allocation» and replaces today's bilateral long-term capacity processes.
- Swissgrid is included in the Capacity Calculation Methodology^(*) as a Technical Counterparty and participates voluntarily in the product calculation process according to the Splitting Methodology for more transparency and efficiency.

simplified high-level process scheme:

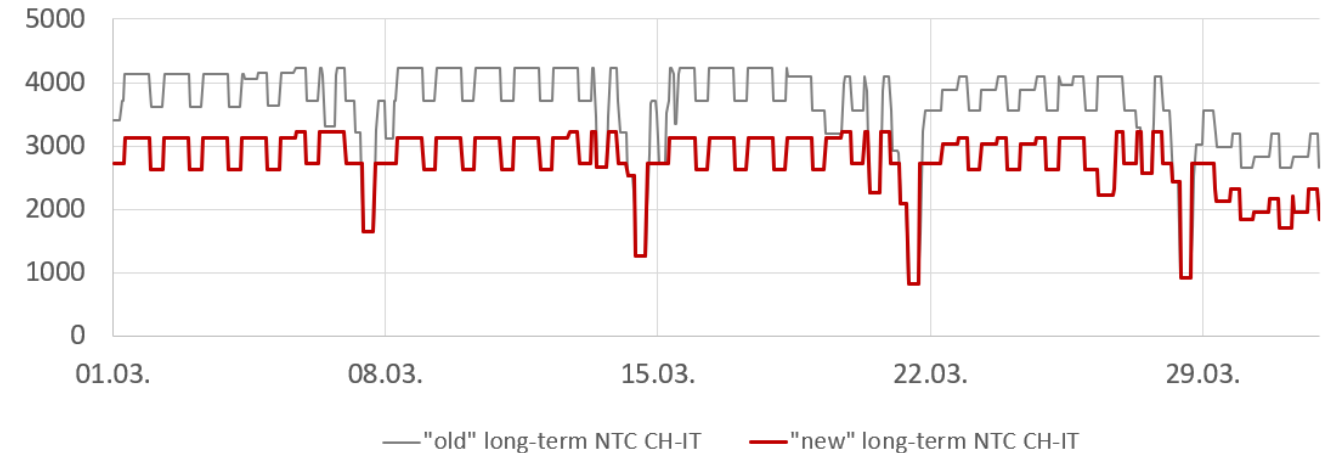


If the new long-term process had been available already in 2021, the following results for the NTC CH->IT would have been the consequence.

NTC values

- The published monthly and yearly NTC profile would have been **appr. 1 GW lower in winter** and **700 MW in summer period**.
- **Day Ahead- and Intraday Capacity Calculation process remains unchanged**, which means that the short-term-capacity will remain in the same range as today.
- **Important change:**
It is not foreseen to continue publishing updates of the old long-term NTC values, if an outage has changed after the monthly/ yearly auction. Nonetheless, these values will be considered internally and still serve as a backup for the Day Ahead- and Intraday Capacity Calculation process

Example: "Old" vs. "new" long-term NTC March 2021 [MW]



Example: Short-term NTC March 2021 [MW]



If the new long-term process had been available already in 2021, the following results would have been the consequence.

The algorithm for calculating the yearly and monthly auction products based on the NTC profile has been designed to:

- Increase the yearly product.
- Determine the products allowing for a product validity period of at least 80% of the time.
- Determine the products with a max of maintenance periods of 25 for the yearly product and 5 monthly products.

2021	Results today's process		Results with LT and splitting CCM	
CH->IT	BASE	PEAK	BASE	PEAK
Yearly	800		1019	
Jan	1000	800	1268	901
Feb	1000	1000	1269	849
Mar	800	800	925	1092
Apr	400	200	118	799
May	100	200	294	125
Jun	300	300	325	275
Jul	300	400	275	250
Aug	200	100	359	380
Sep	300	100	125	200
Oct	100	100	43	849

2021	Results today's process	Results with LT and splitting CCM
IT->CH	BASE	BASE
Yearly	650	341
Jan	600	584
Feb	600	581
Mar	600	580
Apr	600	582
May	300	419
Jun	300	417
Jul	300	414
Aug	300	417
Sep	300	415
Oct	600	581



Cross border intraday capacity allocation on the Swiss – Italian border

Theodoros Sevdas
Principal Market Operations

Intraday allocation on CH – IT border changed to explicit

- Successful Go live of Local Implementation Project (LIP 14) and Single Intraday Coupling (SIDC) on 21. September 2021
- Both mechanisms can not be applied on the border Italy-Switzerland as preconditions mentioned in GL CACM are currently not being met by Switzerland
- Swissgrid and Terna continued starting from 28. September 2021 to offer to market participants available intraday capacity on the border Italy-Switzerland in two explicit auctions performed by JAO S.E.

	Auction time	Auction Results	Delivery time	Nomination Deadline	Cut Off Time
explicit intraday auction 1	16:15 – 16:30, d	16:35, d-1	0 – 24	22:35, d-1	22:50, d-1
explicit intraday auction 2	09:15 – 09:30, d	09:35, d	12 – 24	10:35, d	10:50, d

Way forward to improve intraday allocation on CH – IT border

Swissgrid and Terna are currently investigating on two possible options to improve the current intraday allocation:

Implementation of additional continuous explicit intraday capacity allocation

- Introduce continuous first come first served allocation in addition to the existing explicit auctions in the time when intraday auctions are not taking place
- Continuous processes similar as on CH-DE, CH-AT and CH-FR border
- lead-time one hour before delivery

Implement possibility to nominate auctioned intraday capacity in more than two gates

- Two explicit auctions will remain as today
- Introduce up to 24 nomination gates, not only two as today
- lead-time one hour before delivery

Future evolution of the intraday mechanism on CH-IT border will be discussed also with ARERA and ElCom
Swissgrid and Terna will keep the market participants updated

EPEX SPOT

Market Overview

New Markets & Products

Swissgrid - BGM Meeting

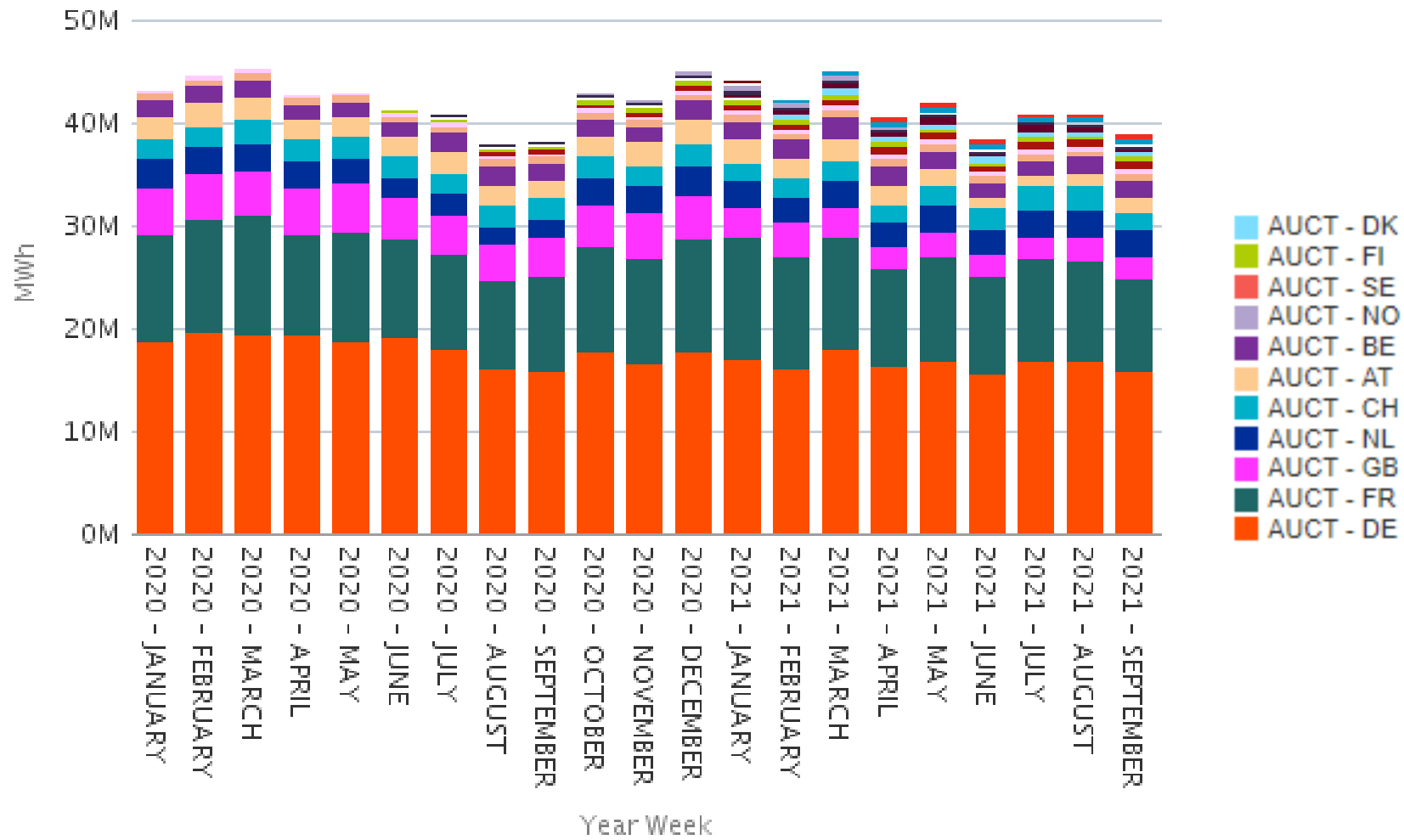
9 November 2021

Davide Orifici – d.orifici@epexspot.com

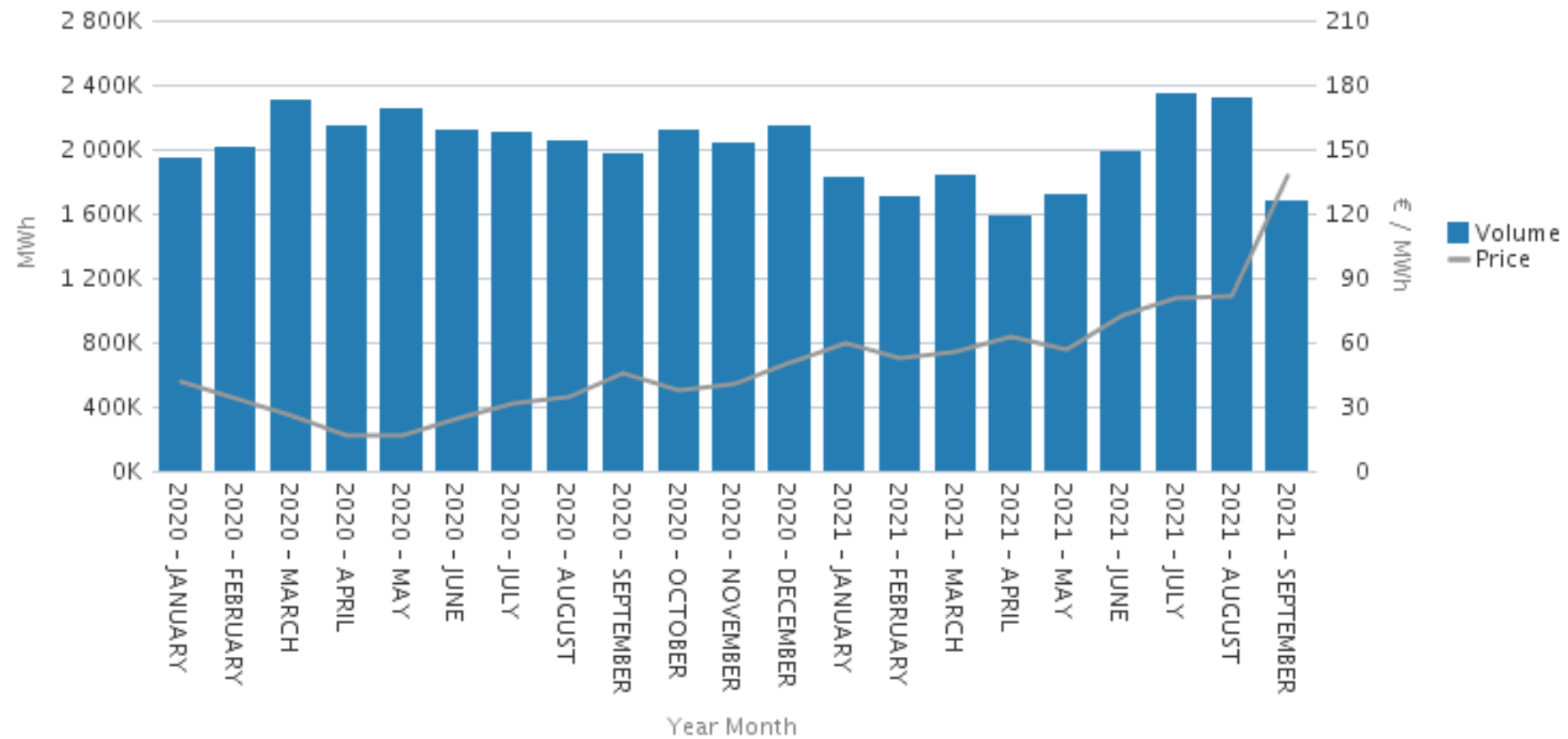
Head Swiss Office - Director Public & Regulatory Affairs

EPEX SPOT

EPEX SPOT volumes: Day-ahead Markets

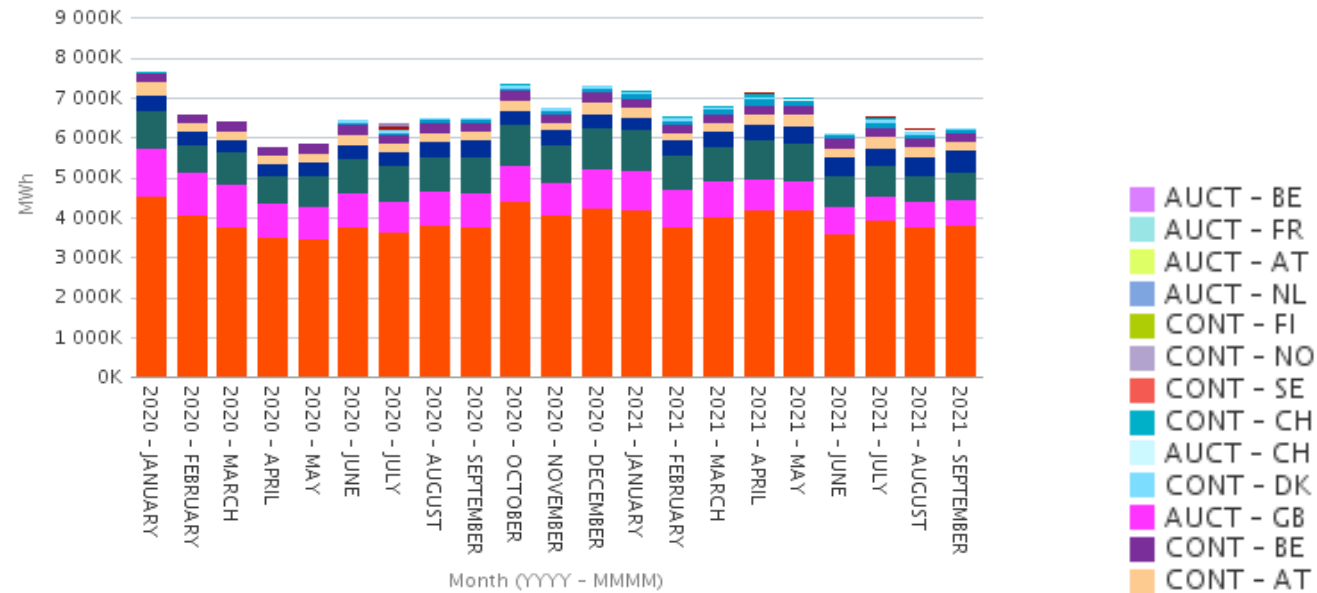


Swiss Day-ahead volumes and prices

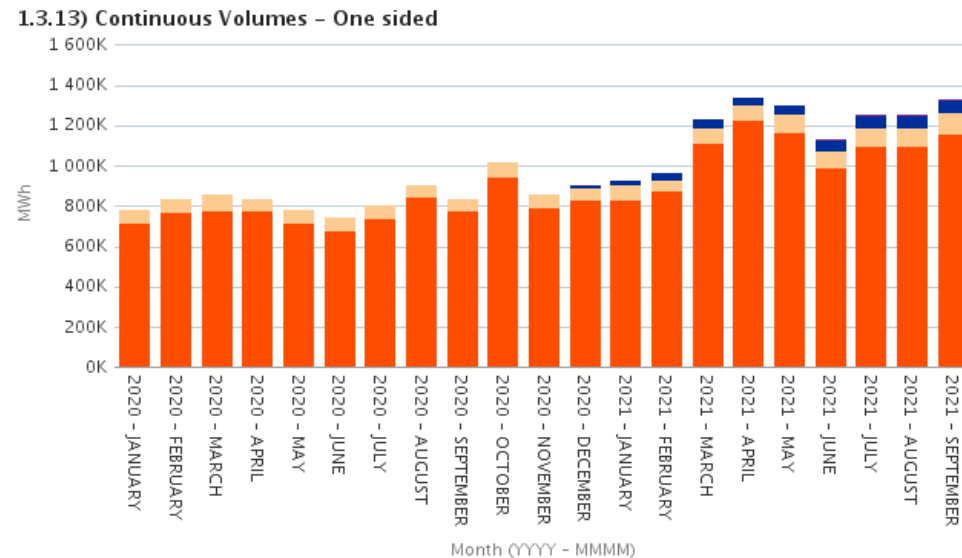


EPEX SPOT volumes: Intraday Markets growth fueled by 15 min products

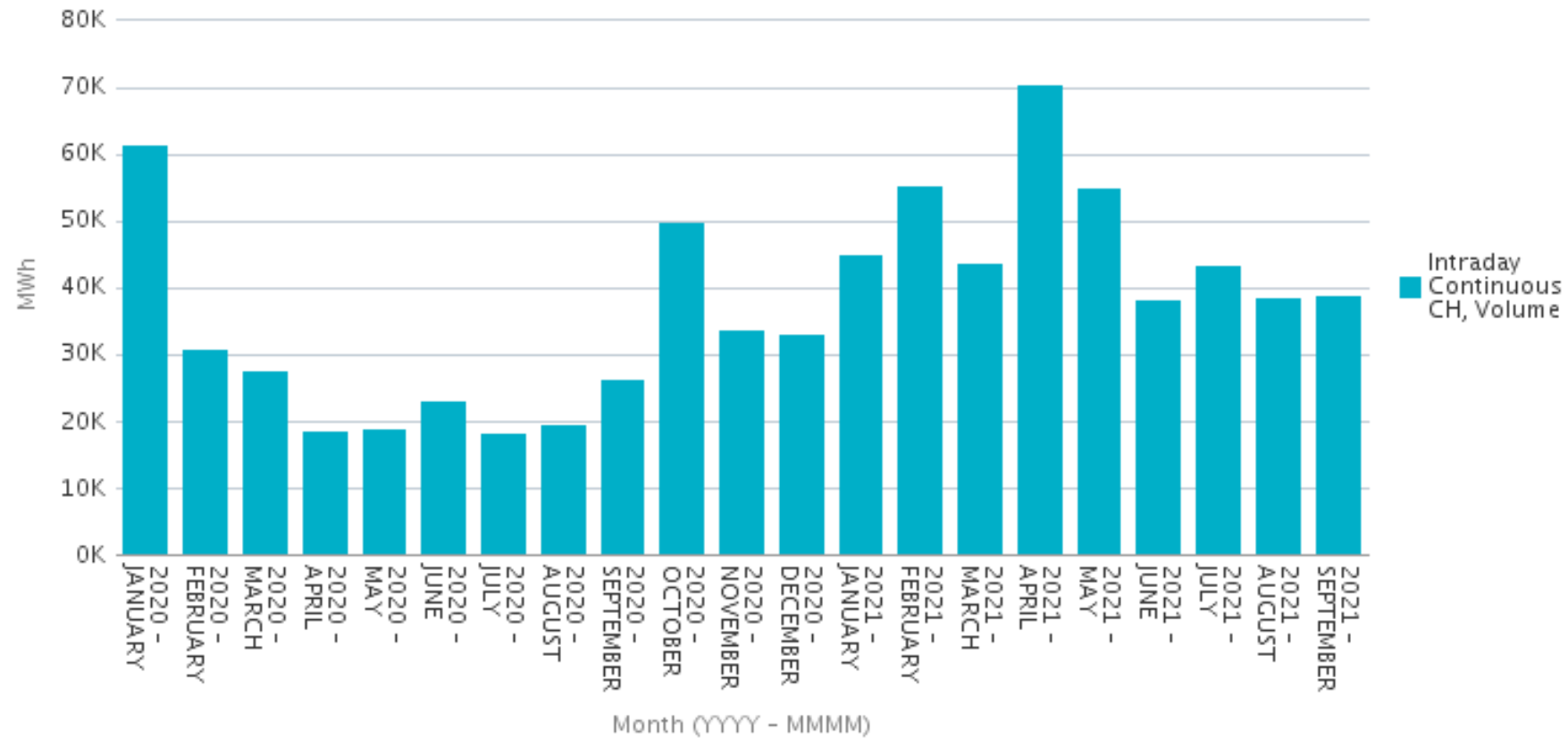
60 min



15 min



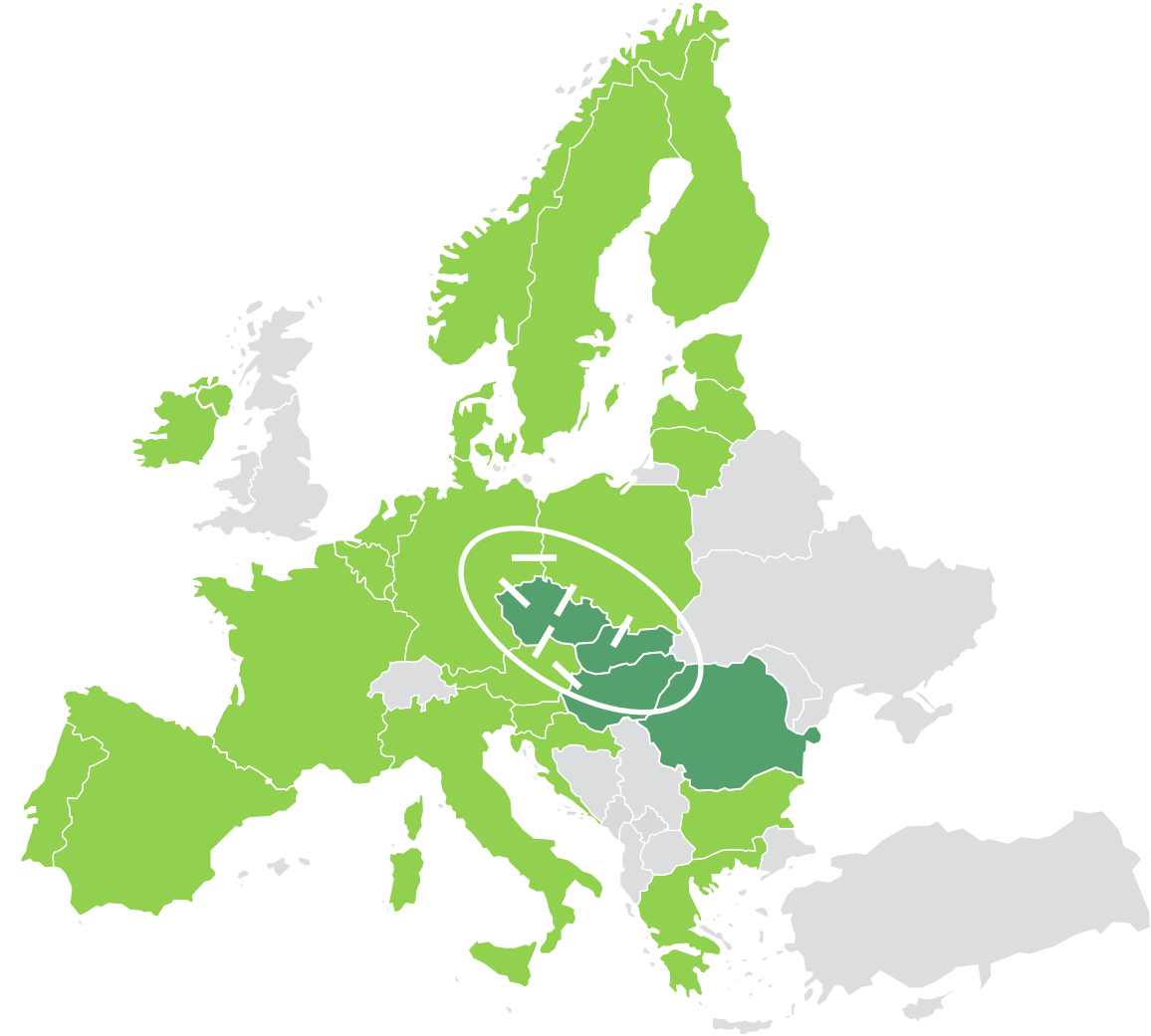
Swiss Intraday continuous volumes



Switzerland increasingly isolated from the
European wholesale power market

DE-AT-PL-4M Interim Coupling and CORE Flow-Based Market Coupling - current status

- DE-AT-PL-4M Interim coupling project went live in June 2021.
- CORE Flow-Based go-live is planned for February 2022 since a sequential implementation was confirmed. EPEX is actively participating to this project following NRAs guidance.
- EPEX SPOT is involved in Interim Coupling and CORE FB Project as a NEMO in Austria, Germany and Poland. It also acts as Service Provider of HUPX. Gate closure time changed from 11:00 to 12:00 CET in the 4M region.



SIDC geographical extensions

Countries coupled Intraday with 3rd, 4th and 5th SIDC Go-Live



Countries coupled in
1st and 2nd go-live



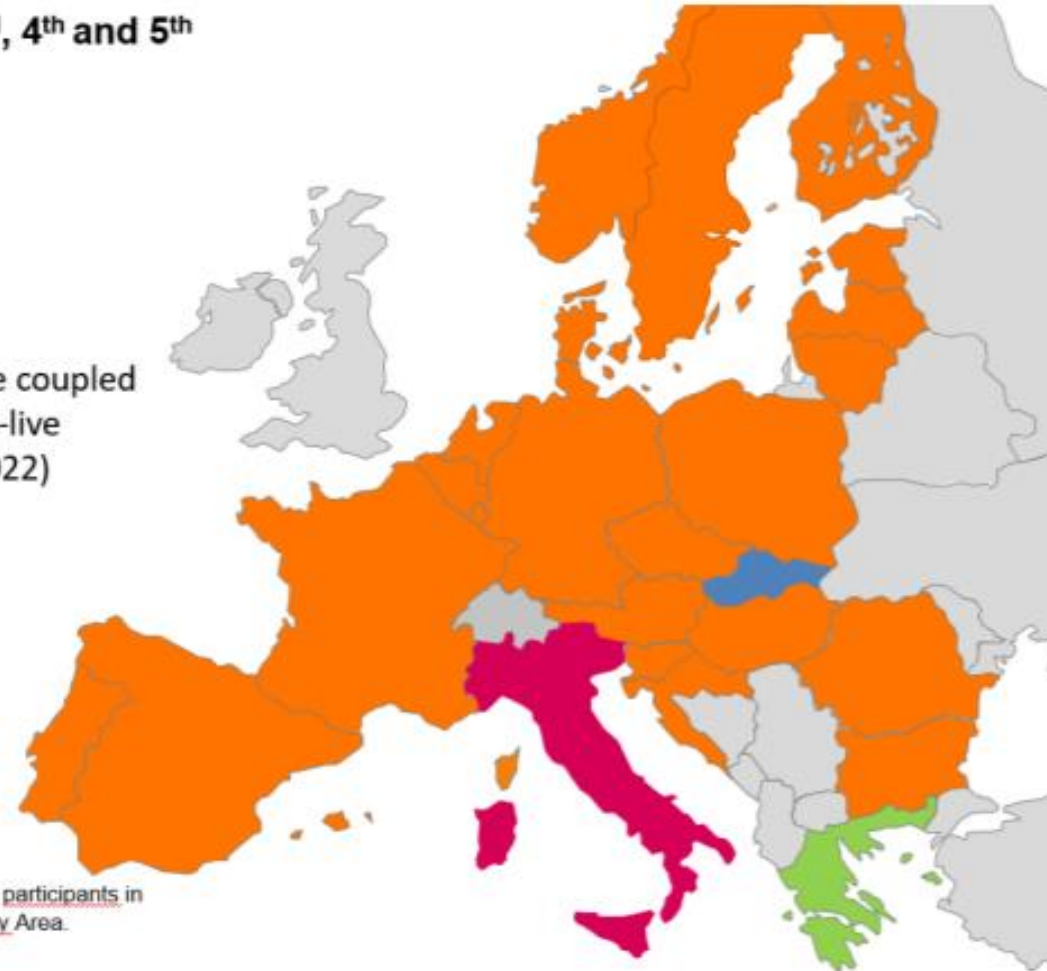
Country coupled
in 3rd go-live
(21 September 2021)



Country to be coupled
in 5th go-live
(end 2022)



Country to be coupled
in 4th go-live
(TBD)



Note: Luxemburg is part of the Amprion Delivery Area. Market participants in Luxembourg have access to SIDC through the Amprion Delivery Area.

Source = NEMOs, SIDC

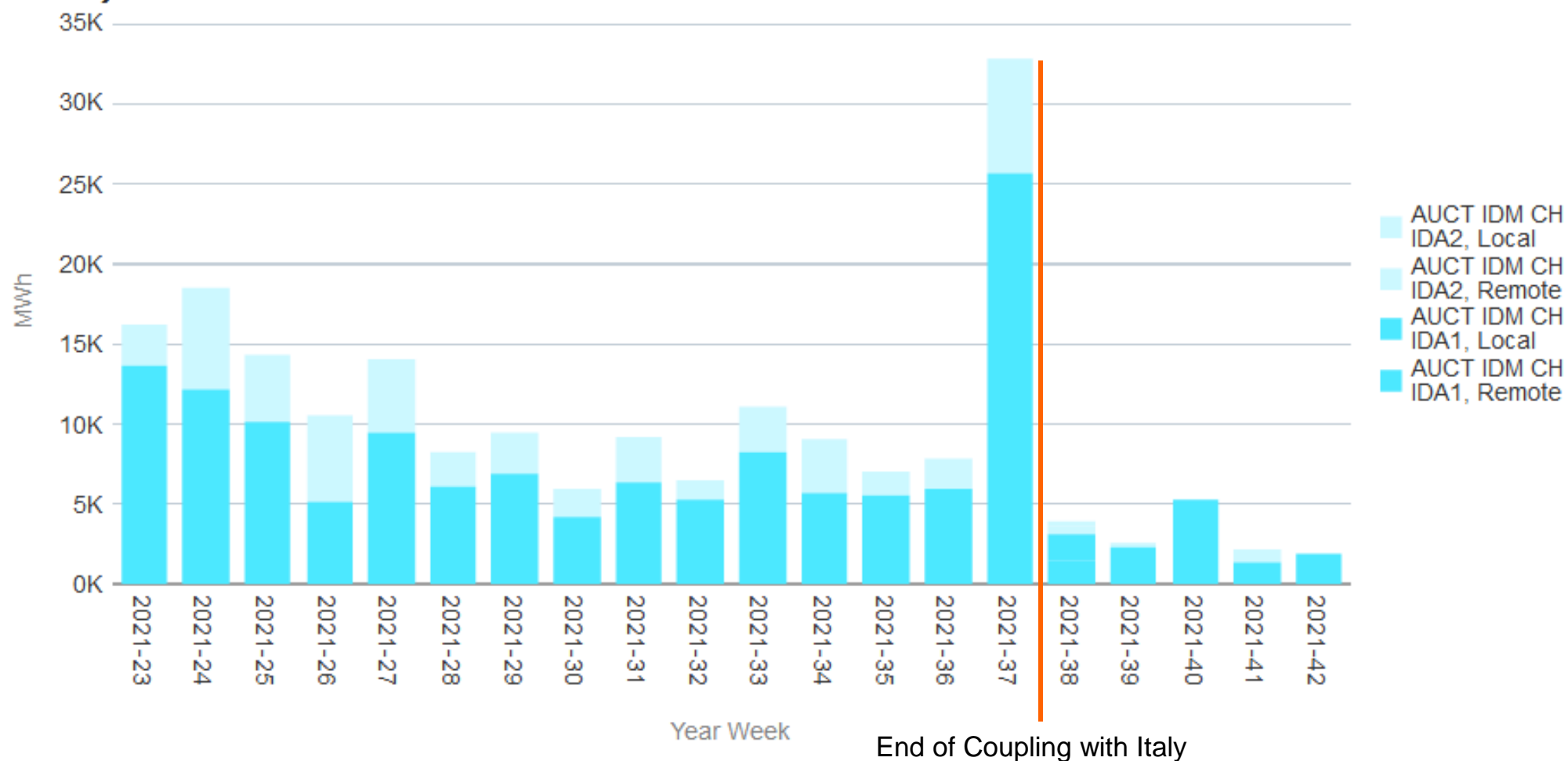
CH-IT Intraday Auctions

- The Swiss Intraday auctions are now local since 21 September 2021.
- Italian Parties stopped the coupling as announced as they wished to focus on SIDC integration and CRIDA (Complimentary Regional Intraday Auctions) launch. Cross border capacity is available on JAO platform.
- CH IDA volumes have decreased, but maintain a good level of liquidity for Intraday auctions.



Swiss Intraday auctions volumes evolution since going local – 21 September 2021

1.4.12) Auction Volumes



EPEX SPOT's reaction to the increasing isolation of Switzerland

Contact

If you have any questions, please contact us at:

✉ press@epexspot.com

Download center

- 210921 - Press Release - End of CH-IT implicit ID auctions [pdf]

Missing Swiss-EU electricity agreement endangers achievements of EU Internal Energy Market

Last solution for implicit cross-border trading stopped on 21 September 2021 – Significant welfare losses for Swiss and EU industries and citizens

Paris / Bern, 21 September 2021. On 21 September 2021, Switzerland quits the last bit of electricity market integration with EU countries: the Intraday auctions at 4.30 pm and 11.15 am are no longer coupled with Italy. As of today, market participants will need to estimate and buy cross-border capacity additionally to the electricity – which will inevitably lead to inefficiencies and overall welfare losses. This will, in the end, result in higher prices for end consumers in both Switzerland and the surrounding EU countries.

The end of the coupled Intraday auctions marks a further crucial step of a disintegration process which happens due to a missing electricity agreement between Switzerland and the EU, which would give Switzerland equal access to the EU Internal Energy Market. This is in stark contrast to the history of the bilateral cooperation in terms of electricity between Switzerland and its neighbours, as Switzerland is strongly rooted within the European electricity sector. In the 2000s,

SIDC Pan-EU IDAs – go-live planned by Q3 2023

Intraday Auctions

- Different options for the integration of the Intraday continuous (SIDC, XBID) and the Day-Ahead auction infrastructure (PCR) are currently evaluated by SIDC NEMOs and TSOs. This particularly concerns the way the data is exchanged between the involved systems.
- The aim is to take a decision on the option to be implemented in Q4 2021, which implies a delay against the initial project roadmap (Q3 2023 is targeted). Since the day-ahead infrastructure and project organization will be used by or extended to SIDC, the cooperation with SDAC as well as PCR (day-ahead infrastructure provider) needs to be properly defined and formalised in the coming months.

SIDC Pan-EU IDAs

Following ACER decision on ID Product methodology (01/2020) and the need for TSOs to put a price on the provided cross-border capacity, SDAC and SIDC continuous will be complemented by SIDC Intraday Auctions by 2023. The following functioning is decided:

Supported products

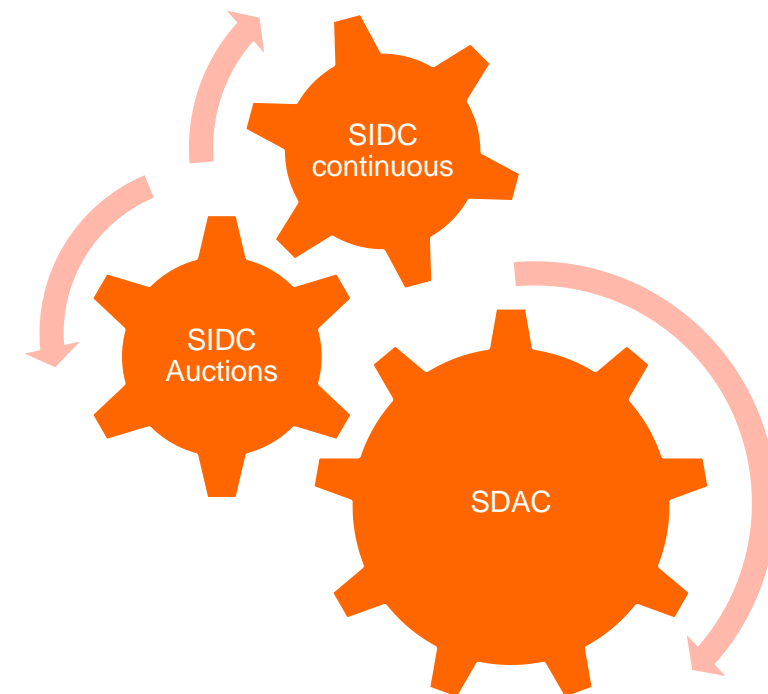
- Same as in SDAC, but no Italian PUN
- In case of algorithm performance scarcity, same distinction between mandatory and optional products

Markets cascade effect

- SIDC continuous is closed during IDAs process
- TSOs will provide leftovers from SDAC and SIDC continuous or recalculated capacities

Timings:

- 3pm D-1, tradeable contracts [0-24 D]
- 10pm D-1, tradeable contracts [0-24 D]
- 10am D, tradeable contracts [12-24 D]



Two key factors for success:

- TSOs cross-border capacities
- Market participants orders

Maximum Day-Ahead and Intraday clearing Prices on the Spot Power markets

Day-ahead max price increase in GB on 27 Oct 2021 - SDAC and Switzerland following next?

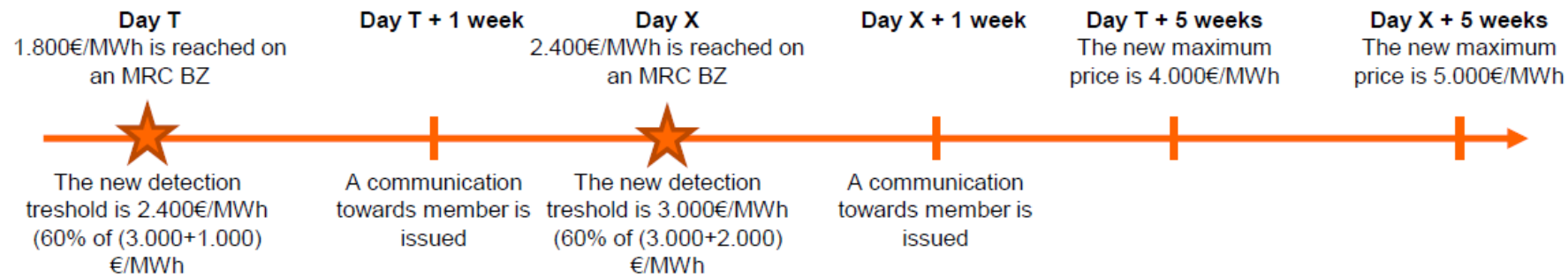
- Currently, the maximum clearing price in the SDAC Day-Ahead auctions is set at 3000 €/MWh. Since 01 July 2019, if the clearing price exceeds 60% of the maximum price, for a single hour in one bidding area in SDAC, the maximum clearing price will be increased by 1000 €/MWh for all bidding areas of SDAC.
- The increase will be applied five weeks after this 60% threshold has been reached. Should this happen, we will inform our members in a timely manner about the increase and its go-live date.
- For GB market, EU regulation does not apply. Following market participants recommendations, EPEX will increase its max price to GBP6000/on 27 October 2021 → check impacts in terms of exposure, limits and collaterals
- If we increase the max price in SDAC, we would also increase it in CH and other local auctions, unless requested otherwise by market participants

Example of 2 consecutive max price increases

Example 1



Example 2



Thank you for your attention! – Q&A Session

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International balancing cooperations and impact on imbalance price

Tobias Ott
Head of Product Development



Current status

Integrated Market & TERRE

Influence Integrated Market and TERRE on the Imbalance Price

7 Calculating and billing the balance energy

7.1 Price mechanism for balance energy

The balance energy price mechanism is a two-price system in which the 15-minute prices for balance energy are classified according to the direction of the 15-minute deviation of a balance group.

The allocation can be inferred from the following table:

Balance group	short (deficit)	BGV pays (A + P ₁) * α ₁	A = max (P _{spot} ; P _{sek+} ; P _{ter+})
	long (surplus)	BGV receives (B – P ₂) * α ₂	B = min (P _{spot} ; P _{sek-} ; P _{ter-})

With alpha factors as following:	α ₁	1.1
	α ₂	0.9
With base price as following:	P ₁	1 ct/kWh
	P ₂	0.5 ct/kWh

Note:

1. Within the calculation of the prices A and B, the prices of P_{sek} and P_{ter} will only be used if a use of secondary control or tertiary control occurred in the relevant direction.
2. P_{spot} is the Swissix day-ahead spot price for the given 15-minute period.
3. P_{sek} is the price for the secondary control energy in the given 15-minute period.
4. P_{ter-/+} defined as the weighted average price of the tertiary control energy which is procured in a quarter hour and serves the purpose of tertiary control in Swiss control area⁴.
5. If the price (A+P₁) results in a negative price, the alpha factor α₁ will be replaced by the alpha factor α₂. If the price (B-P₂) results in a negative price, the alpha factor α₂ will be replaced by the alpha factor α₁.

Key Messages

- Procured tertiary control energy for the purpose of **tertiary control in Switzerland** is considered in the imbalance price
- Procured tertiary control energy for the purpose of **redispatch** is **not** considered in the imbalance price
- Procured tertiary control energy for the **purpose of balancing outside of the Swiss control area** (e.g. MEAS, TERRE) is **not** considered in the imbalance price.

⁴ The procured tertiary control energy includes all tertiary requests in the Swiss control area, the procurement of tertiary control energy for the Swiss control area from common platforms with other TSOs, as well as the procurement of tertiary control energy within the framework of bilateral assistance contracts between Swissgrid and other TSOs. The share of procured tertiary control energy which serves the purpose of Redispatch is not taken into account. The part of the tertiary control energy, which is procured on behalf of other TSOs or is procured on behalf of common platforms with other TSOs and is activated in the Swiss control zone for balancing needs outside the Swiss control zone is also not taken into account.

Examples for TERRE

According to the balance group contract appendix 1, section 7.1:

Swiss need covered by TERRE	Considered in imbalance price
RR-activations in Switzerland for TERRE	Not considered in imbalance price

Examples

- 1 100 MWh tertiary control need in Switzerland are covered from TERRE for 50 EUR/MWh (e.g. by activations in France)
→ The 100 MWh covered tertiary control need for 50 EUR/MWh are considered in the imbalance price.
- 2 200 MWh RR bids are activated in Switzerland for TERRE. At the same time 70 MWh tertiary control need in Switzerland are covered from TERRE. Clearing-Preis 50 EUR/MWh.
→ The 200 MWh RR activations are **not** considered in the imbalance price. The 70 MWh covered Swiss need for 50 EUR/MWh are considered in the imbalance price.



Changes 2022

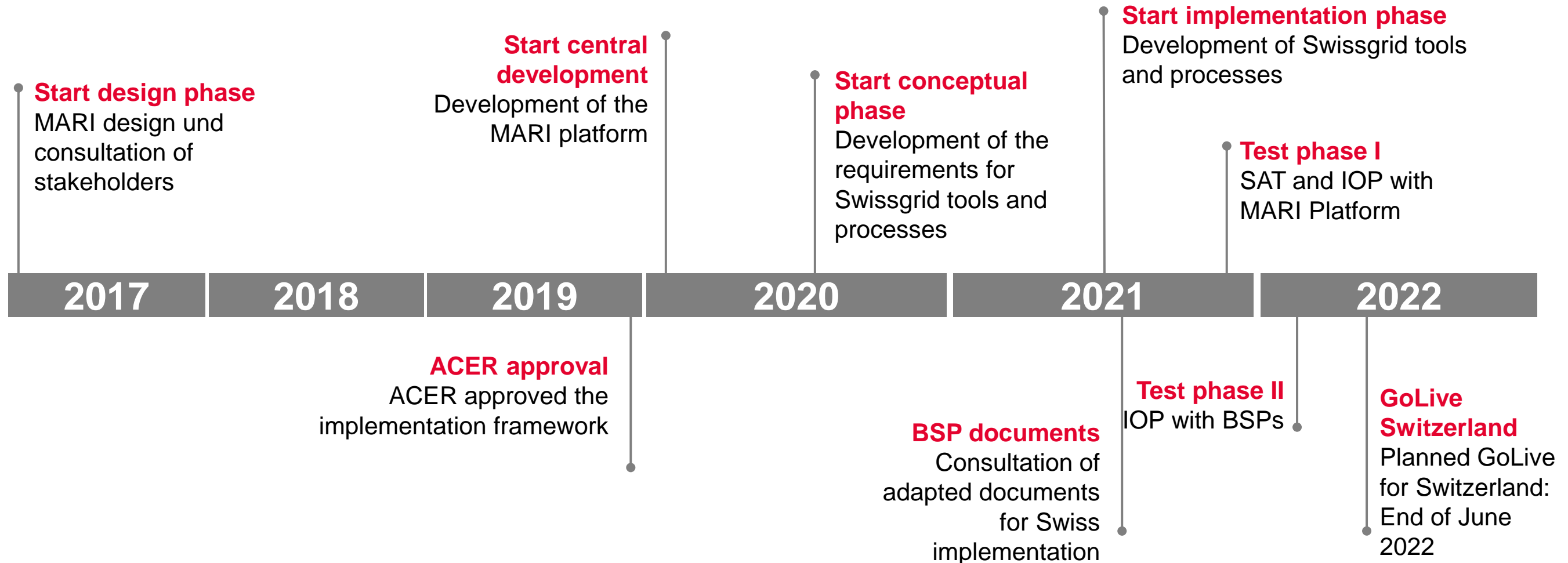
MARI & PICASSO

MARI – Manually Activated Reserves Initiative

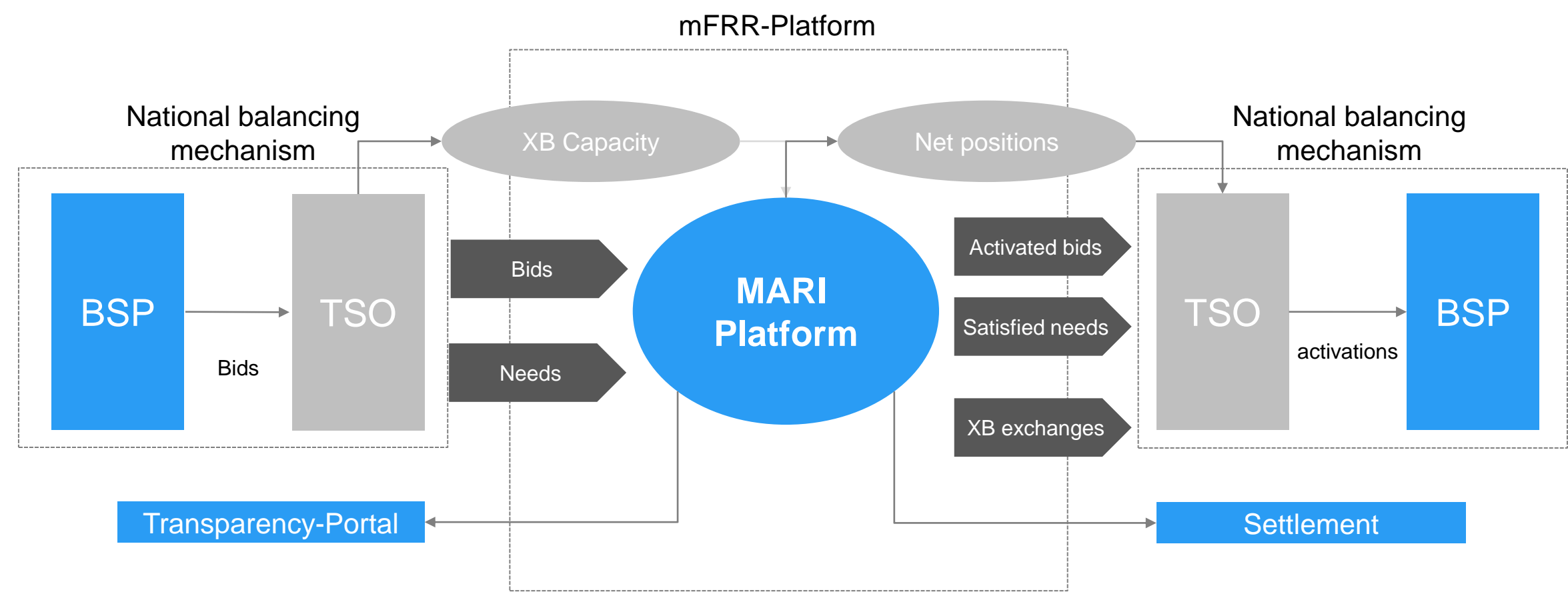
- The Electricity Balancing Guideline has been approved in March 2017. It foresees a pan-European mFRR platform.
- All member TSOs should exchange mFRR energy on this platform (manual frequency restoration reserve = fast tertiary control energy)
- All balance service providers in these countries that are prequalified can offer mFRR energy on a pan-European level.
- MARI members: 28 TSOs
- Swissgrid is a full member of MARI.



MARI Roadmap



Overview «mFRR Process»

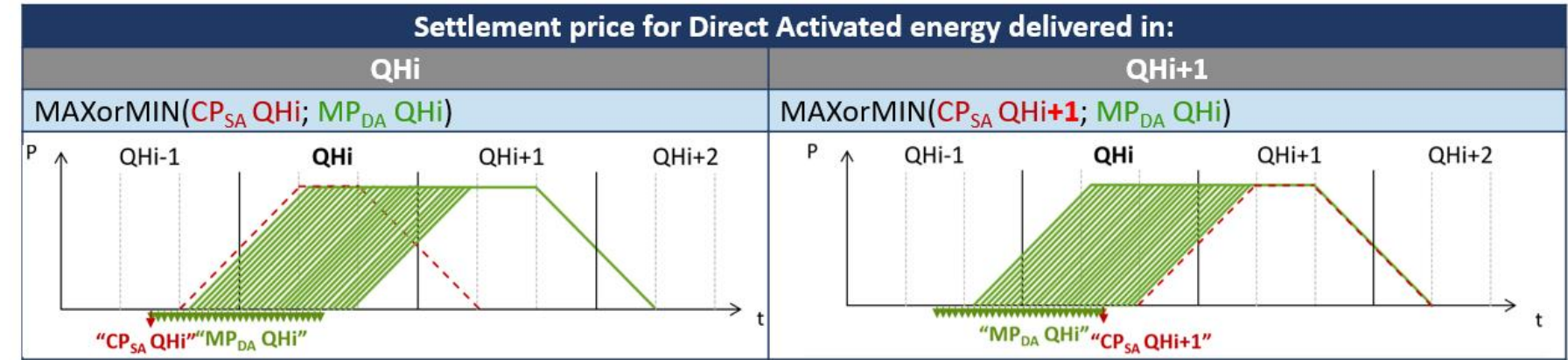
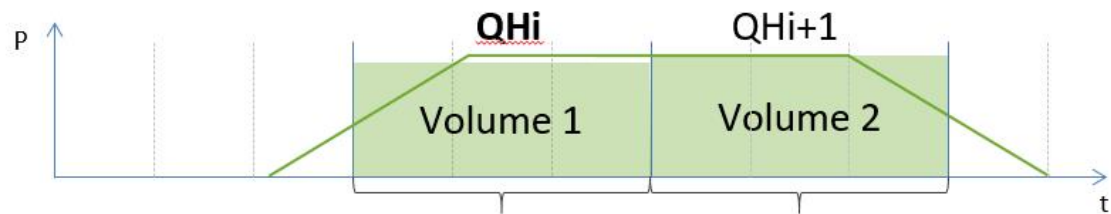


General principle for pricing in MARI: marginal pricing

Marginal pricing is the general principle for the determination of the settlement price for activated bids.

For scheduled activations (SA): the CBMP is equal or higher* than the most expensive activated bid.

For direct activations (DA): there are two CBMP for the two concerned quarter hours.



For quantities in QHi: Maximum out of all direct activations in QHi and the CBMP for SA in QHi

For quantities in Qhi+1: Maximum out of all direct activations in QHi and the CBMP for SA in Qhi+1 *For price indeterminacy

Calculation of tertiary control component in the imbalance price

The procured tertiary control energy **for the Swiss Scheduling Area, for the purpose of balancing** is considered in the tertiary control part of the imbalance price:

BGV pays $(A + P_1) * \alpha_1$	$A = \max (P_{\text{spot}}; P_{\text{sek+}}; P_{\text{ter+}})$
BGV receives $(B - P_2) * \alpha_2$	$B = \min (P_{\text{spot}}; P_{\text{sek-}}; P_{\text{ter-}})$

The calculation of P_{ter} includes the following steps:

- Step 1:** Determine the price and volume for the satisfied need of CH on TERRE
- Step 2:** Determine the price and volume for the satisfied need of CH on MARI
- Step 3:** Determine the price and volume of local TRE activations for the purpose of balancing⁽¹⁾
- Step 4:** P_{ter} = volume weighted average price from the prices of steps 1-3

(1): Backup, if MARI is not available due to technical reasons. Activations for other purposes are not considered.

An additional Business Type will be introduced with MARI

Activations from MARI platform will have a new Business Type.

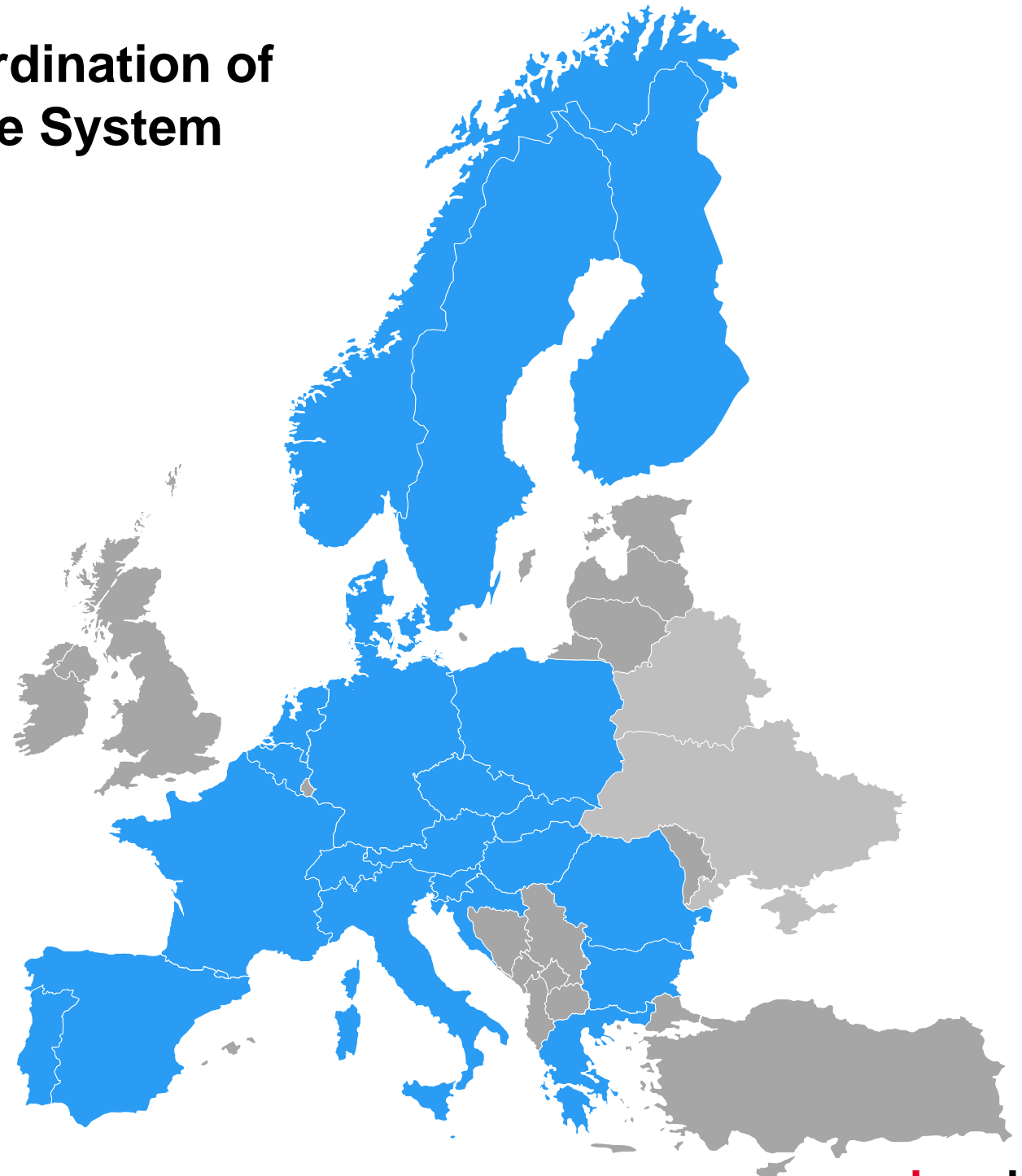
Currently in the Appendix 2 of the Technical Balance Group Regulations, the following Business Types are foreseen:

Tertiärregelenergie	Post Scheduling	"A10" (Tertiary control) "A98" (TERRE)	"A17" (Schedule Day)	Keiner
---------------------	--------------------	--	----------------------------	--------

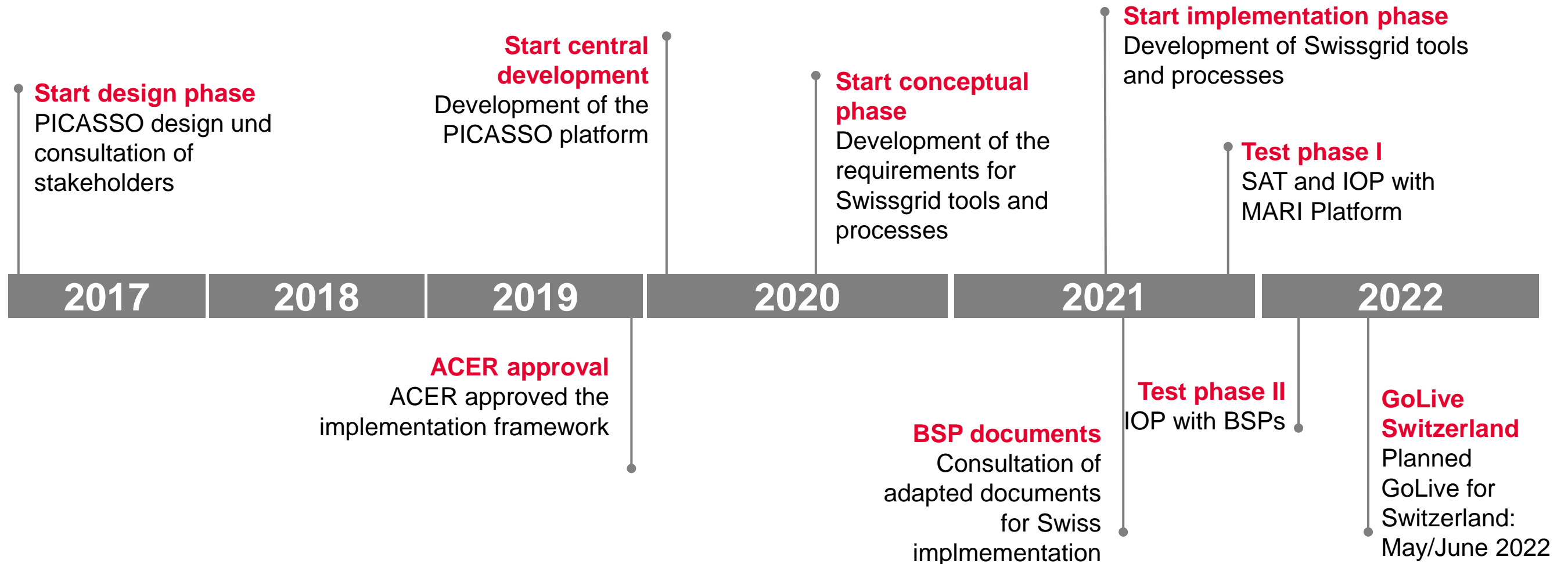
With the introduction of activation from MARI an additional Business Type will be added: A97 (MARI)

PICASSO (Platform for the International Coordination of Automated Frequency Restoration and Stable System Operation)

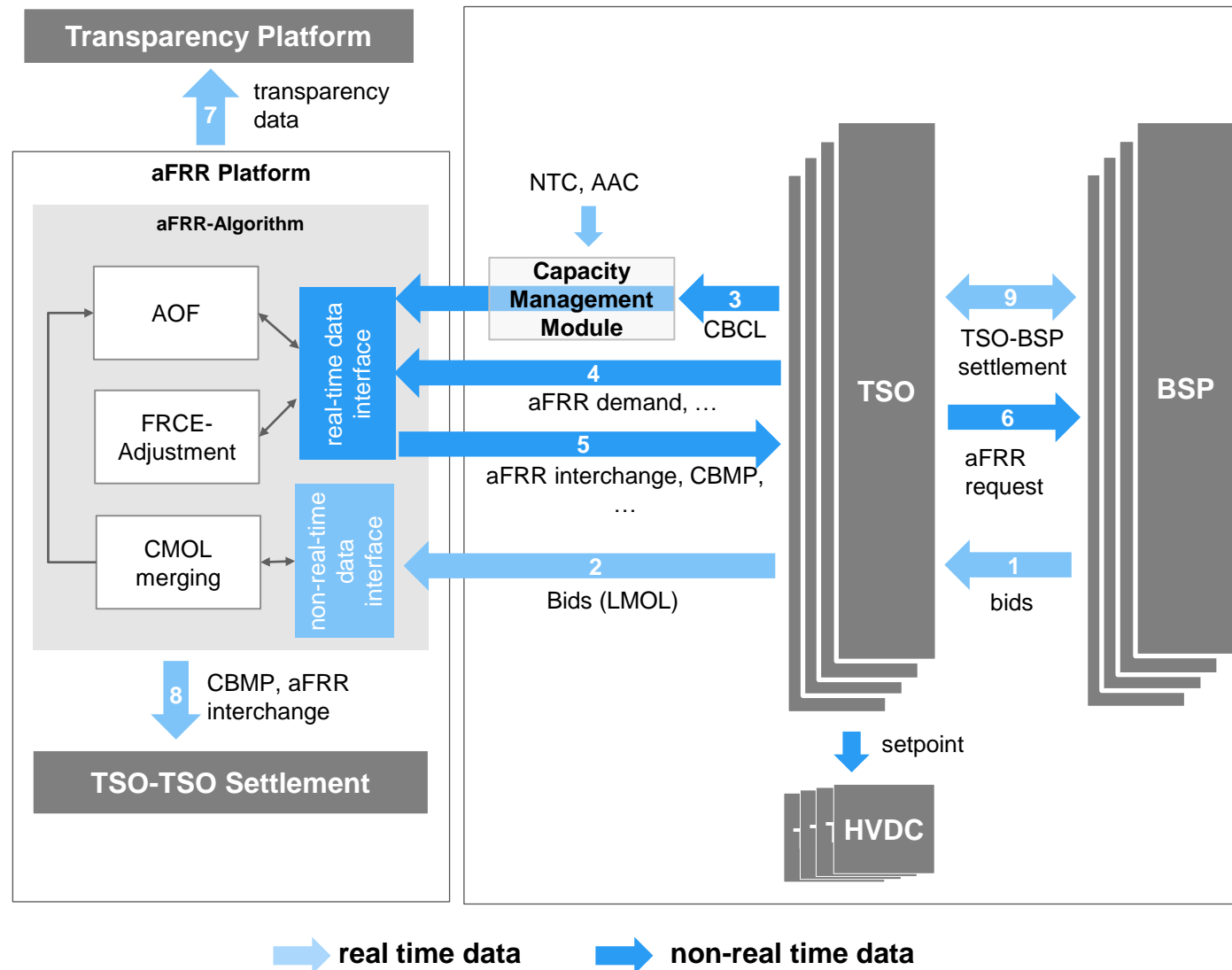
- The Electricity Balancing Guideline has been approved in March 2017. It foresees a pan-European aFRR platform.
- All member TSOs should exchange aFRR energy on this platform (automatic frequency restoration reserve = secondary control)
- All balance service providers in these countries that are prequalified can offer aFRR energy on a pan-European level.
- PICASSO members: 26 TSOs
- Swissgrid is a full member of PICASSO.



PICASSO Roadmap



PICASSO High Level Design

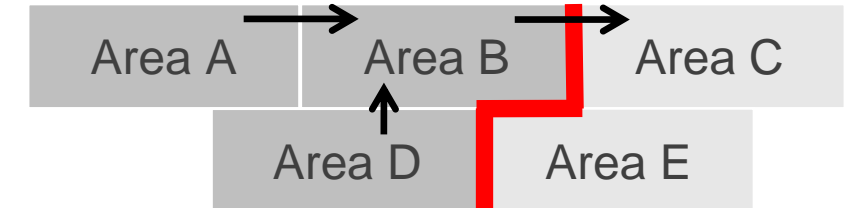
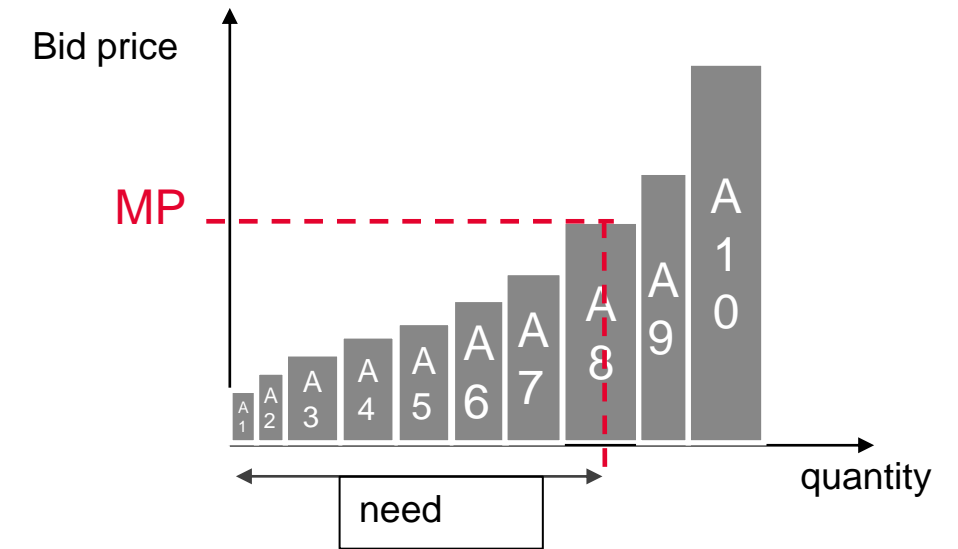


1. TSO receives aFRR energy bids from BSPs.
2. TSO forwards the bids to the aFRR platform (anonymised).
3. TSO submits the available cross boarder capacity.
4. TSO submits the aFRR need.
5. TSO receives clearing results from platform.
6. TSO submits the aFRR-activations to the BSPs
7. Publication of data
8. TSO-TSO settlement
9. TSO-BSP settlement

AOF	Activation Optimisation Function
FRCE	Frequency Restoration Control Error
LMOL	Local Merit Order List
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

General principle for pricing in PICASSO: marginal pricing

- The general principle for pricing is cross boarder **marginal pricing**.
- The price that is calculated by the PICASSO platform is equal to the most expensive activated offer within an optimization cycle. If there is no congestion between TSOs, prices are equal.
- In case of congestion there will be a price split (different CBMP on both sides of the congestion)
- The settlement of activated energy is done according to the price that is calculated by PICASSO. PICASSO TSOs have to make sure that this compensation is higher or equal (lower or equal for negative offers) than the offer price of the bid:
 - The activated volume for positive aFRR for each optimisation cycle is settled at the maximum of the PICASSO price and the offered bid price.
 - The activated volume for negative aFRR for each optimisation cycle is settled at the minimum of the PICASSO price and the offered bid price.



- Uncongested area with marginal price = MP1
- Uncongested area with marginal price = MP2
- Balancing energy exchange on a border

Calculation of secondary control component in the imbalance price

The procured secondary control energy **for the Swiss Scheduling Area** is considered in the secondary control part of the imbalance price:

BGV pays $(A + P_1) * \alpha_1$	$A = \max (P_{\text{spot}}; P_{\text{sek+}}; P_{\text{ter+}})$
BGV receives $(B - P_2) * \alpha_2$	$B = \min (P_{\text{spot}}; P_{\text{sek-}}; P_{\text{ter-}})$

The calculation of P_{sek} includes the following steps:

- Step 1:** Price for the compensation of activate secondary energy in Switzerland
- Step 2:** Calculation of cost for satisfied need for Switzerland (per second)
(satisfied need CH * price (step 1))
- Step 3:** Calculation of cost for satisfied need for Switzerland for whole 15 min
(\sum cost per second for CH (step 2))
- Step 4:** P_{sek} = Calculaton of average energy price fro 15 min
(Cost for satisfied need CH for 15min (step 3) / total amount of satisfied need for CH 15min)

The new intraday market model in Italy

Coordination between the *Single Intraday Coupling* and the new Ancillary Service Market

9th November 2021

Paolo Fanelli

AGENDA

▪ THE NEW INTRADAY MARKET MODEL	3
XBID and CRIDAs: a hybrid model for intraday capacity allocation	4
Available capacity on the different Italian borders	5
▪ COORDINATION WITH THE ANCILLARY SERVICE MARKET (MSD)	6
Coordination between intraday and ancillary service markets	7
Timetable of energy markets and ancillary service markets	8
▪ FIRST OPERATIONAL RESULTS	9
Energy traded on the different Intraday market sessions	10

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XBID and CRIDAs: a hybrid model for intraday capacity allocation

The new Italian intraday market model, which came into operation in September 2021, foresees the combination of the **continuous trading (XBID)** process with the **Complementary Regional Intraday Auctions (CRIDAs)**.

XBID

Continuous trading process from **15:00 D-1** till **H-1**.

Centralized **European platform (XBID) with zonal model** that continuously matches bids and offers allocating the available capacity between the bidding zones with a **first come first served** approach.

CRIDA

Regional scope: **implicit auction for capacity allocation** across bidding zones (BZs) of Italy, Slovenia and Greece based on same assets and algorithm adopted in SDAC.

Capacity allocation with **reliable price signals reflecting market congestions** on the intraday timeframe.

Early implementation at regional level of the European **Intraday Auctions for pricing (IDAs)** expected to enter in operation in 2023.

CRIDA timing based on the *Intraday Coordinated Capacity Calculation (IDCC)* processes.



Integration of European energy market



Flexibility to trade energy till one hour before the delivery

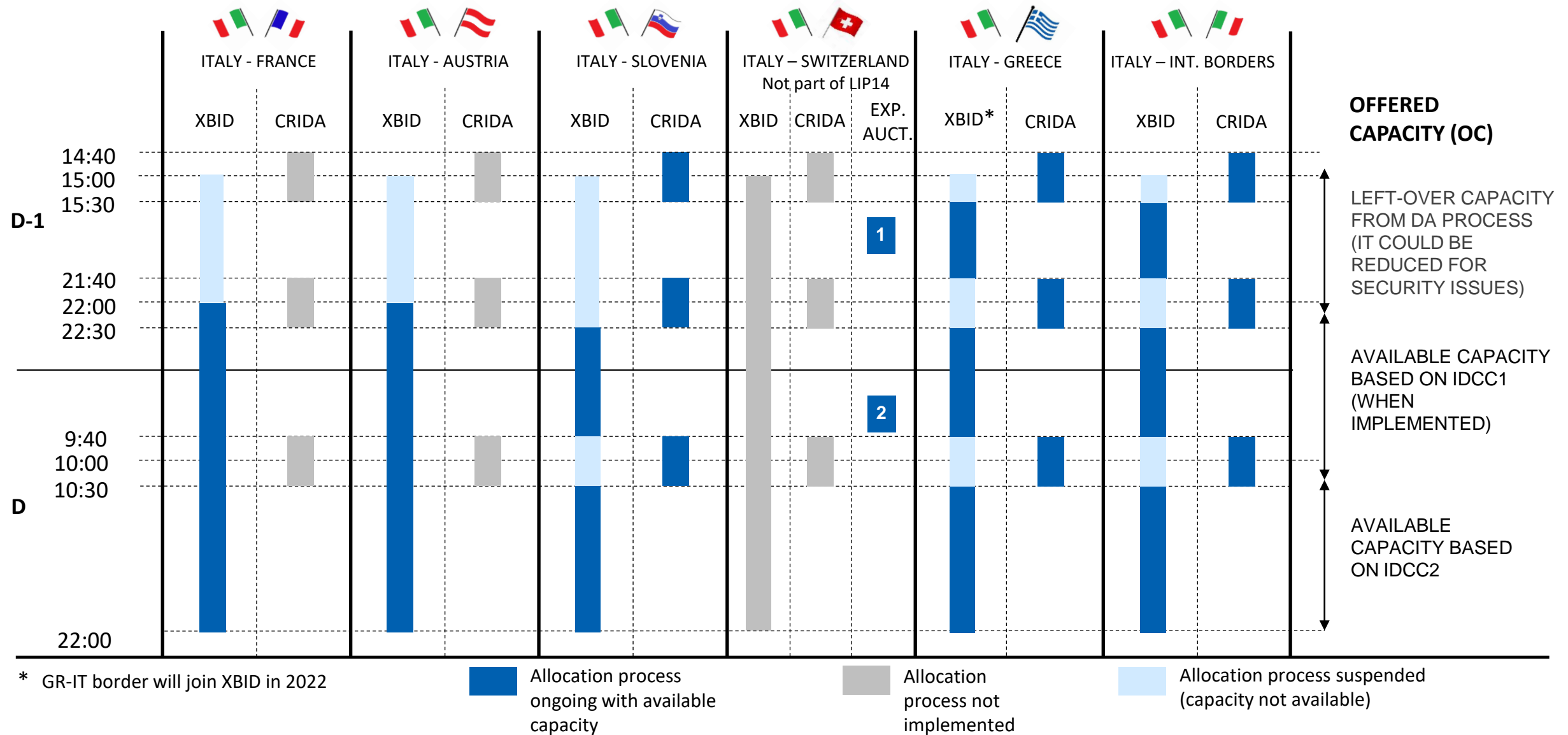


Increased of liquidity and competition



Price signals and efficient capacity allocation

Available capacity on the different Italian borders



AGENDA

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Coordination between Intraday and Italian Ancillary Service Markets

Terna applies a **central-dispatch model** procuring most of the ancillary service resources through an **integrated scheduling process (MSD)** after the day-ahead market based on several sessions

OLD PROCESS

Last MSD session after the gate closure of the intraday process **when the energy market is closed**

Unit-based negotiation on Italian energy market



NEW PROCESS

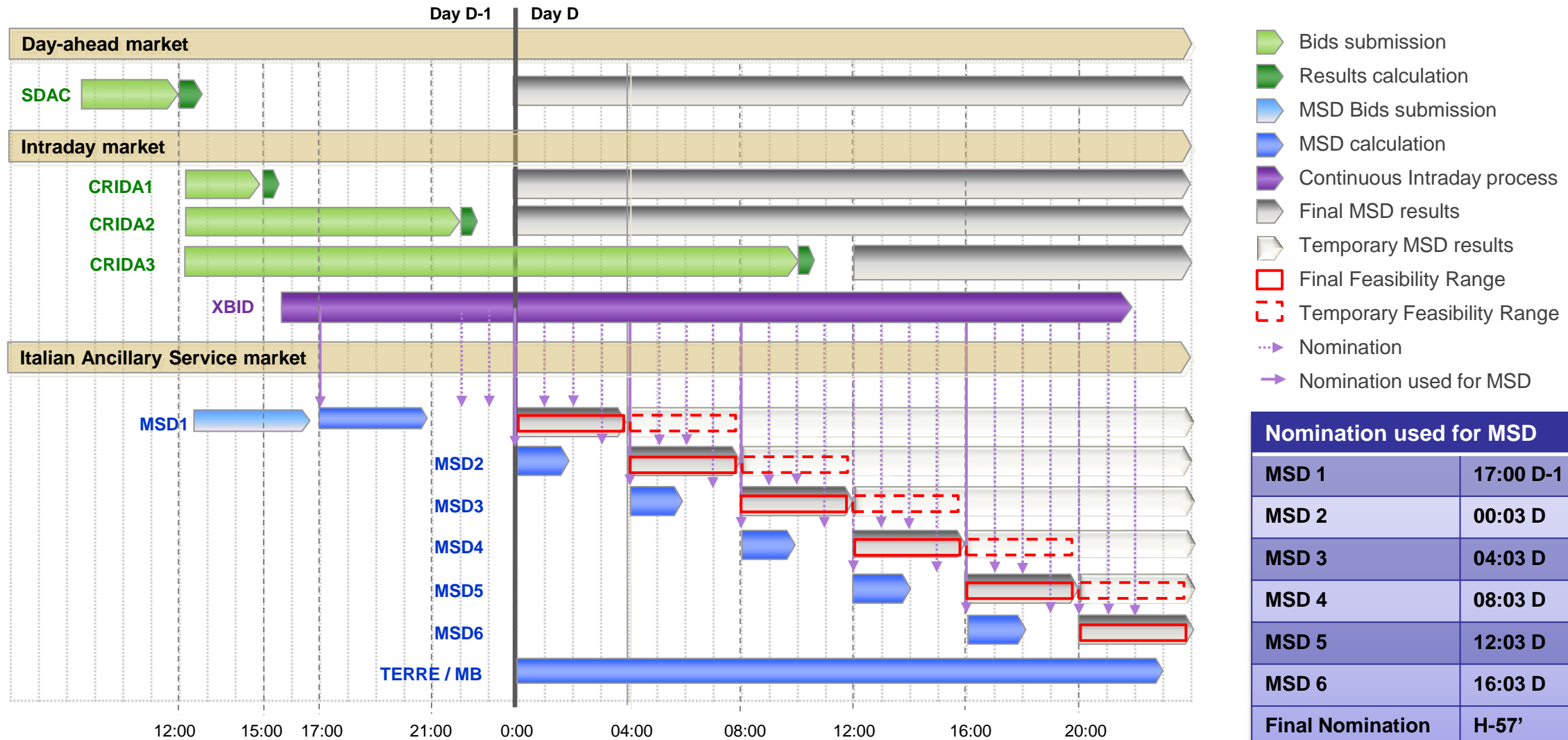
Intraday market closes 60' before delivery -> **MSD session will have to run in parallel with intraday**

Portfolio bidding supported on intraday continuous trading (XBID) to allow more flexible trading mechanism



- **Nomination** of the energy negotiated portfolio based is required before each MSD session and after IDCZGCT
- Nominations of the units participating to MSD shall respect the **Feasibility Range** set by Terna in the MSD sessions
- Difference between the balance of the portfolio in the energy market and the nominations is subject to **Imbalance price** (single imbalance price of the not enabled units)

Timetable of energy markets and ancillary service markets



AGENDA

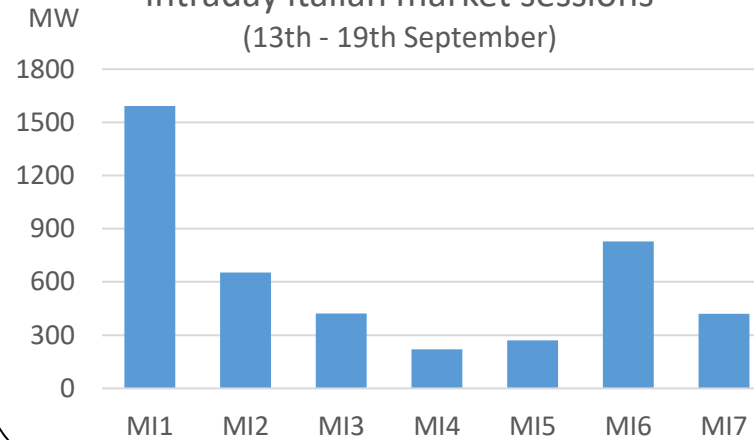
▪ THE NEW INTRADAY MARKET MODEL	3
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Energy traded on the different Intraday market sessions

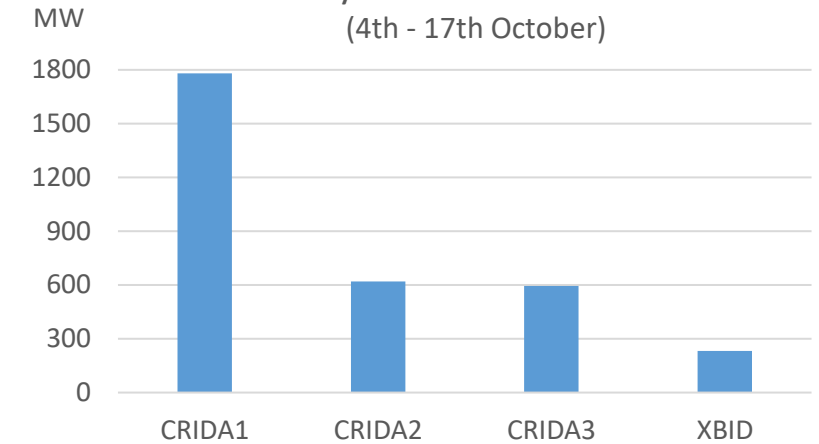


No systematic price difference between the different market sessions are observed.

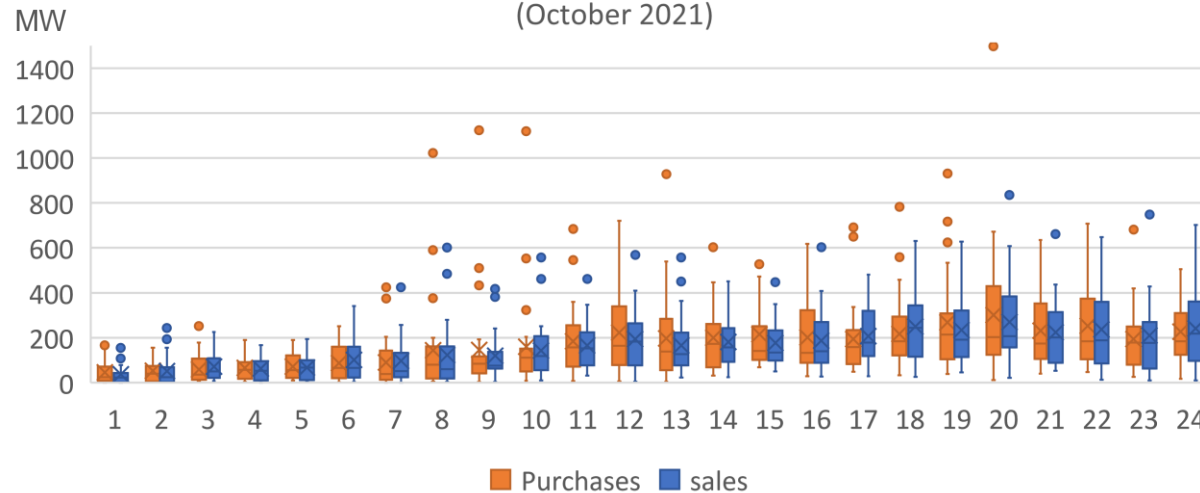
Average energy traded in the old intraday italian market sessions (13th - 19th September)



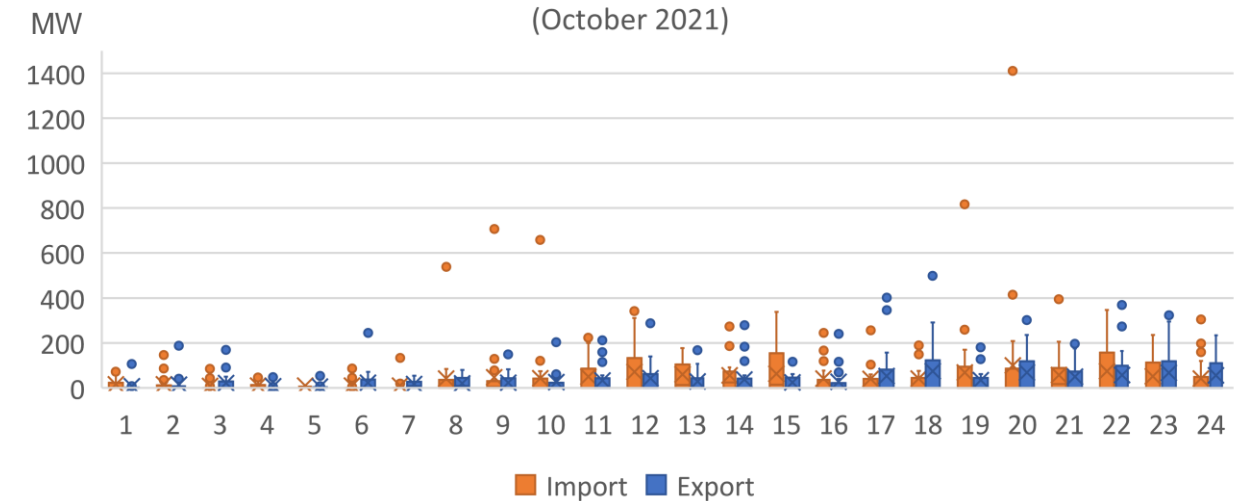
Average energy traded in the new intraday italian market sessions (4th - 17th October)



Energy traded on Italian bidding zones on XBID (October 2021)



Energy traded on Italian interconnections on XBID (October 2021)







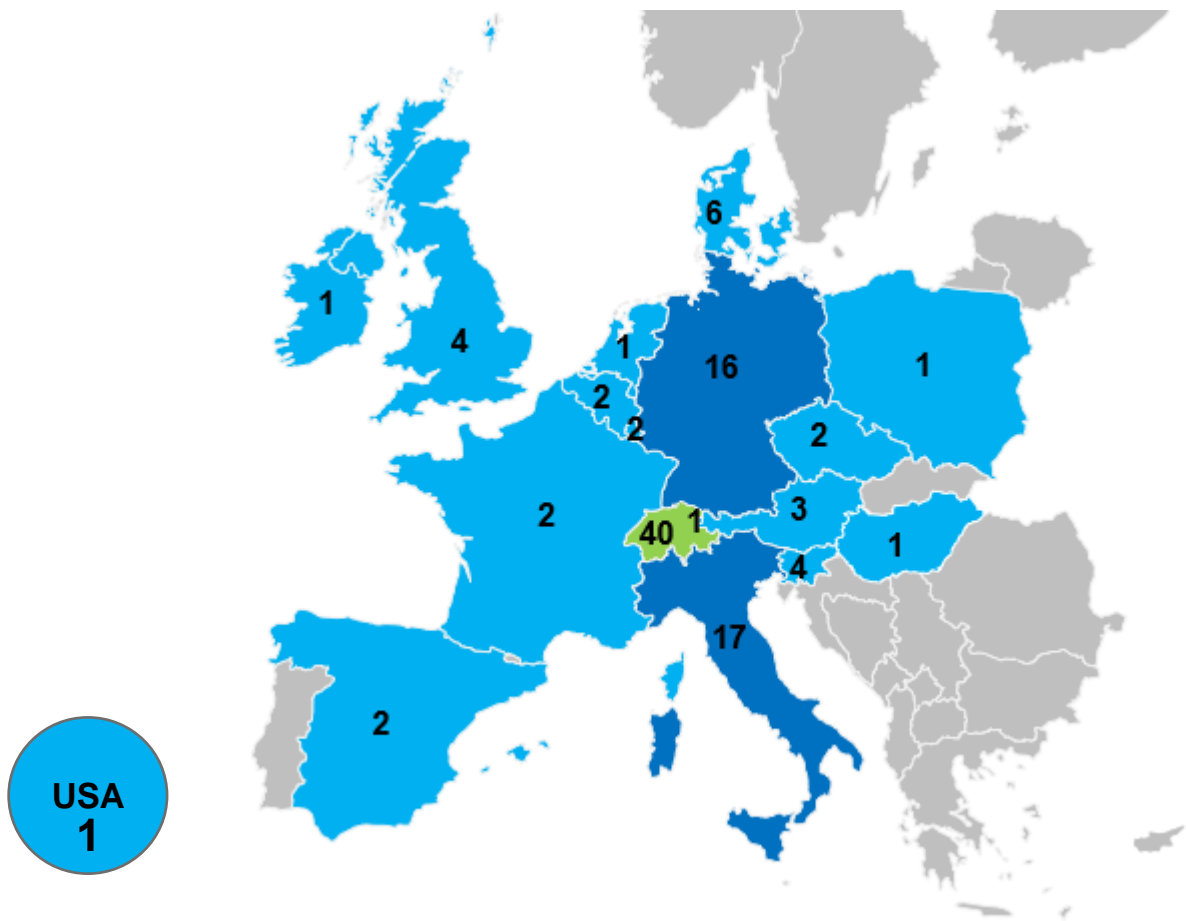
Swiss balance group management and operational incidents

Marco Lenzin
Specialist Cap. Alloc. & Market Systems

Balance Group Management

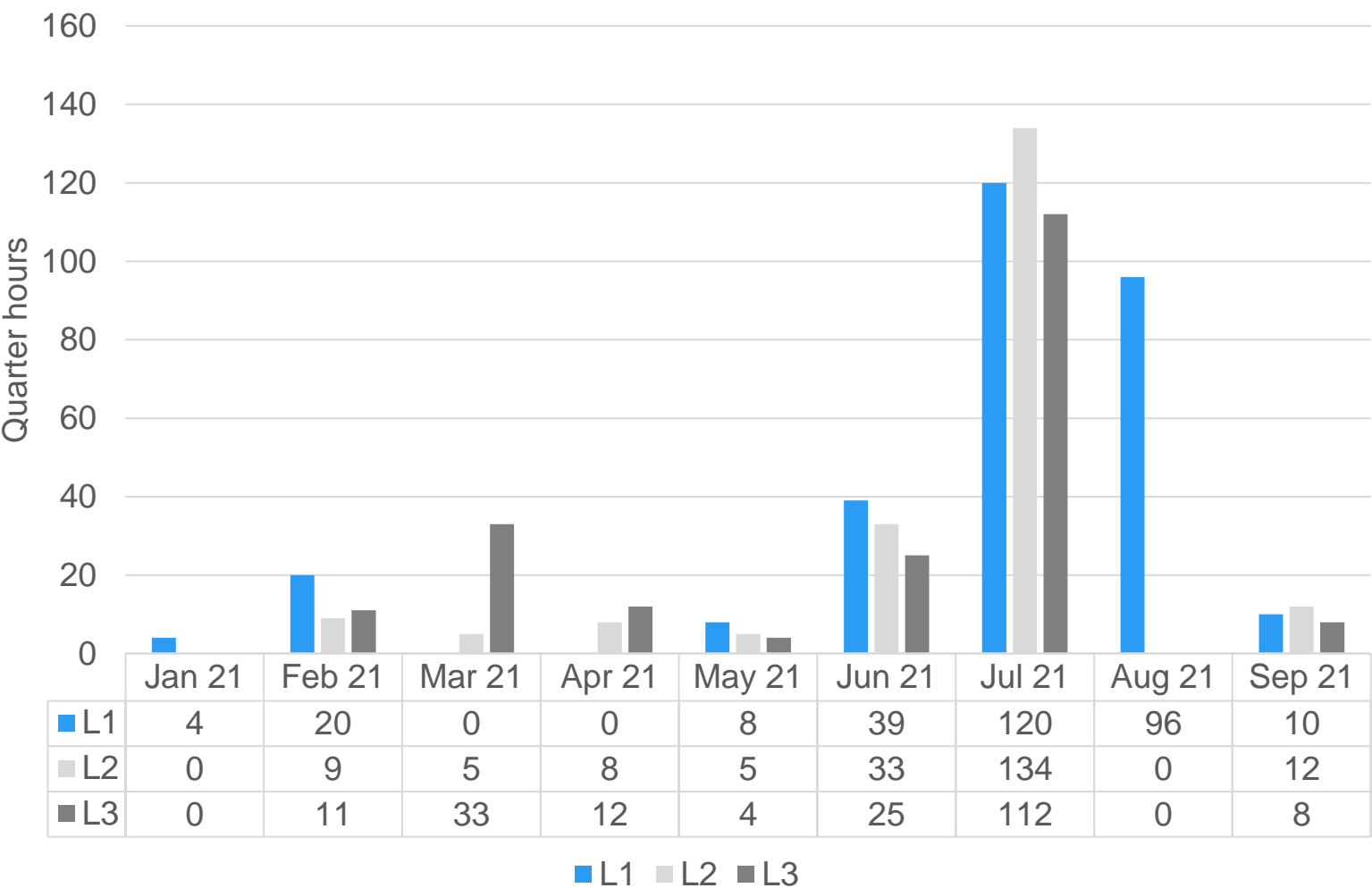
BG statistics

	BGs			Mutations
2017	111	3	3	191
2018	104	13	6	161
2019	107	4	7	108
2020	108	5	6	101
2021	106	3	1	60
			(+9 planned)	



Balance Group Management

Number of limit violations in quarter hours



Facts:

- Request for a written statement: **7 BGs**
- Meeting with Swissgrid: **2 BGs**
- Intraday suspension: **0 BG**
- Penalties in case of repeated L3 violations:
2 BGs → 10'670 EUR

Calculation of Imbalance Price in case of simultaneous Redispatch

Case Studies 14.10.2020 & 11.12.2020

Case 14.10.2020

The following demands were given for the hour (08:00 - 09:00):

- Redispatch 08:00 - 09:00 400 MW (requester Transnet BW)
- TRE demand 08:45 - 09:00 40 MW

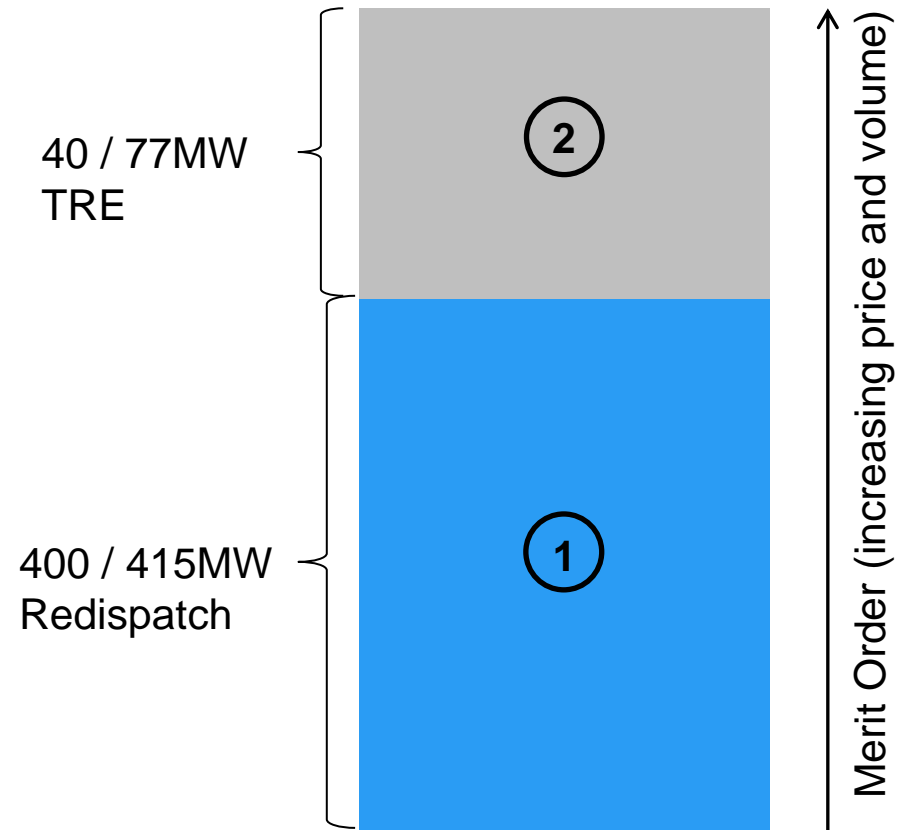
Balancing energy price for the fourth quarter hour: 3`945 EUR/MWh

Case 11.12.2020

The following demands were given for the hour (09:00 - 10:00):

- Redispatch 09:00 - 10:00 415 MW (requester Transnet BW)
- TRE demand 09:45 - 10:00 77 MW

Balancing energy price for the fourth quarter hour: 8`170 EUR/MWh



In both cases, the request from the redispatch was before the TRE demand request. This means that the cheaper bids were allocated for redispatch and the expensive bids were included in the balancing energy price.

Transparency on the Swissgrid website

Imbalance of the control area and activated balancing energy

Swissgrid publishes data to indicate the position of the Swiss Control Area. The data originates from real-time systems and are published in Excel and CSV formats.

- The two time series TERRE+ and TERRE- are now published.
- The TERRE operations will only flow into the Imbalance system if the Swiss control area has a demand.

REE had the need for TERRE → Switzerland was able to supply the required quantity.

Does not affect the Swiss control area.

Date Time	SRE+	SRE-	NRV+ (Import)	NRV- (Export)	TRE+	TRE-	TERRE+	TERRE-	ACE+ (Import)	ACE- (Export)	Total System Imbalance (Positiv = long / Negativ = short)
04.04.2021 02:00	27.07	0.00	43.02	0.00	0.00	0.00	0.00	0.00	1.95	0.00	-72.04
04.04.2021 02:15	4.92	0.00	9.08	0.00	0.00	0.00	0.00	0.00	0.00	-0.22	-13.78
04.04.2021 02:30	26.25	0.00	1.74	0.00	0.00	0.00	0.00	0.00	0.50	0.00	-28.50
04.04.2021 02:45	1.13	0.00	0.00	-12.40	0.00	0.00	0.00	0.00	0.00	-0.25	11.52

Switzerland reported the demand on the LIBRA platform. The Swiss control area is affected here.

Date Time	SRE+	SRE-	NRV+ (Import)	NRV- (Export)	TRE+	TRE-	TERRE+	TERRE-	ACE+ (Import)	ACE- (Export)	Total System Imbalance (Positiv = long / Negativ = short)
26.04.2021 23:00	11.80	0.00	13.14	0.00	0.00	0.00	0.00	-40.00	8.52	0.00	6.54
26.04.2021 23:15	2.45	0.00	0.00	-69.12	0.00	0.00	0.00	-40.00	0.44	0.00	106.23
26.04.2021 23:30	0.00	-0.19	0.00	-113.45	0.00	0.00	0.00	-40.00	0.00	-0.49	154.13
26.04.2021 23:45	0.00	-158.08	0.00	-62.05	0.00	0.00	0.00	-40.00	0.00	-34.87	294.99

Changes at the Swiss borders

Switzerland – Germany

- Intraday rights checking was implemented at the border to TransnetBW
 - With activation of the rights check at the border to TransnetBW, ANC messages are sent in the event of a violation of capacity rights
 - In the event of differences to COT-relevant hour, the right is always imposed to the timeseries of DB AG
- ➔ The intraday rights checking with the border to Amprion is planned for 2022.

Changes at the Swiss borders

Switzerland - France

New: Swissgrid and RTE exchange right based SAS files. That means that the SAS is assembled on both sides with the values of the latest available rights document from DB AG.

- Business Type is new A03 – Ext (before A06)
- Capacity Contract Type (CCT)

A03 => Monthly Right Schedules

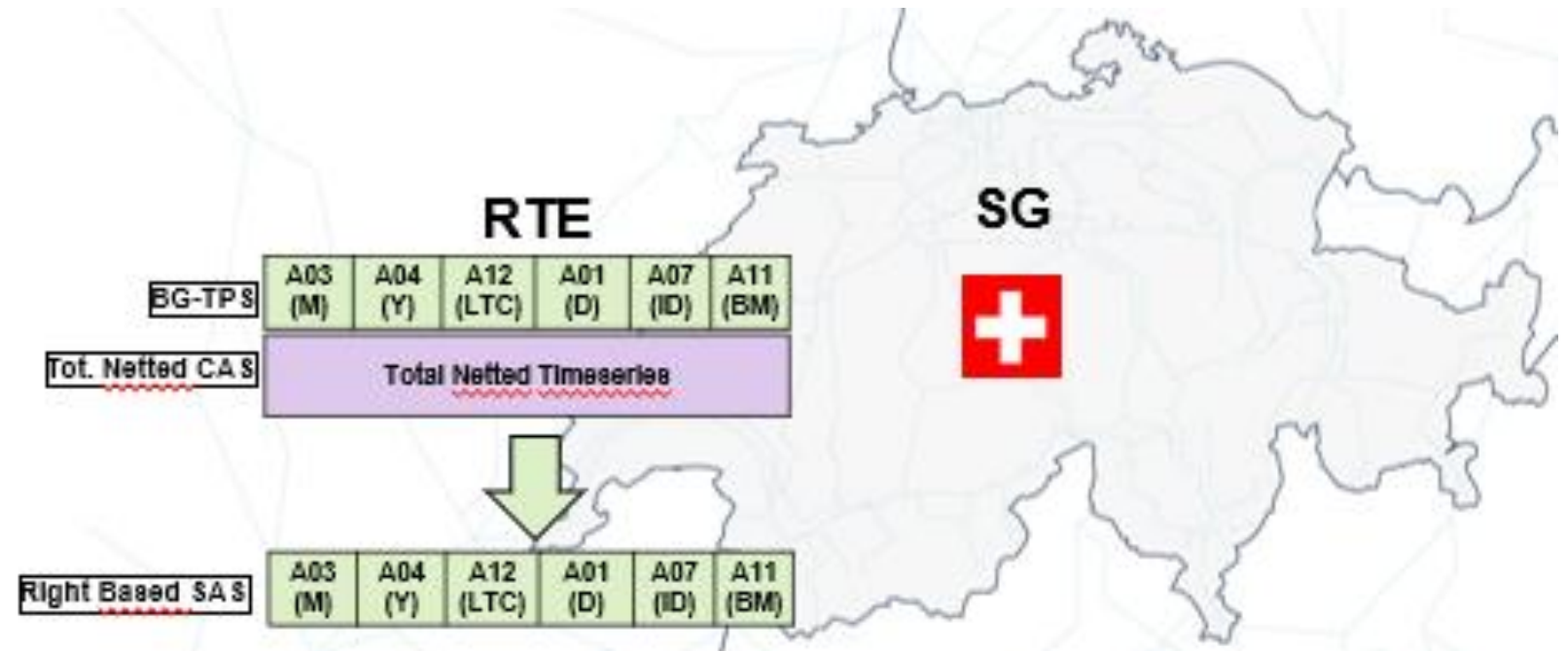
A04 => Yearly Right Schedules

A12 => LTC

A01 => Daily Right Schedules

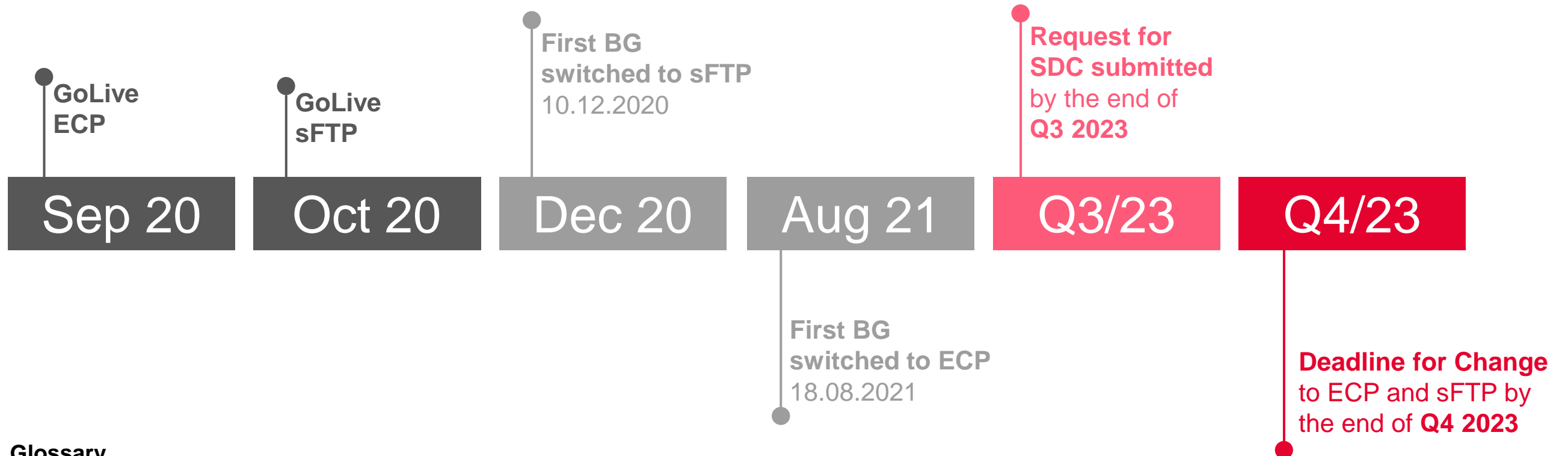
A07 => Intraday Market Schedules

A11 => Balance Mechanism



- Capacity Agreement Identification (CAI)
 - The verification is done either from the rights document of JAO (Longterm, Day Ahead) or from the rights document of DBAG (Intraday)

Roadmap Secure Data Communication (ECP/sFTP)



Glossary

ECP	Energy Communication Platform
sFTP	Secure File Transfer Protocol
SDC	Secure Data Communication

Start of three different breakout sessions that will run in parallel

You will now be automatically assigned to the breakout session for which you have registered.

- Session 1: Technical questions with regards to the secure connection via ECP / sFTP
- Session 2: Impact of weather forecast on BRPs imbalances
- Session 3: Development of Equigy platform



Technical questions with regards to the secure connection via ECP / sFTP

Timo Caspar
Specialist Cap. Alloc. & Market Systems

ECP/sFTP – Registration process

- Login into the Swissgrid Customer Portal
- Select «SDC» (Secure Data Communication)
- Submit a request for ECP and/or sFTP
- The registration process may take up to 5-7 business days



SDC
Secure Data Communication

- Only Balance Group Responsible (BGR) has a login to the Swissgrid Customer Portal
- Your public IP Address is required for the Request

Detailed information on the registration process at [Presentation BGM Partner Meeting 2020](#) (p. 68)

sFTP – Registration process

After the registration you will receive an email with the following information:

- 1x email with f-User (example **f1234**)
- 1x email with password for f-User
- SHA256 Fingerprint (cryptographic hash value of the certificate)
- In- and Out-Directory (example **/f1234/in** and **/f1234/out**)
- Link to sFTP documentation

Change from FTP to sFTP

- f-User from FTP-Connection can be used for sFTP
- Submit Request for sFTP over Customer Portal
- For sFTP use Port 22 and SSH

→ sFTP is bring and collect principle for the BGM

If you need help please contact us at the following address: bg-registration@swissgrid.ch

ECP – Registration process

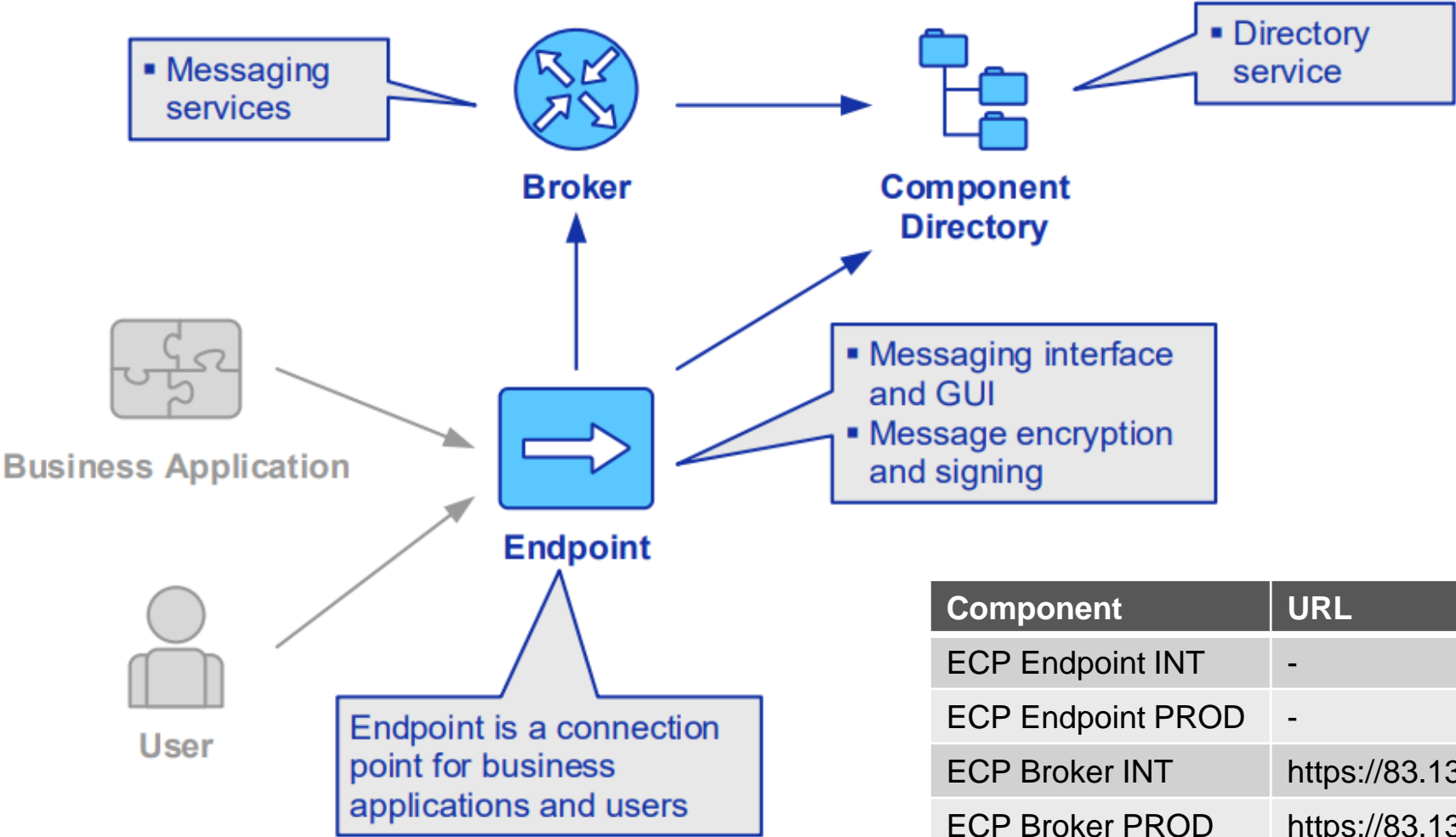
After the registration you will receive an email with the following information:

- ECP Endpoints software for Windows and Linux server
- Registration Keystore certificate
- EIC V-Code of your ECP endpoint
- URL to Component directory (Swissgrid)
- Link to the ECP documentation

If you need help please contact us at the following address:

- Questions about the registration process or testing: bg-registration@swissgrid.ch

ECP – Structure and operation



Endpoint is a connection point for business applications and users

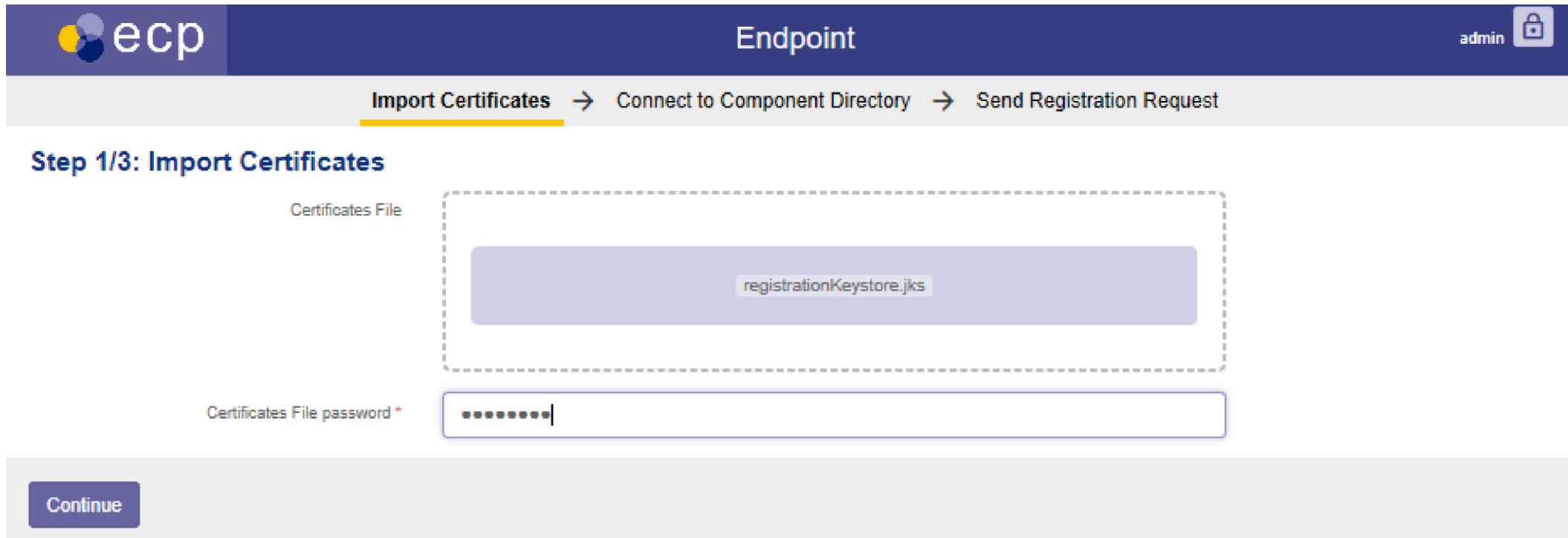
(EIC V-Code for BG Endpoint is provided by Swissgrid)

Component	URL	EIC V-Code
ECP Endpoint INT	-	12V-0000000047-G
ECP Endpoint PROD	-	12V-0000000070-P
ECP Broker INT	https://83.137.77.61:5671	12V-0000000042-V
ECP Broker PROD	https://83.137.77.67:5671	12V-0000000071-M
ECP CD INT	https://83.137.77.62:8443/ECP_MODULE	12V-0000000043-S
ECP CD PROD	https://83.137.77.68:8443/ECP_MODULE	12V-0000000072-J

ECP – Installation process (1/3)

During the installation, please carry out the following steps:


1. Install the ECP Endpoint software (Windows/Linux) on your server
2. After successful installation, open GUI: **http://<endpoint-ip>:8080/ECP_MODULE**
3. Insert Registration Keystore and password (Step 1/3)



The screenshot displays the ECP Endpoint web interface. The top navigation bar is dark blue with the 'ecp' logo on the left, the word 'Endpoint' in the center, and a user profile 'admin' with a lock icon on the right. Below the navigation bar is a breadcrumb trail: 'Import Certificates' (highlighted in yellow), 'Connect to Component Directory', and 'Send Registration Request'. The main content area is titled 'Step 1/3: Import Certificates'. It contains two input fields: 'Certificates File' with a dashed border and a file name 'registrationKeystore.jks' inside a light blue box, and 'Certificates File password *' with a password input field showing masked characters. At the bottom left, there is a 'Continue' button.

ECP – Installation process (2/3)

4. Enter Component Directory EIC V-Code from Swissgrid and URL (Step 2/3) → Click «Check connectivity»



Endpoint

Import Certificates → Connect to Component Directory → Send Registration Request

Connectivity test was successful.

Step 2/3: Connect to Component Directory

Component Directory URL *

https://83.137.77.62:8443/ECP_MODULE

Component Directory Code *

12V-0000000043-S

Check connectivity

← Back

Continue

ECP – Installation process (3/3)

5. Fill in your Component Directory EIC V-Code (Step 3/3)
→ Click «Submit request»

Step 3/3: Send Registration Request

Endpoint Code *

Company Information

Organization *

Contact Person *

Contact Email *

Contact Phone *

The registration request will be approved by your component directory administrator.

[← Back](#) [Submit request](#)



Please find more details to the installation in the **ECP Installation Guide – Chapter 8: ECP Endpoint Registration and Functional Smoke Test**



If you need help please contact us at the following address:

- Questions on technical matters:
ecp@swissgrid.ch
- Please send a detailed error report (Log File, Java and ECP Version)

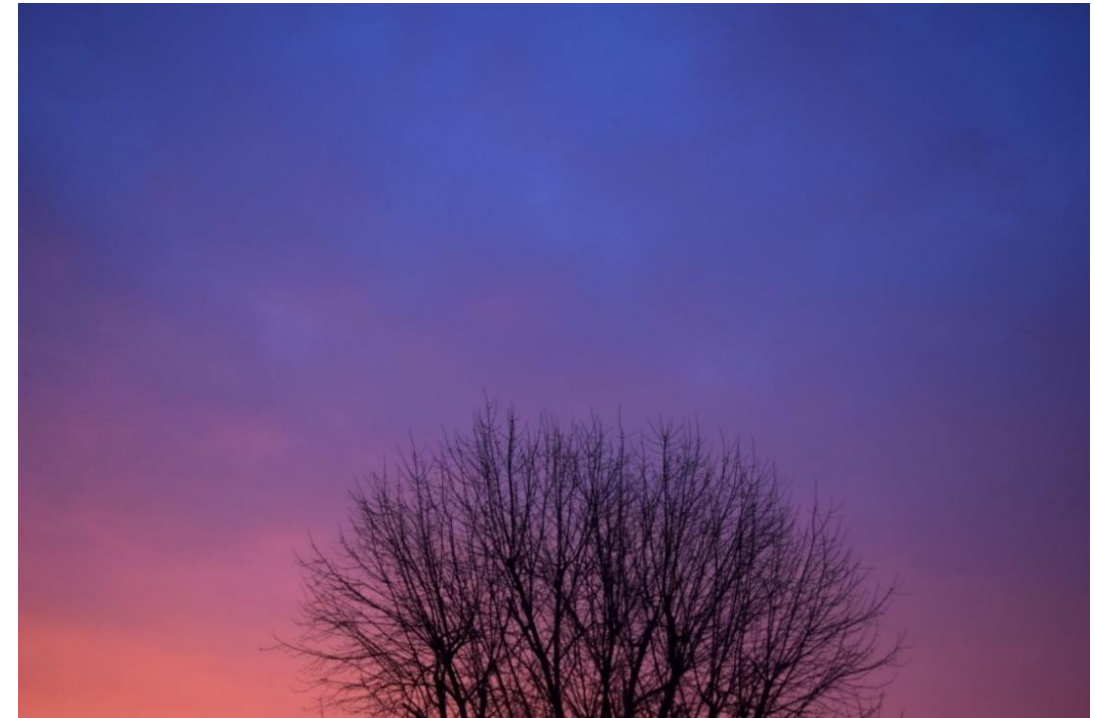
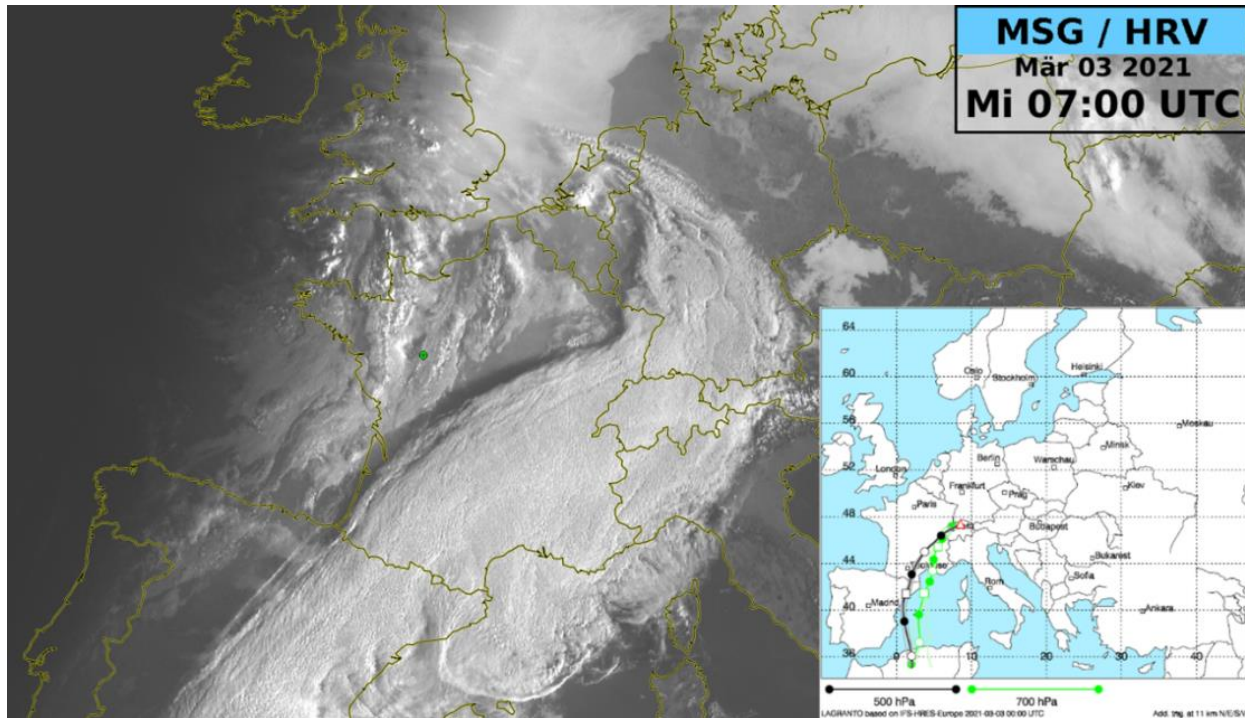


Impact of weather forecast on BRPs imbalances

Markus Imhof
Head of Balancing & Scheduling

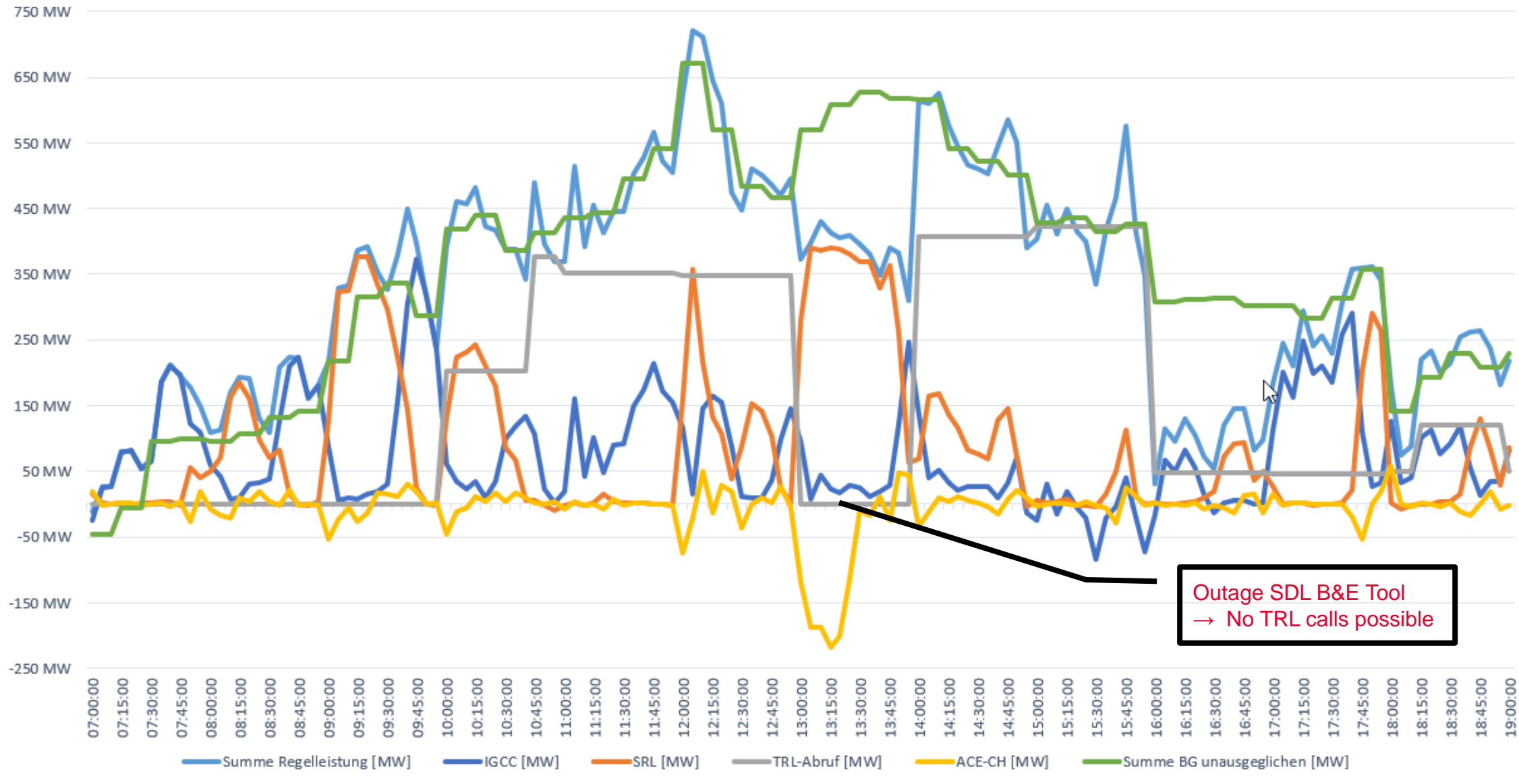
Initial Conditions: Bad Weather Forecast for 03.03.2021

Unfortunately, the sun was scarce today, contrary to the models and adjusted forecasts. Sahara dust has caused more clouds than expected yesterday. Nevertheless, one could enjoy a colorful sunrise in the eastern parts of the country and in the higher mountain areas.

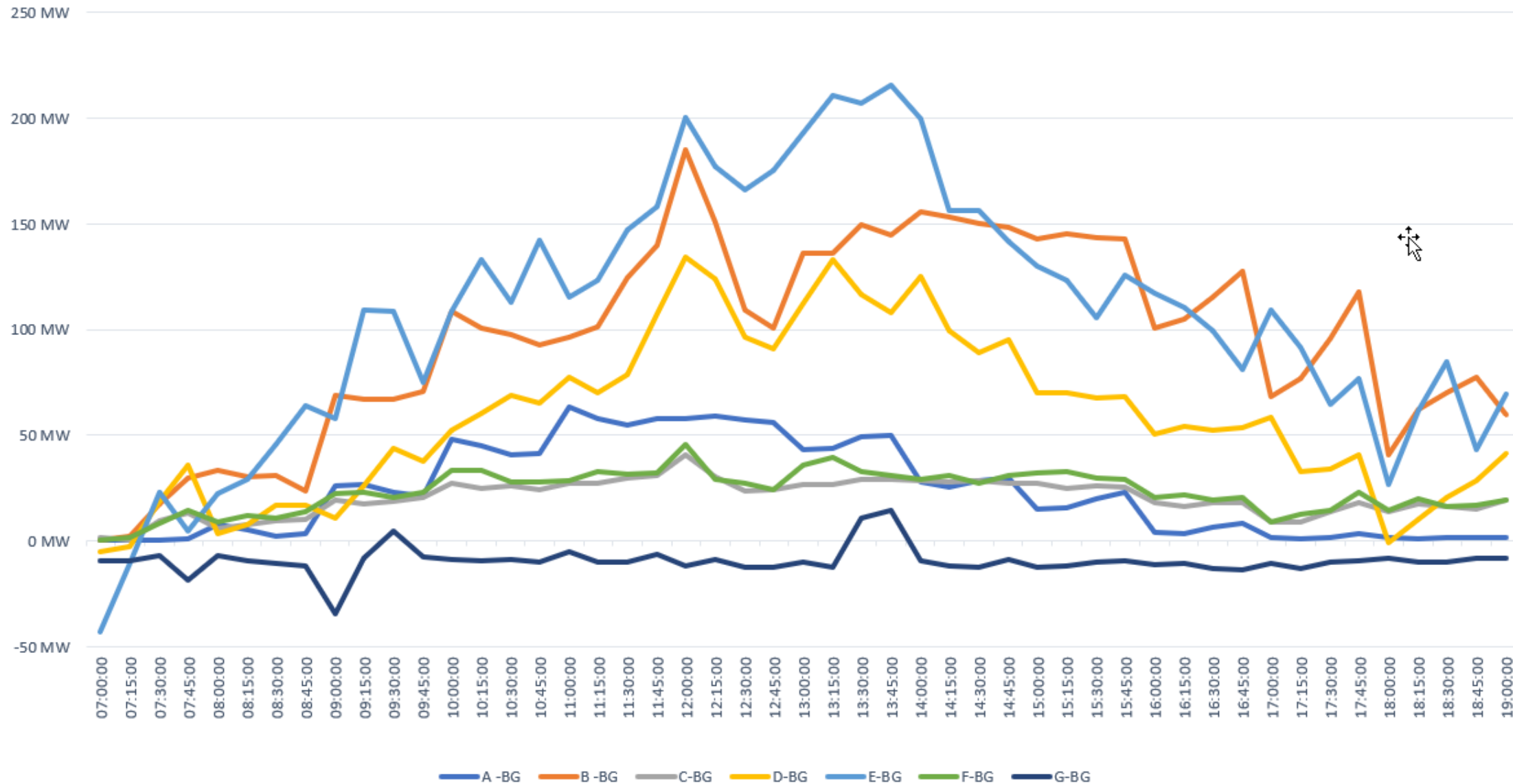


Source: <https://www.meteoschweiz.admin.ch>

Balancing Area CH had a High Balancing Demand on 03.03.2021



Unbalanced Balance Groups




Discussion

- How are PV production forecasts created?
- How reliable are PV production forecasts?
- What is the process, if the PV production does not meet the PV production forecast?
- How do the balance groups balance the PV production forecast error?
-

Development of Equigy platform



Evangelos Vrettos
Research & Digitalisation Manager

- 
- 1 Introduction to Equigy**
 - 2 Crowd Balancing Platform (CBP)**
 - 3 Completed FCR pilot project and operationalization**
 - 4 TSO-DSO pilot project (ongoing)**

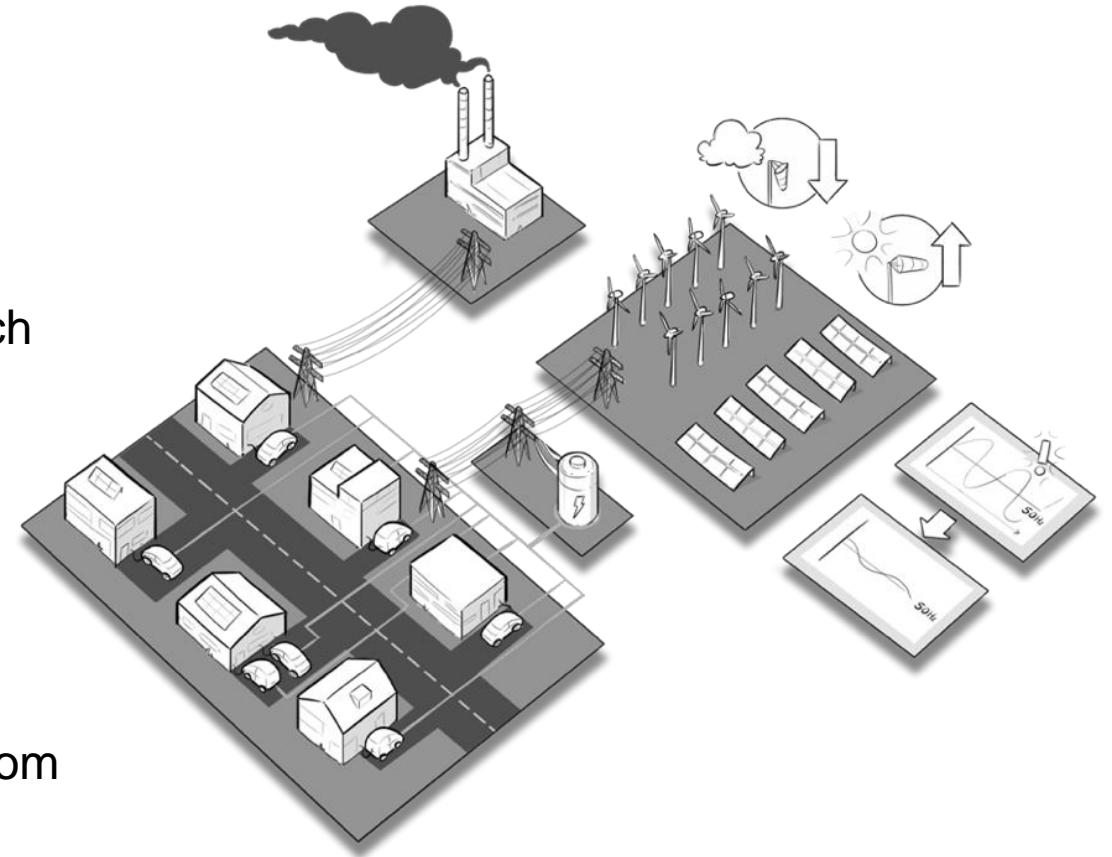
Challenges and opportunities with distributed energy resources

Challenges

- Higher needs for flexibility.
- Fragmentation of power systems.
- Internationalization of markets.
- Increased penetration of Distributed Energy Resources (DERs) such as electric vehicles, batteries, and heating/cooling devices.
- Projection: 360,000 electric vehicles in Switzerland by 2030.
- DERs are not trivial to control in large aggregations.

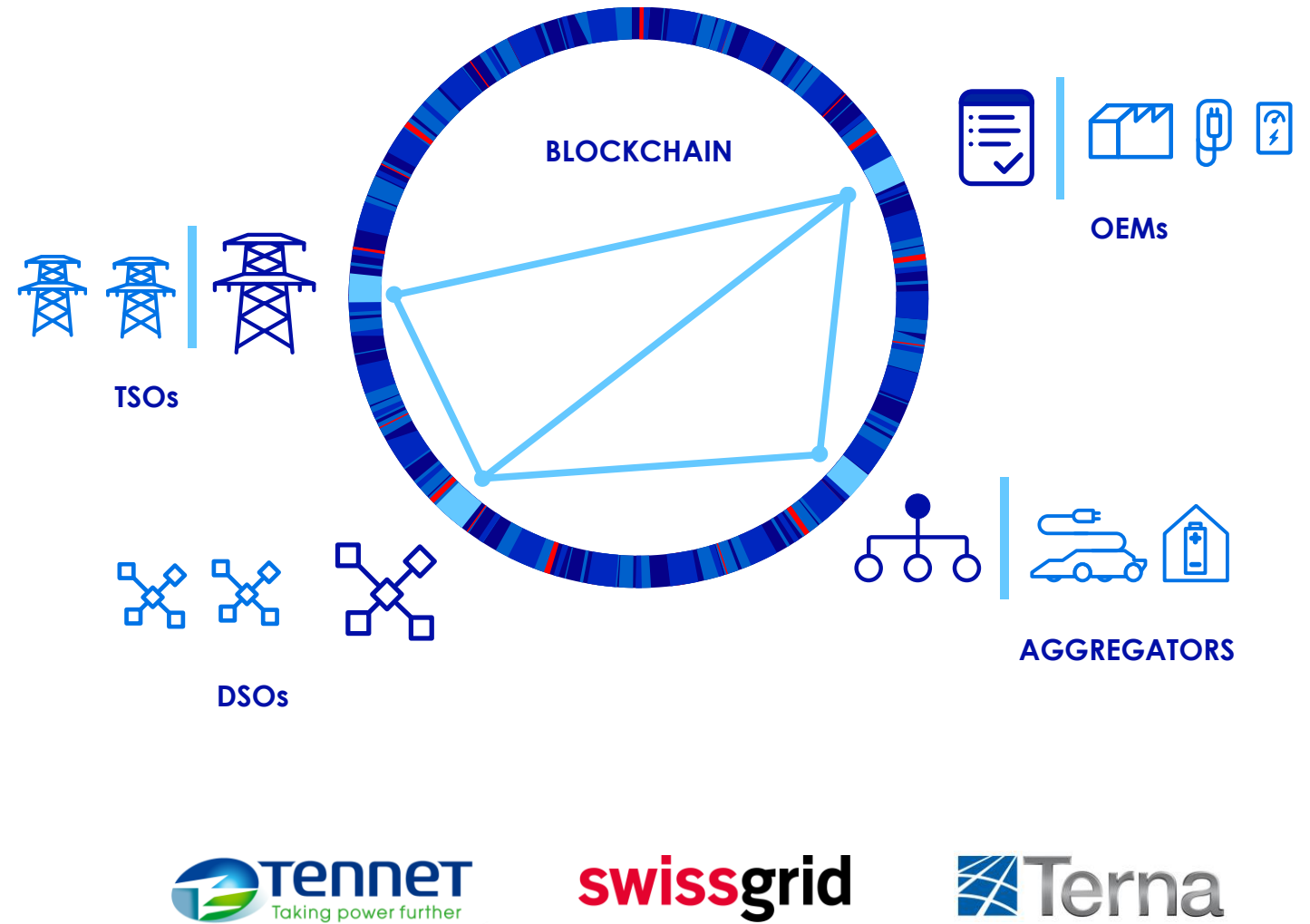
Opportunities

- If appropriately controlled, DER aggregations can be transformed from a problem to a solution.
- To unlock this flexibility, DERs must be able to easily access the ancillary services markets.
- Close collaboration among all stakeholders can lead to creation of standards (communication, processes, etc.).
- New business opportunities and value streams for aggregators.



Equigy – Crowd Balancing Platform (CBP) in a nutshell

- Equigy founded in December 2020 as a Joint Venture of TenneT (Netherlands and Germany), Swissgrid and Terna.
- Facilitates access of DERs to markets for ancillary services and congestion management.
- Collaboration with Original Equipment Manufacturers (OEMs) of DERs.
- Uses blockchain technology to link the various actors and increase transparency: DERs, OEMs, aggregators, TSOs, DSOs.
- CBP increases market liquidity and automates business processes.
- Allows TSOs to validate the delivery of ancillary services with the functionality to collect device measurements directly from the IoT cloud of DERs.



Equigy: A rapidly growing ecosystem

- APG joined the Equigy Joint Venture in Spring 2021.
- Increasing number of OEM, aggregator and DSO partners.
- Completed pilot projects
 - The Netherlands: automatic Frequency Restoration Reserve (aFRR).
 - Germany: redispatch.
 - Switzerland: Frequency Containment Reserve (FCR).

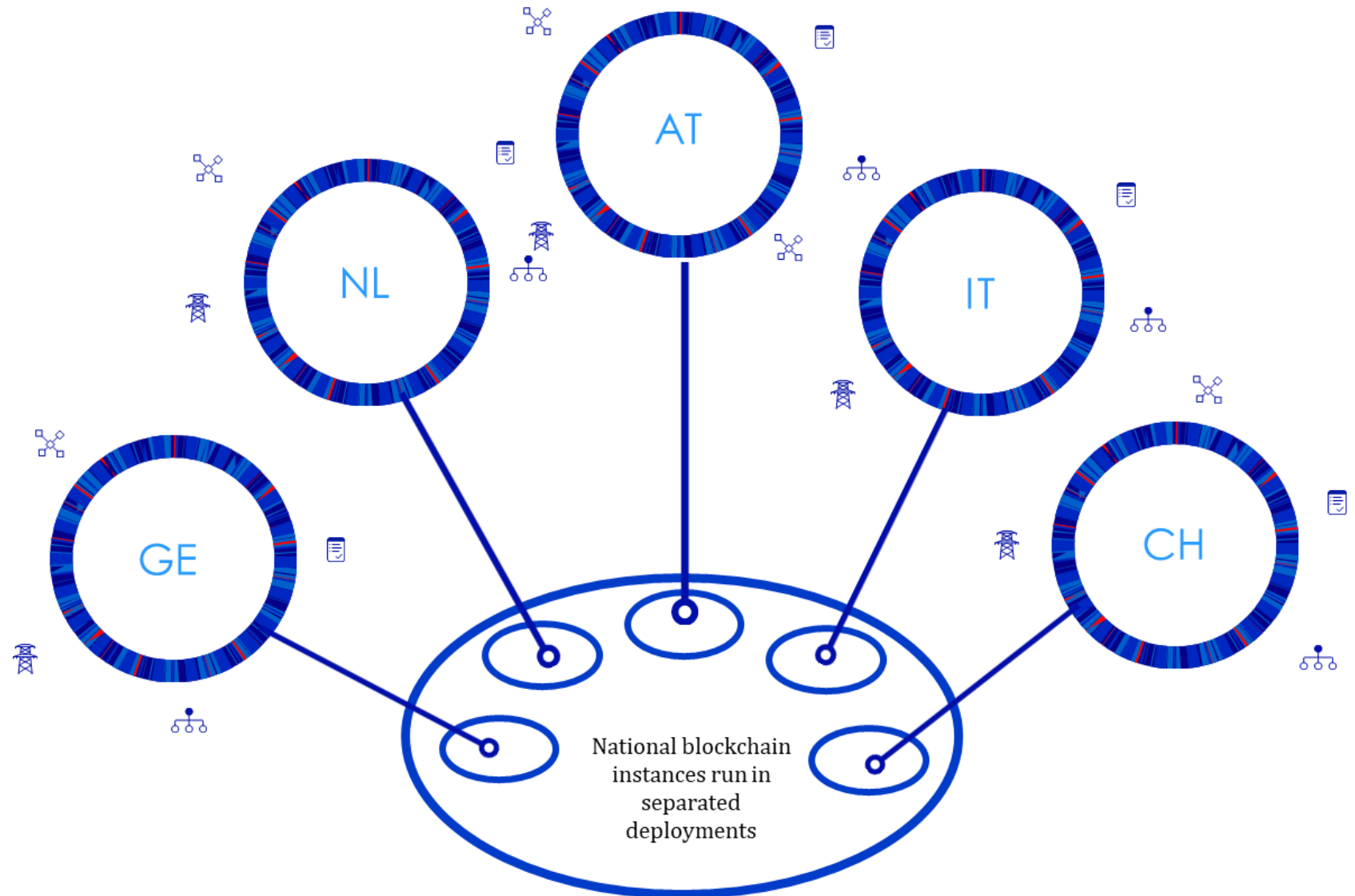


- 
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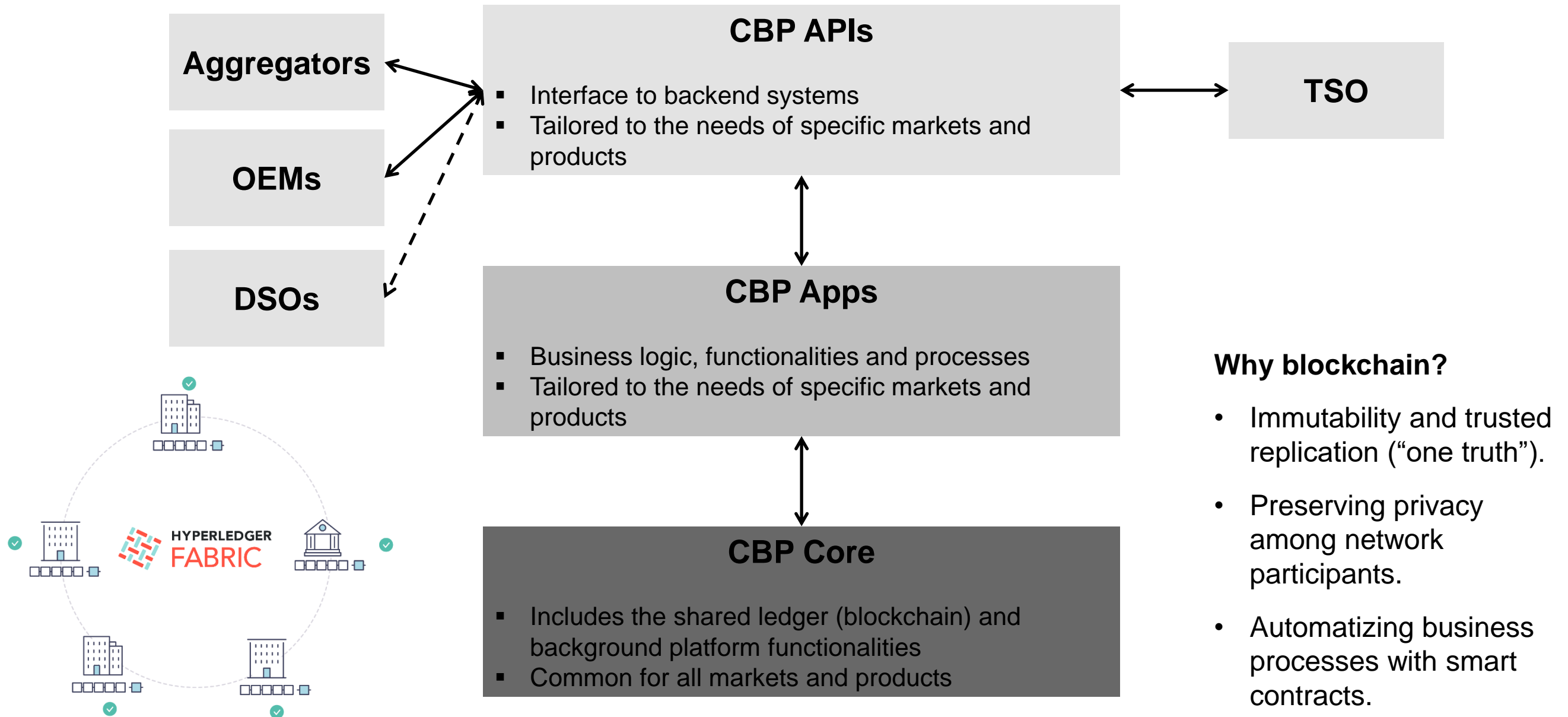
CBP structure: Creating European standards while maintaining national markets

The platform set-up is designed to:

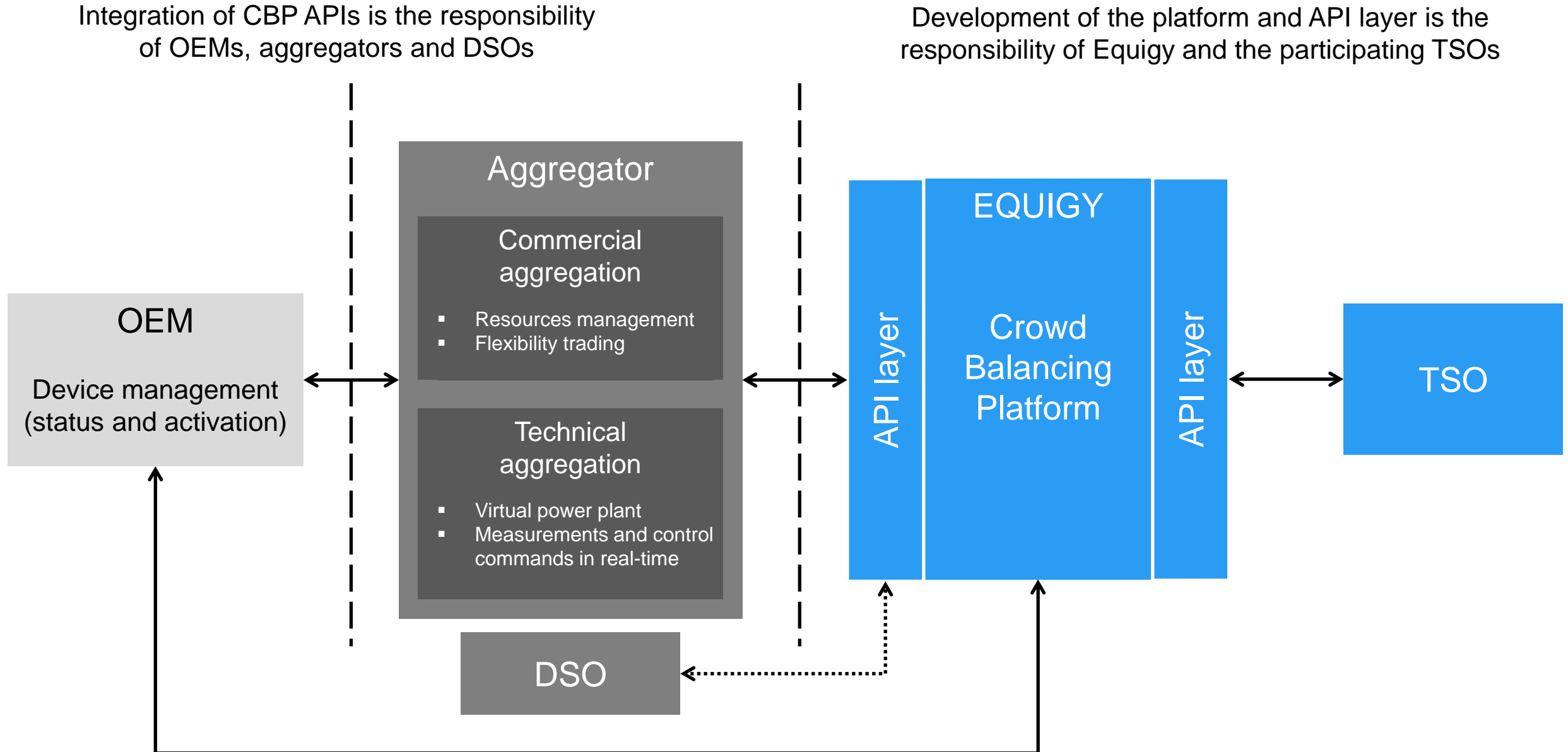
- Create European standardisation while maintaining independence in national markets.
- Share a common core to leverage synergies across markets.
- Socialise relevant costs among TSOs as much as possible.



Layered CBP architecture



Who does what in CBP



- 
- 1 Introduction to Equigy
 - 2 Crowd Balancing Platform (CBP)
 - 3 Completed FCR pilot project and operationalization
 - 4 **TSO-DSO pilot project (ongoing)**

Scope of Swiss Equigy pilot

- Focus on Frequency Containment Reserve (FCR) with small-scale flexible devices (e.g., electric vehicles, batteries, heating/cooling devices).
- Main objectives:
 - Verify that CBP and its blockchain technology can be used as basis for all FCR-related business projects.
 - Identify the benefits for involved partners (focus on real-time monitoring of reserve provision and ex-post validation of FCR delivery).
 - Test market penetration, evaluate technology acceptance and investigate business models for involved parties.
- Testing with Alpiq as the commercial and technical aggregator using a 1.2 MW battery.
- Pilot project successfully completed in August 2020.
- Possibly the first industry-scale prototype of FCR provision with blockchain technology worldwide.
- Key milestone before Swissgrid's decision to join the Equigy Joint Venture.
- An operational FCR product on CBP is not available yet; the operationalization phase has just started.

FCR business processes in a user journey

Legend

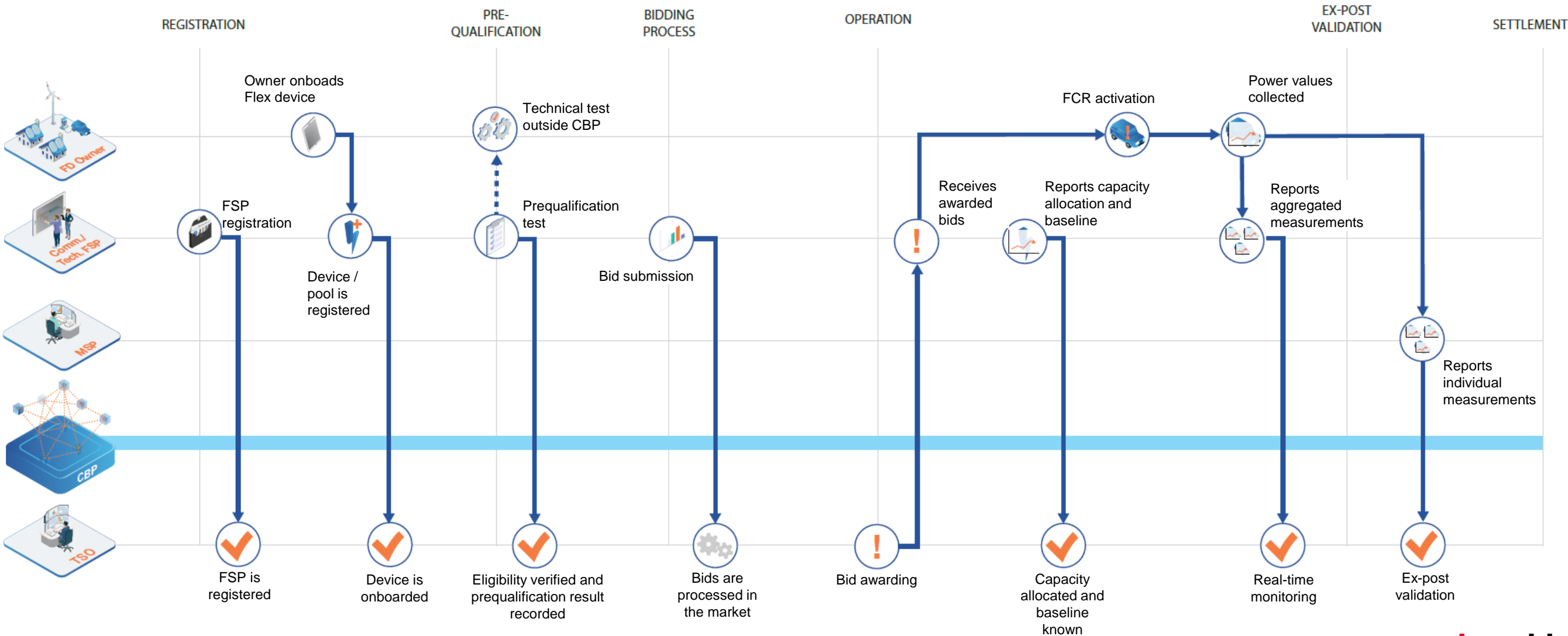
FD Owner - Flex Device Owner

Comm./ Tech. FSP - Commercial Or Technical FSP

MSP - Metering Service Provider

CBP - Crowd Balancing Platform

TSO - Transmission Service Operator



Testing results and dashboard

Registration of flexible resource

id ▾	regist. Time	Resource Type	BRP ID	BRP Name	Device Type	LER	Nom. Power	Gradient
7609cb9a-254d-465c-8c4e-88b7e5e56993	2020-07-20 11:06:39	flex device	12X-0000000072-S	EBM_ENERGIEAG-ST	BAT	1	1.2	3.85

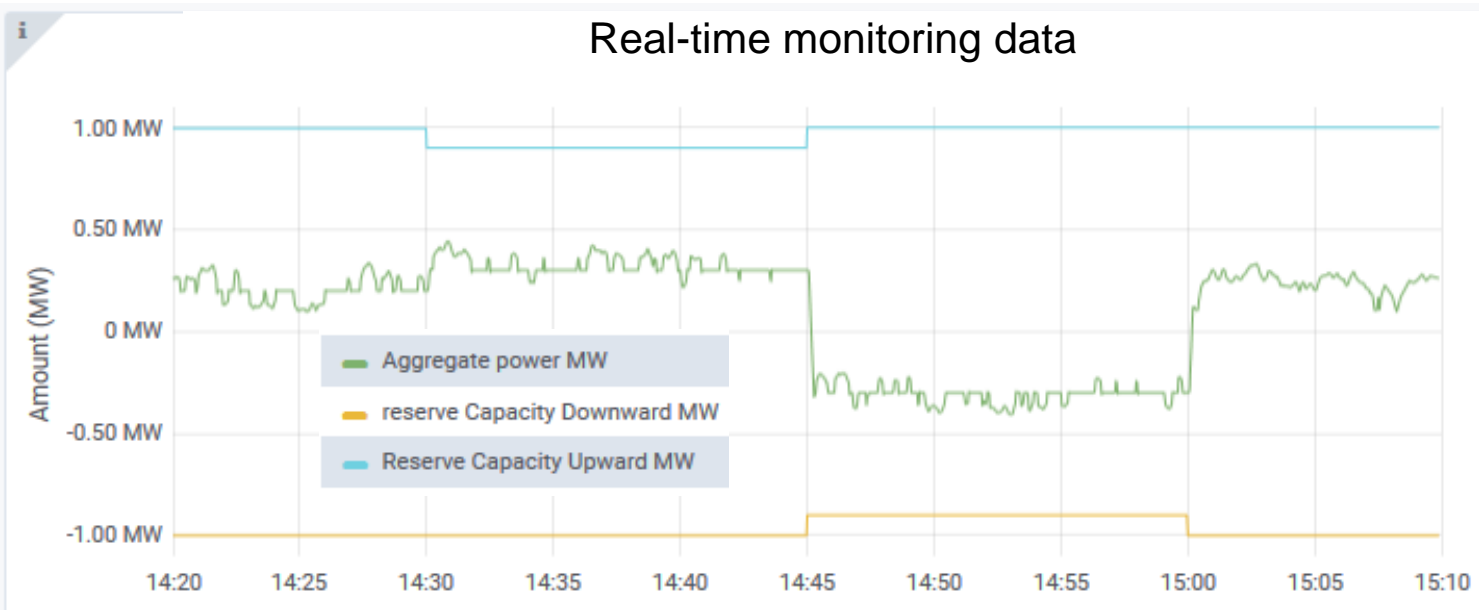
Submission of bid

FSP	reserveBidPeriodTimeIntervalStartDateTime	BidTimeSeries ID	created ▾	Position	Quantity (MW)
PRL_20_08_18_12XSDL-ATEL—W _2XSDL-ATEL—W	2020-08-18 01:00:00	b32f0ce1-c156-4a9b-82e2-877608222db-1	2020-08-04 11:28:51	1	1.00 MW

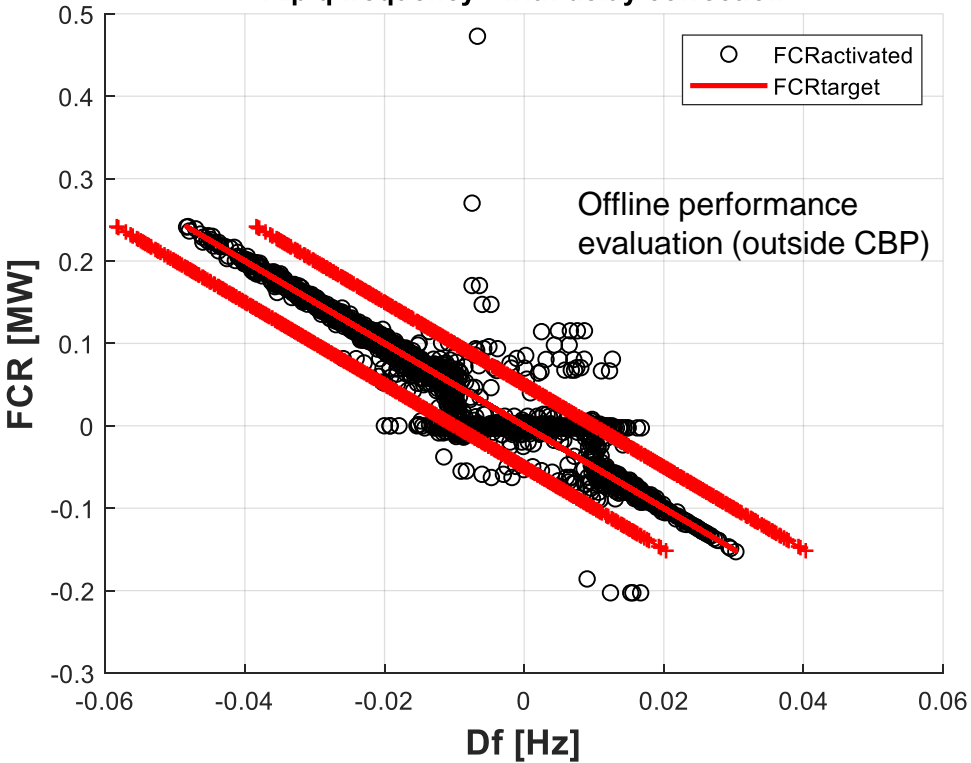
Tests performed:

- Integration tests
- Functional tests
- End-to-end tests
 - Registration
 - Bidding
 - Activation / Awarding
 - Real-time monitoring

Real-time monitoring data



Alpiq frequency - with delay correction



FCR operationalization project

Scope

- Focus on operationalizing the following processes:
 - Registration of resources and groups
 - Prequalification
 - Ex-post validation of reserve delivery
- Close work with interested Balancing Service Providers (BSPs).
- Integration of Equigy IT interfaces to backend systems of Swissgrid and BSPs.
- The Equigy platform will work in parallel to existing systems such as SDL B&E.

FCR operationalization project

Procedure and timeline

- Invitation for participation to Swiss BSPs (until end of 12.2021).
- Business requirements and preparation phase (until end of 04.2022).
- Software development phase (until end of 10.2022).
- Documentation, training and testing (until end of 04.2023).
- Go-live (expected in Q2/Q3 2023).

- 
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New Equigy activity in Switzerland: TSO-DSO coordination

Stakeholders

- TSO: Need for balancing energy, congestion management, etc.
- DSO: Need for peak load and congestion management, etc.
- Aggregator: Offer of aggregated flexibility from distributed resources.

Goals

- Concept for systematic coordination between the TSO and DSO with respect to the use of third-party distributed flexibility resources.
- Implementation on the Equigy platform.

Innovation

- Market-based allocation of the available flexibility between the system operators considering their actual needs.
- The aggregator markets the flexibility and the system operator with the highest willingness to pay receives it.
- Key milestone with particular importance for Switzerland and Swissgrid.

Benefits

- For the TSO and DSO: Transparency, efficiency, situational awareness.
- For the aggregator: Optimized revenue stream, standardized communication.

Innovation



Market efficiency



Transparency



Pilot project between Swissgrid and ewz

Medienmitteilung
3. Juni 2021



Swissgrid Media Service
Bleichemattstrasse 31
Postfach
5001 Aarau
Schweiz

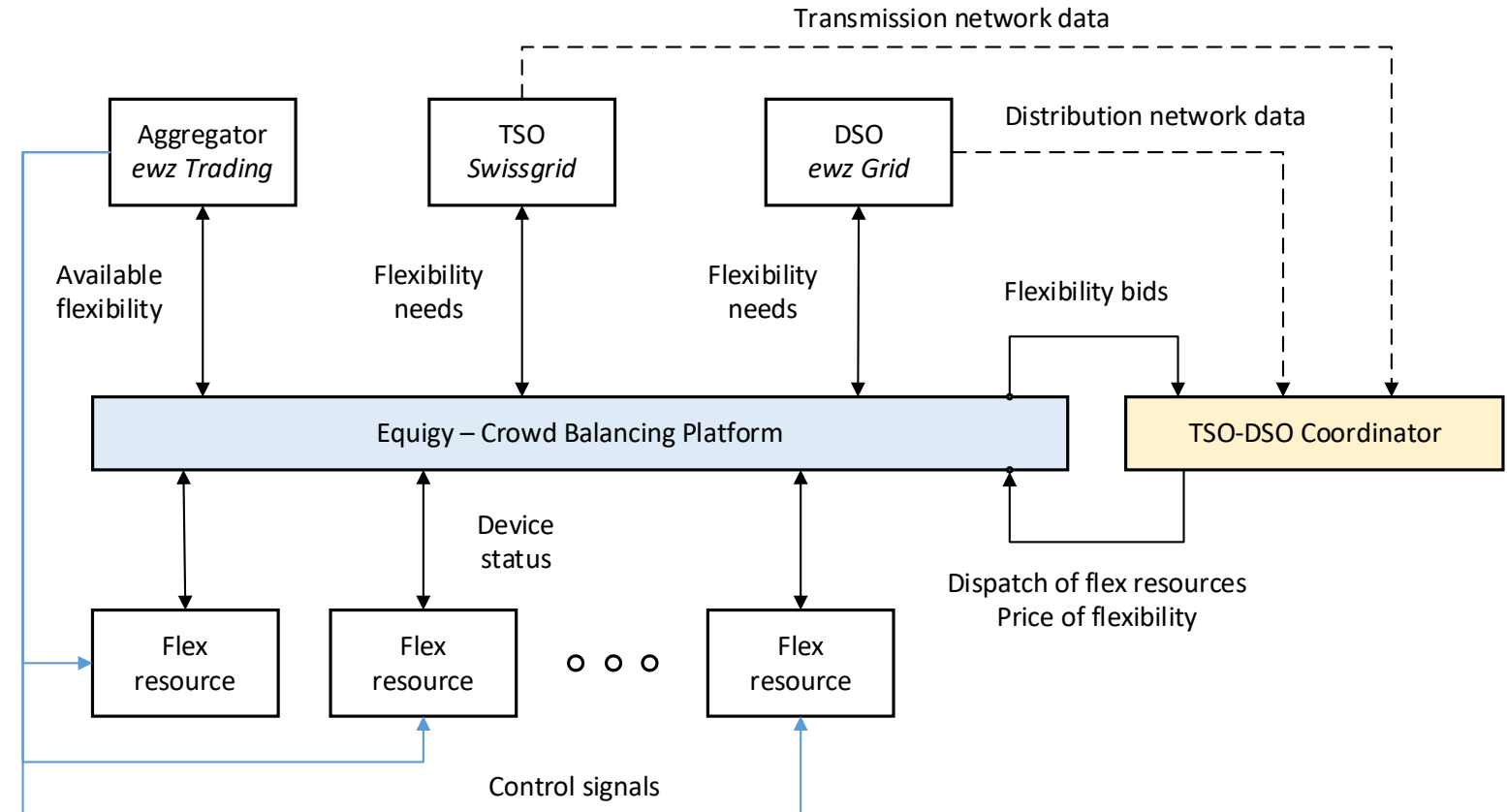
T +41 58 580 31 00
media@swissgrid.ch
www.swissgrid.ch

Wichtiger Schritt für die Integration dezentraler Energiequellen und Verbrauchern

Swissgrid und ewz starten gemeinsames Equigy-Pilotprojekt zur Koordination von Übertragungsnetz- und Verteilnetzbetreiber

Swissgrid und ewz haben im zweiten Quartal 2021 ein neues Pilotprojekt in Verbindung mit der Crowd Balancing Platform Equigy begonnen. Mit dem Projekt wird ein innovativer Ansatz für die zukünftige Nutzung von dezentralen Energiequellen und Verbrauchern, wie Heimbatteriespeicher, Photovoltaik-Anlagen, Wärmepumpen oder Elektro-Mobilität, für die Bedürfnisse des Übertragungs- und Verteilnetzes entwickelt und getestet.

Die Zusammenarbeit zwischen der Übertragungsnetzbetreiberin (ÜNB) Swissgrid und den verschiedenen Verteilnetzbetreibern (VNB) spielt schon heute eine wichtige Rolle innerhalb des Schweizer Stromsystems. Zukünftig wird ihr voraussichtlich noch eine grössere Bedeutung zukommen. Swissgrid und ewz (zusammen mit ihrer Tochtergesellschaft Smart Grid Solutions AG) führen aus diesem Grund gemeinsam ein Pilotprojekt in Verbindung mit der Crowd



- ewz joins the project with two distinct roles: DSO and aggregator.
- Swissgrid focus is on the products of the Integrated Market, namely tertiary control energy and international zonal redispatch.

Depending on the complexity, the TSO-DSO Coordinator module may be either a stand-alone component or an integral part of CBP.

The pilot project is organized in phases



Phase A

Basic concept
(Q2/2021 to Q3/2022)

- Simpler rule-based approach
- Local flexibility market with DSO priority
- Traffic light model: TSO activations can be blocked by the DSO to avoid local violations (and vice versa)
- Quick prototyping on Equigy platform

Phase B

Advanced concept

- Common TSO-DSO flexibility market model
- Optimization-based market clearing considering grid constraints
- Focus on optimality and added value

Phase C

Professional concept

- Methodological improvements (e.g., decentralized optimization model)
- Focus on efficiency and scalability
- Adaptations to specific requirements

Phase D

Integrated platform

- Complete software module with all functionalities
- Focus on full integration in the Equigy platform
- Integration with backend systems of Swissgrid und ewz

Summary

- Equigy is a growing consortium of European TSOs that co-develop CBP.
- The first pilot project on FCR was successfully completed in Switzerland.
- Operationalization of the Equigy FCR product at Swissgrid has just started.
- Ongoing new Swissgrid pilot on TSO-DSO coordination in collaboration with ewz.
- Always open to discuss ideas about new Equigy pilot projects.

The EFET logo consists of the letters 'EFET' in a bold, red, sans-serif font.

European Federation
of Energy Traders
SO YOU CAN RELY ON THE MARKET

International perspective on power markets and energy trading

Swissgrid BGM Partner Meeting (09/11/2021)

Federico Barbieri – EFET Secretary for Southern European markets

AGENDA

- Introduction to EFET
- Hot topics
- Day-ahead market
- Intraday market
- Balancing market

EFET MISSION

We promote and facilitate European energy trading in **open, transparent and liquid wholesale markets**, unhindered by national borders or other undue obstacles.

We build trust in power and gas markets across Europe, so that they may underpin a sustainable and secure energy supply and enable the **transition to a carbon neutral economy**.

Introduction

EFET Regular Members

EFET currently represents more than 100 energy trading companies, active in over 27 European countries.

REGULAR MEMBERS



EFET Associate Members

EFET currently represents more than 100 energy trading companies, active in over 27 European countries.



EFET MAIN ACTIVITIES

- Supporting the liberalization of the energy markets
- Promotion of the single European energy market, integrated and interconnected
- Legal standardization (EFET Master Agreements, CPPAs)

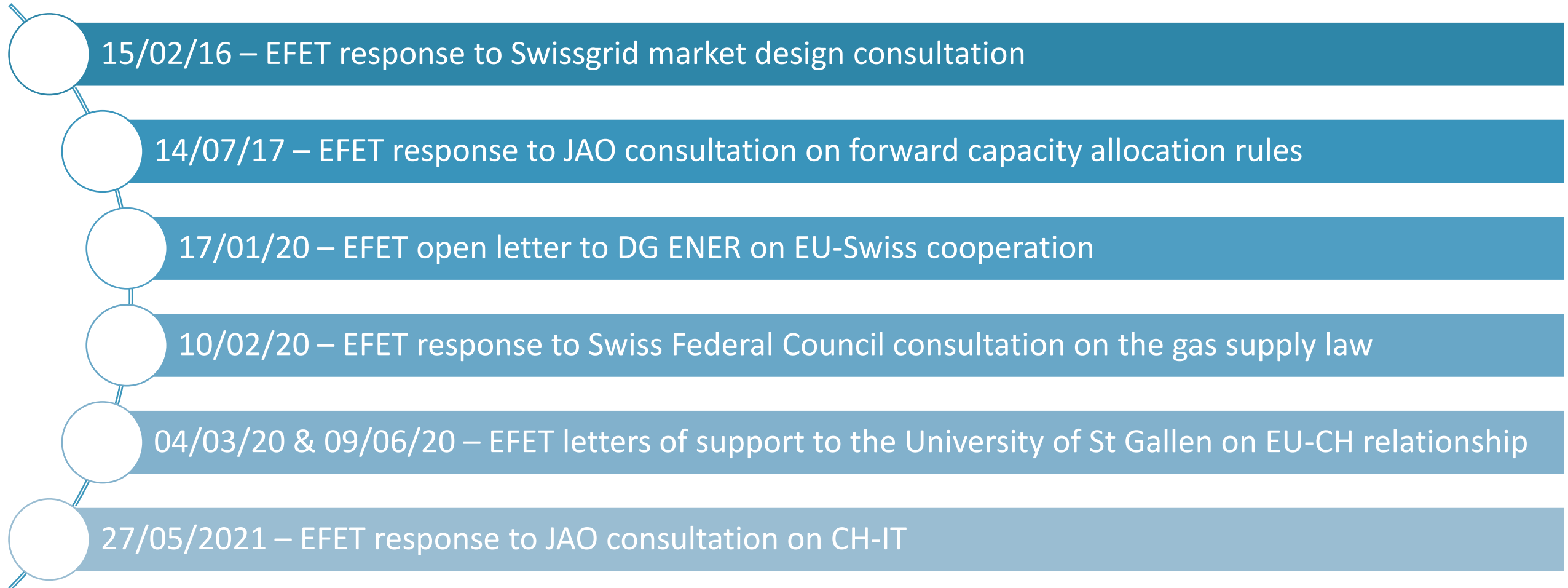
Introduction

EFET Task Force Switzerland

- Established in 2005
- Continuous collaboration with Swissgrid in the last decade

EFET TF Switzerland

Main documents and consultation responses



HOT TOPICS

- Increase of gas and electricity prices in Europe

EFET observations

High-prices in the energy sector

“Effective wholesale markets remain the best tool to deliver decarbonisation at least cost. Help for vulnerable customers should be provided in a way that does not jeopardise this.” Mark Copley, EFET CEO

EFET reactions (available online):

- ✓ *EFET position paper on rising energy prices, consumer protection and decarbonisation (20/10/11)*
- ✓ *EFET reaction to European Commission communication on energy prices (14/10/21)*
- ✓ *Joint Statement by the Participants of the European Market Stakeholder Committee on the increase of gas and electricity prices in Europe (08/10/21)*

High-prices in the energy sector

EFET position paper on rising energy prices, consumer protection and decarbonisation

We recognise that governments are expected to provide support for vulnerable consumers and find ways to maintain industrial competitiveness while making progress with decarbonisation and expanding renewable energy sources.

However:

- ✓ National governments have a **range of tools available** to them to ensure help is given to vulnerable residential consumers and to afford relief to industrial and commercial users of energy;
- ✓ Measures which moderate bills, while maintaining the integrity and functioning of the EU internal energy market, are most likely to ensure continuity of competition and security of supply. Thus, to be in the **best interests of consumers of all types over time**.
- ✓ On the other hand, measures which distort price signals or adversely affect the operation of markets may **jeopardise competition, discourage investment, reduce innovation**, and thereby increase the cost of the European transition to net zero carbon.

DAY-AHEAD

- Cross-border capacity allocation and 70% rule for 3rd countries

EFET observations

Cross-border capacity allocation

Inclusion of Switzerland in capacity calculation and in the 70%-rule

In order to :

- *Safeguard the electricity market;*
- *Safeguard the system in synchronous grid of Continental Europe and other synchronously interconnected EEA and non-EU countries;*
- *Improve system security;*
- *Ensure smooth and efficient electricity trading*

Limitations in the networks of non-EU TSOs must be included in the capacity calculation and related coordination activities for the development of methodologies

Source: EFET response to ACER consultation on CACM review (10/06/21)



EFET observations

INTRADAY

- Assessment of the current operations after LIP14 go-live
- Status of capacity usability at the different borders
- Status on CH-IT border and way forward
- Improvements and next steps

Problem: access to Italian ID market after LIP14 go-live

Italian intraday market
rules



Replacement of explicit intraday
capacity auctions by implicit auctions
and continuous trading

Prevent market participants **without generation or client portfolio in Italy** from taking positions – including across borders – in the Italian intraday market after LIP14 go-live
(previously allowed for explicit capacity rights holders)



Consequences:

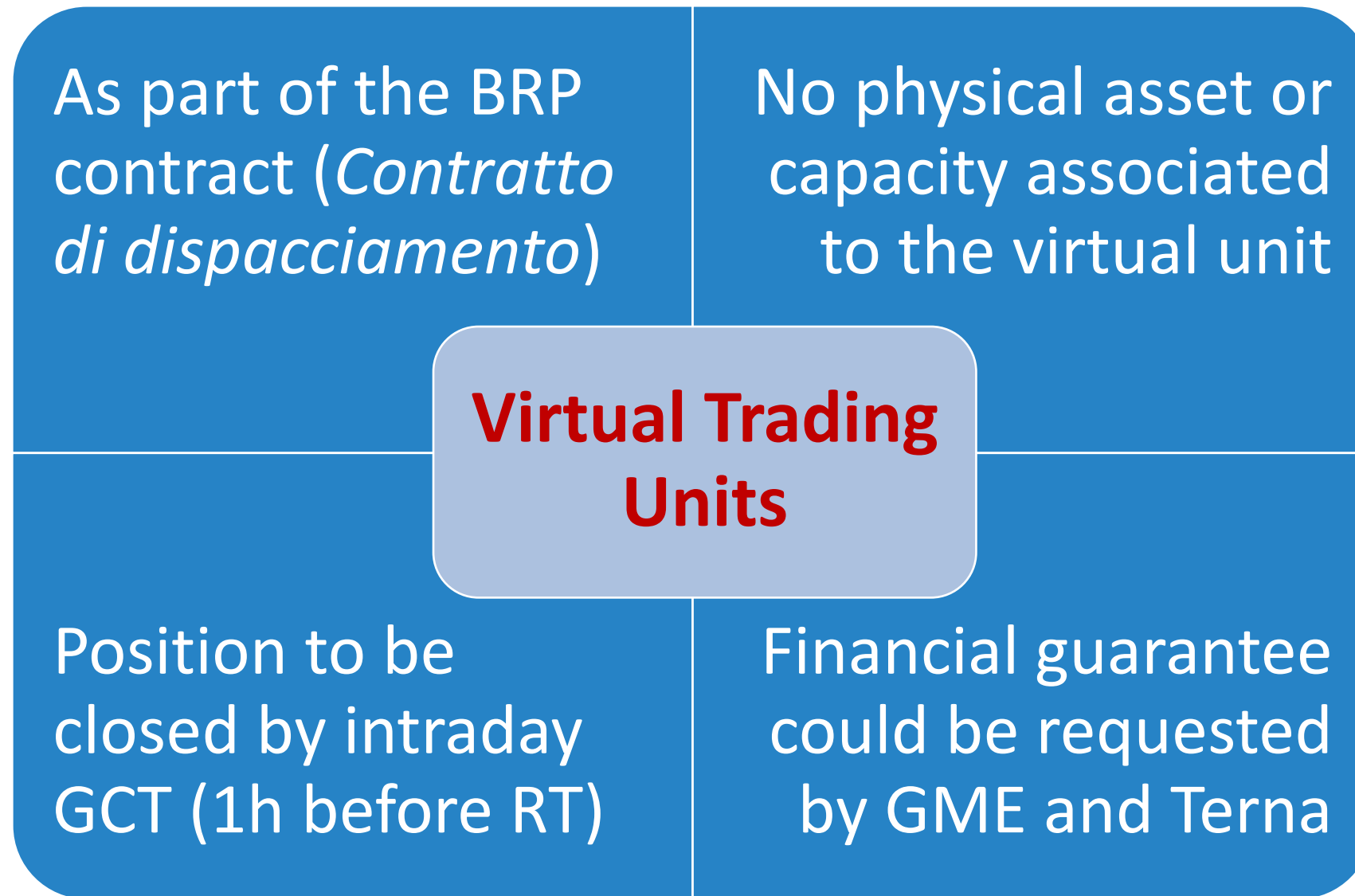
- Differential treatment at the Italian borders
- LIP 14 is live with significant market impediment for non-asset or portfolio owners in Italy

Overview of different borders

Status of capacity usability

Country	Continuous trading	Implicit auctions	Access to non-asset or portfolio owners
Austria	YES	NO	NO
Greece	XBID go-live: March 2022	XBID go-live: March 2022	NO
France	YES	NO	NO
Slovenia	YES	YES (CRIDAs)	NO
Switzerland	NO	NO (Explicit auctions)	YES

Solution proposed by EFET: Virtual Trading Units



Why?

- ✓ Unrestricted access of foreign market participants to the Italian ID market
- ✓ Maintain and improve ID market liquidity
- ✓ Coherence of SIDC go-live in Italy with target model (until further reform)

Conclusion & Next steps

Integration of Italy into #SIDC needs to be improved by 

- ✓ Easing differential treatment at the Italian borders;
- ✓ Guaranteeing access to non-asset owners in Italy to access the Italian intraday market;
- ✓ Introducing virtual trading

units

“EFET welcomes the extension of continuous trading to Italy but full access to the Italian intraday market must be ensured for all non-asset owners”

Next step: ARERA will issue an updated timeline by the next MESC (01/12/21) on the publication of a consultation

Countries coupled Intraday with 3rd, 4th and 5th SIDC Go-Live



Countries coupled in 1st and 2nd go-live



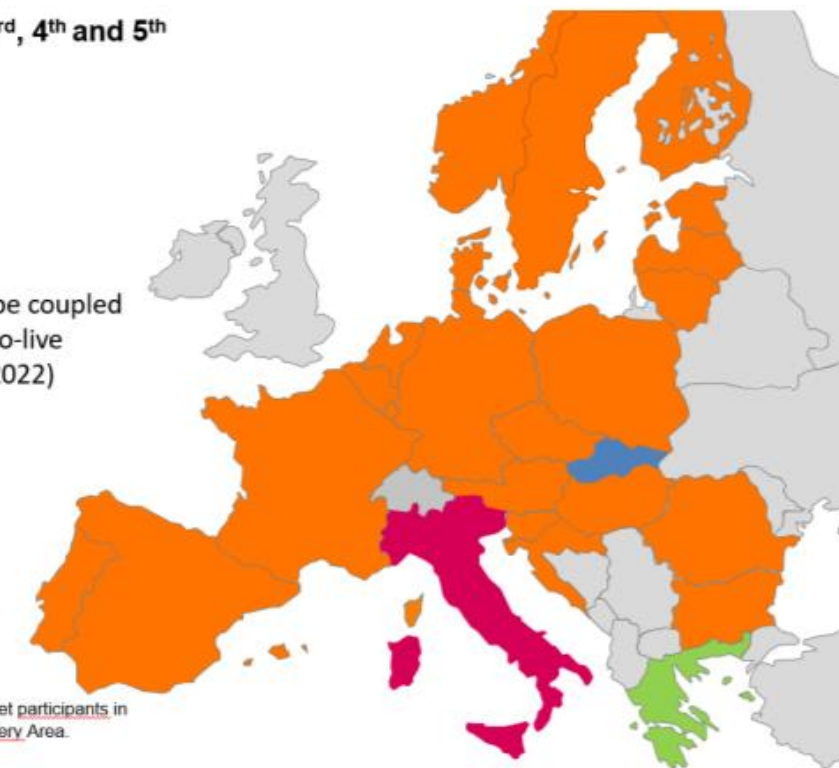
Country coupled in 3rd go-live (21 September 2021)



Country to be coupled in 5th go-live (end 2022)



Country to be coupled in 4th go-live (TBD)



Note: Luxembourg is part of the Amprion Delivery Area. Market participants in Luxembourg have access to SIDC through the Amprion Delivery Area.

Source: NEMO



CH - IT border

Potential improvements & way forward

Swiss-Italian border

Potential improvements and way forward

✓ Extension to 24 nomination gates

Our request for 24 nomination gates has been rejected. *“TSOs will take this option into account for the future improvement”* (Source: JAO consultation report)

Action: Enable the nomination of the awarded capacity every hour independently from the next hour with a reasonable lead-time (e.g. one hour before delivery)

✓ Implementation of continuous explicit ID capacity allocation

We note that our proposal for continuous explicit ID capacity allocation at the CH-IT border has been deprioritized. *“TSOs will start discussions on this proposal together with NRAs starting from Q4”* (Source: JAO consultation report)

Action: Terna and Swissgrid to collaborate in order provide a clear timeline on the implementation of continuous explicit ID capacity allocation at the CH-IT border

BALANCING

- EFET engagement in setting up efficient and transparent balancing energy platforms

EFET observations

Balancing

Status of Swiss participation in balancing platforms

- ✓ Participation of Switzerland in the RR-Platform (TERRE), the aFRR-Platform (PICASSO) and mFRR-Platform (MARI) is regulated based on article 1.6 and 1.7 of the EB regulation
- ✓ Currently the subject of litigation at the General Court of the European Union

EFET advocacy

- ✓ Inclusion of Switzerland into the internal energy market (IEM) for a long time
- ✓ **Inclusion of Swissgrid in the balancing platforms (PICASSO, MARI and TERRE) to secure the system security of the region** (even since the lack of the institutional agreement)

To wrap-up

EFET observations

High energy prices

- ✓ Effective wholesale markets remain the best tool to deliver decarbonisation at least cost
- ✓ Energy price increase in MS should not undermine pan-European objectives

Day-ahead

- ✓ Inclusion of Switzerland in capacity calculation and in the 70%-rule

SIDC Go-live in Italy

- ✓ Equal treatment at the borders and access to non-asset owners

Balancing

- ✓ Inclusion of Swissgrid in the balancing platforms (PICASSO, MARI and TERRE)

Thank You

EFET

European Federation
of Energy Traders
SO YOU CAN RELY ON THE MARKET

Federico Barbieri 👤

f.barbieri@efet.org ✉

www.efet.org 🌐



Thank you for your participation

Presentations are available on Swissgrid website:

<https://www.swissgrid.ch/en/home/customers/topics/bgm.html#operational-documents>