BGM Partner Meeting

Zurich, 22nd November 2018

swissgrid

Agenda

10:00	Welcome address	Bastian Schwark
10:10	Developments in internal and cross-border congestion management	Julius Schwachheim
10:25	News on cross-border capacity allocation	Theodoros Sevdas
10:35	EPEX Spot market developments	Juan Perez, EPEX Spot
11:00	Long-term procurement for the compensation of active power losses	Christoph Hodel
11:15	Successful go-live of the scheduling harmonization project	Hermann Feldmann
11:30	Swiss balance group management and operational incidents	Marc Rüede, Marko Pranjic
11:50	New balancing group contract in Germany: content and changes	Julian Häusler, TransnetBW
12:15	Lunch break	
13:30	Breakout Sessions: • Developments in internal and cross-border congestion management • The Swiss «Integrated Market»: new processes and expected go-live • Balance group contracts: comparison of Switzerland and Germany	 Julius Schwachheim Tobias Ott Thomas Hauri, Julian Häusler
14:20	Current Regulation of the Swiss electricity market	Florian Kämpfer, SFOE
14:50	Updated version of VSE document «Balancing Concept Switzerland»	Theodoros Sevdas
15:00	Feedback session	Bastian Schwark
15:15	End of event / Aperitif	

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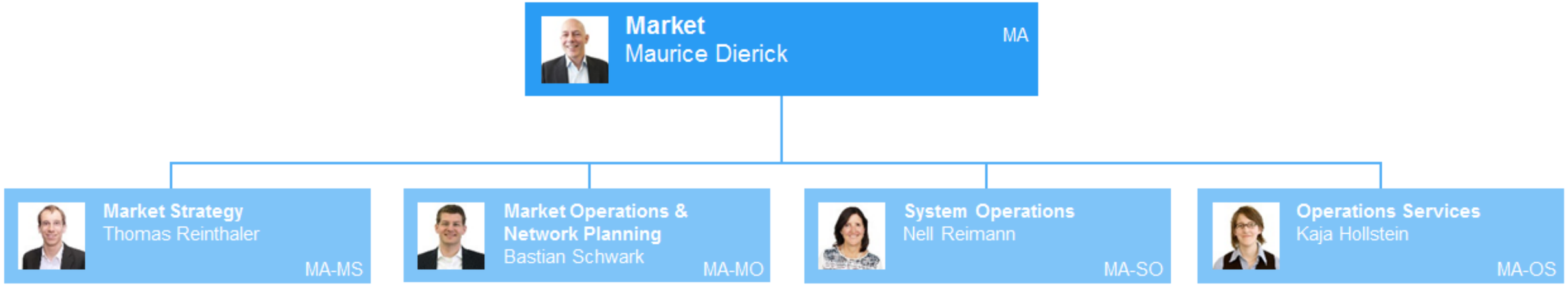
New structure of Business Unit «Market» at Swissgrid



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These are your contact persons for balance group management at Swissgrid

Head of Market Operations
& Network Planning

Head of Capacity
Allocation & Market Systems

Head of Capacity &
Congestion Management

Responsible for
BGM Partner Meeting

Head of Balancing
and Scheduling

Responsible for
BGM Expert Group

Day ahead Schedule Management:
Phone +41 58 580 30 77
scheduling.day-ahead.FO@chtso.ch

Intraday Schedule Management:
Phone +41 58 580 29 11
scheduling.intra-day.FO@chtso.ch

Balance Group Registration:
bg-registration@swissgrid.ch

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Developments in internal and cross-border congestion management

Julius Schwachheim
Head of Capacity and Congestion Management

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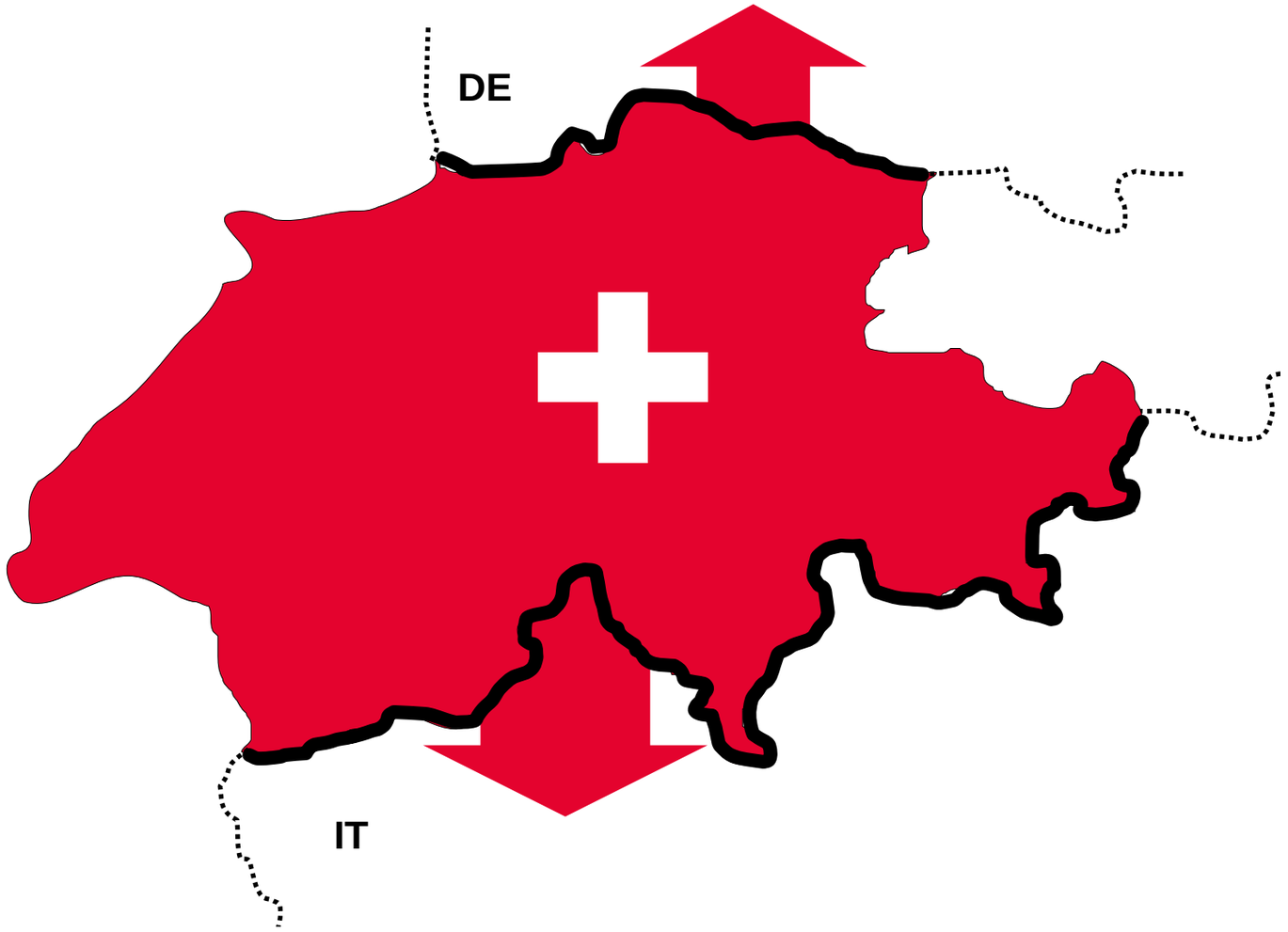
The forecast for this winter does not look critical – so let's start this year with a review of the summer and recent congestion management developments



1 **Switzerland-Germany border:** Developments of NTC in export direction (CH → DE)

2 **Switzerland-Italy border** New intraday capacity calculation (CH → IT)

Breakout sessions:

Details of 1 & 2

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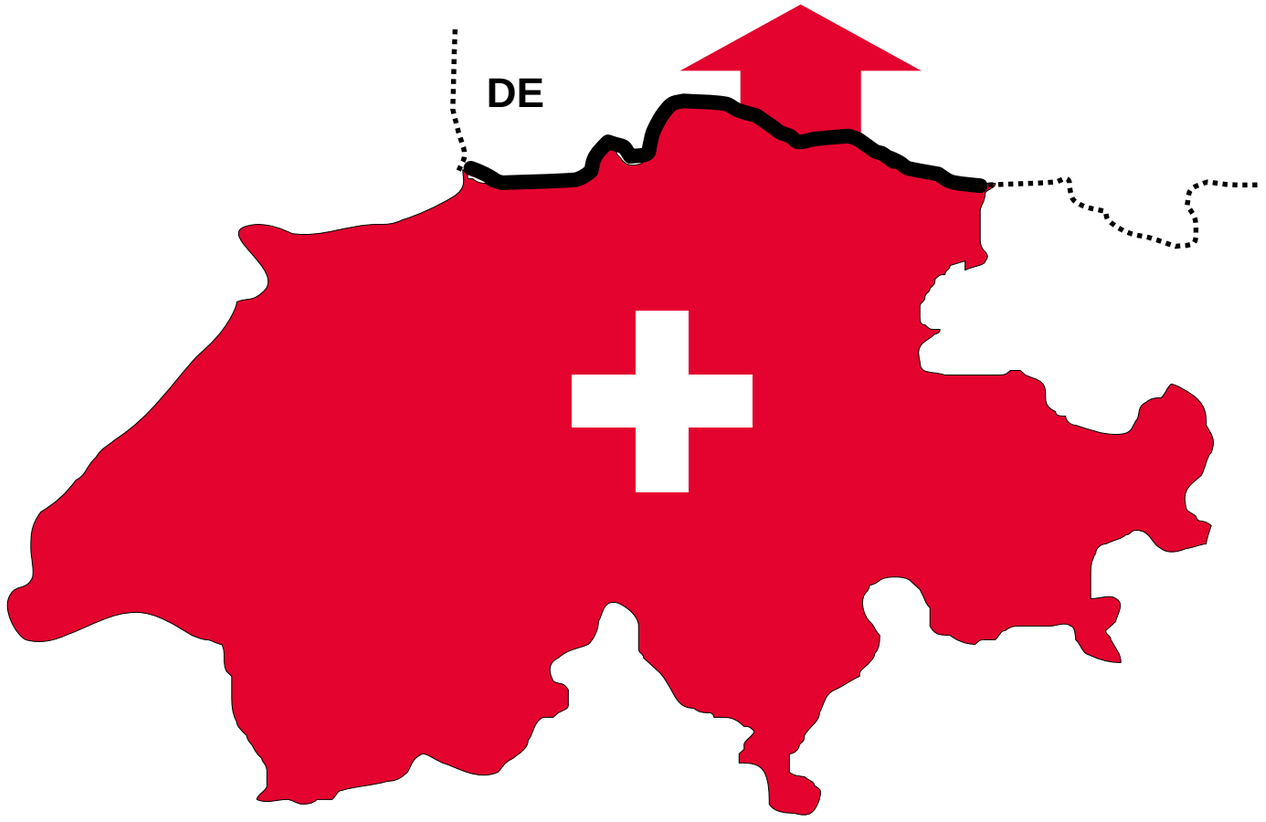
The forecast for this winter does not look critical – so let's start this year with a review of the summer and recent congestion management developments



1 **Switzerland-Germany border:** Developments of NTC in export direction (CH → DE)

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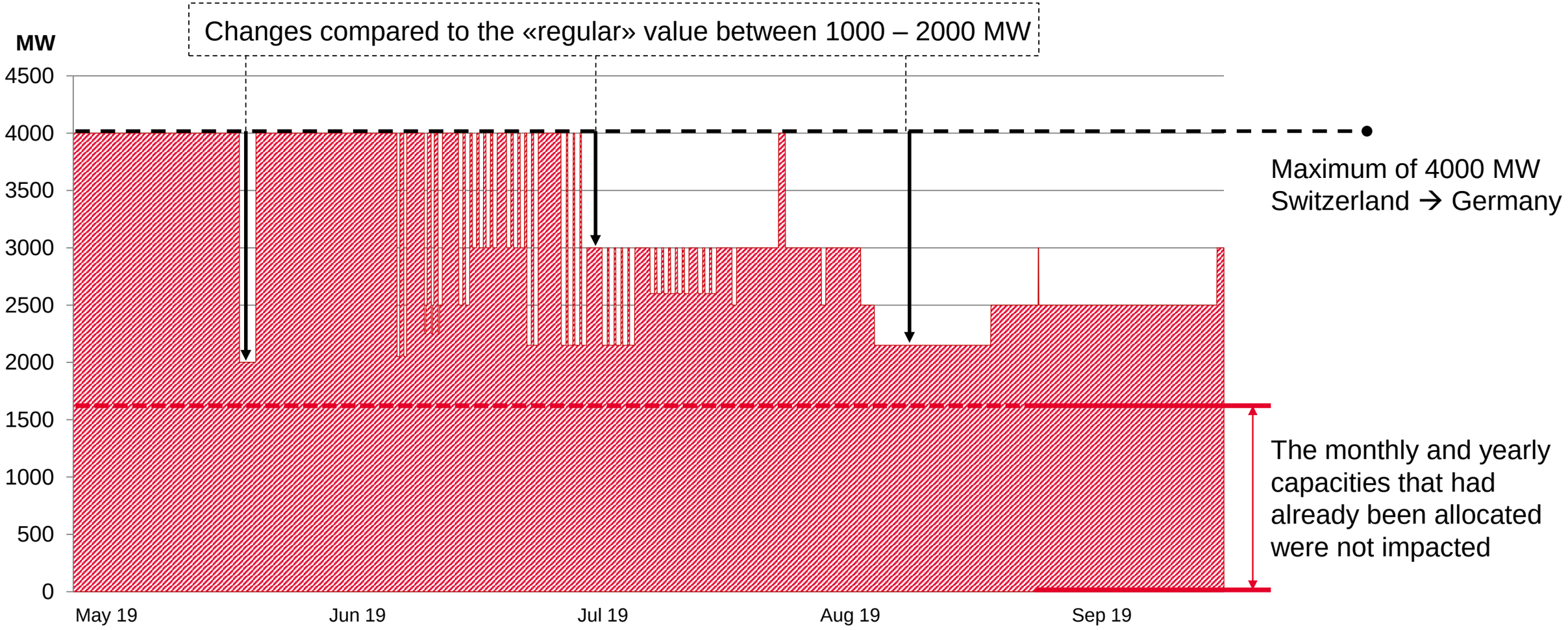
Swissgrid had to adapt the NTC towards Germany again during summer 2019 – for a significant value as perceived by the market



Less capacity than «usually» was available for the day ahead auction at JAO, but long-term rights were not impacted

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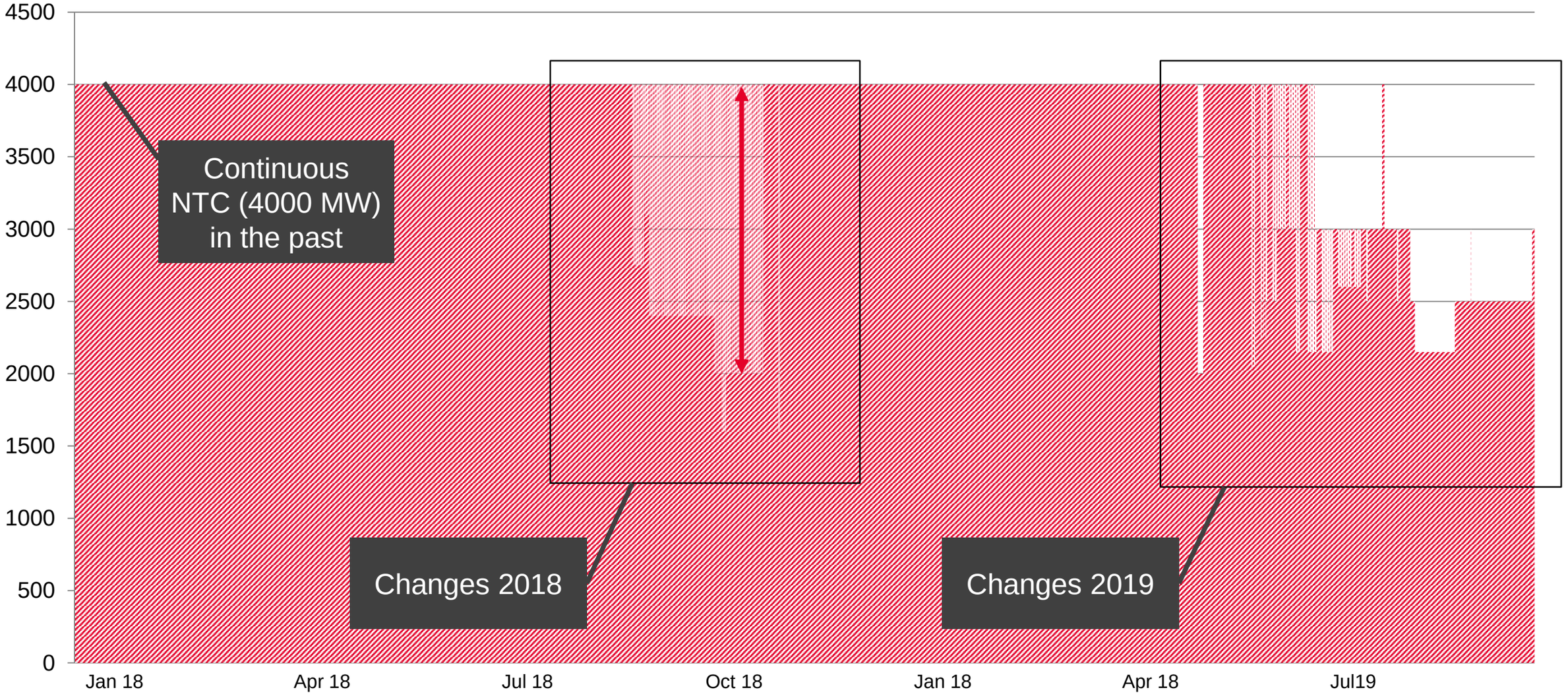
Swissgrid already had to adapt the NTCs for Germany in 2018 – due to the power flow situations and resulting congestion



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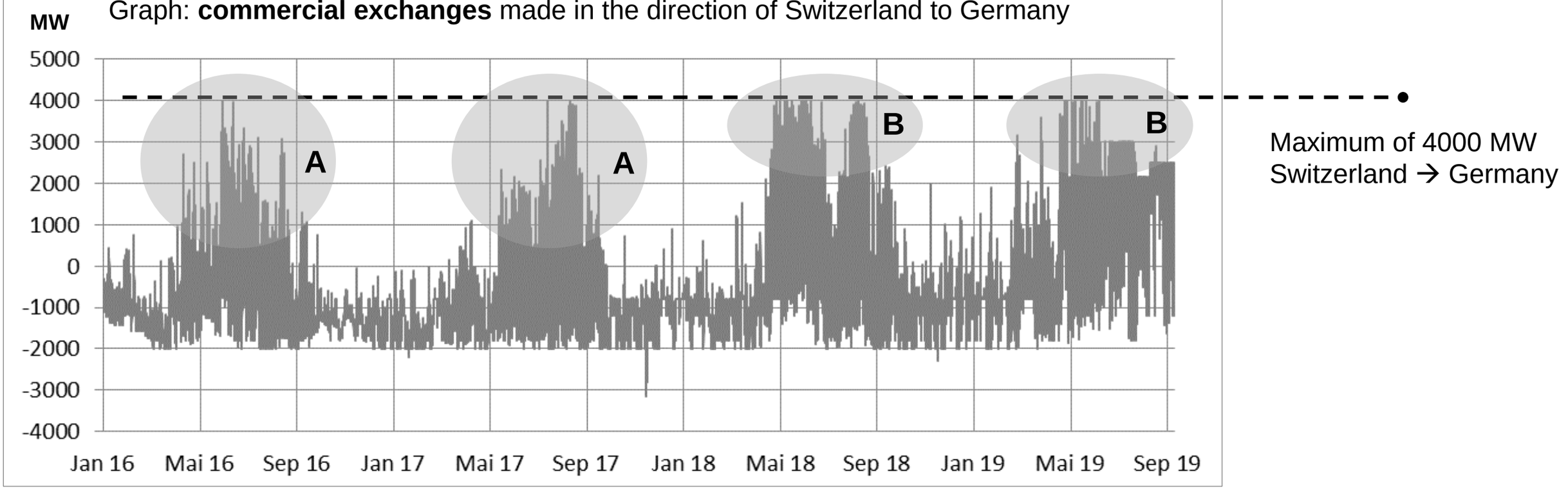
Nowadays, the process for changing the export NTC is only triggered on a case-by-case basis – in the past, there was simply no need for a regular calculation

- Before 2018, exports only rarely reached the available NTC (**A**)
- Since last year, we face heavy exports at the limits, especially to Germany (**B**)

Graph: **commercial exchanges** made in the direction of Switzerland to Germany



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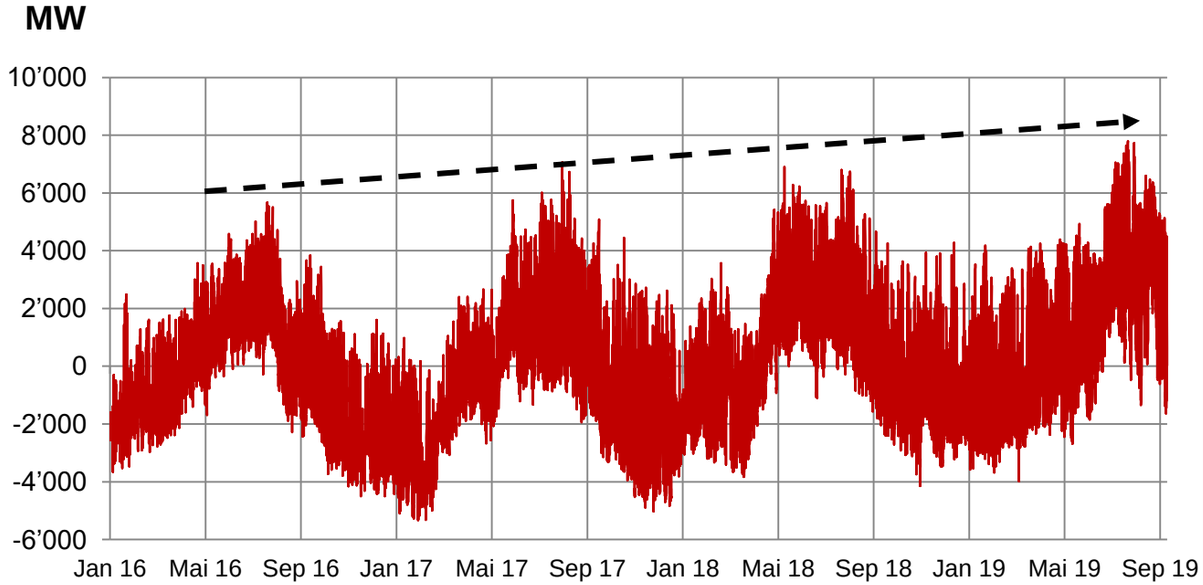
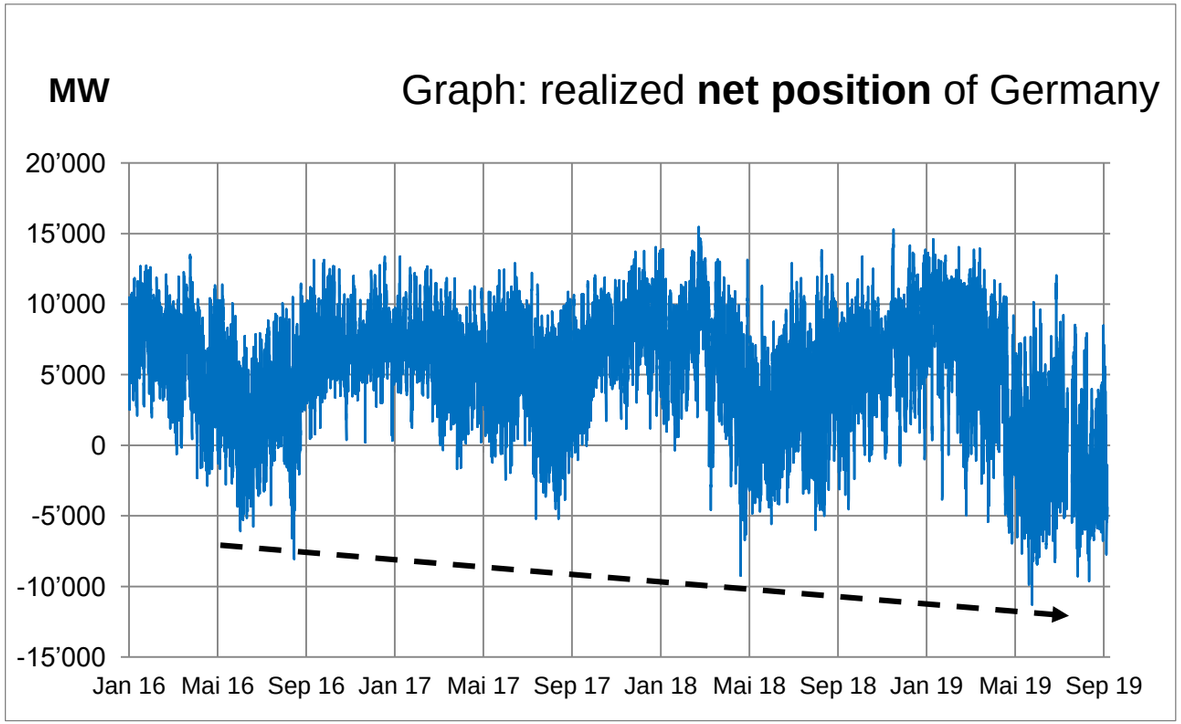
Both Swiss exports and German imports have increased in recent years



Graph: realized **net position** of Switzerland

- The higher usage of the NTC Switzerland → Germany is therefore a consequence of the higher physical utilisation of exchanges from Switzerland to Germany
- This also leads to higher physical flows



Graph: realized **net position** of Germany

Due to the increase in these exchanges, Swissgrid had to adapt the NTCs to control the physical flows.

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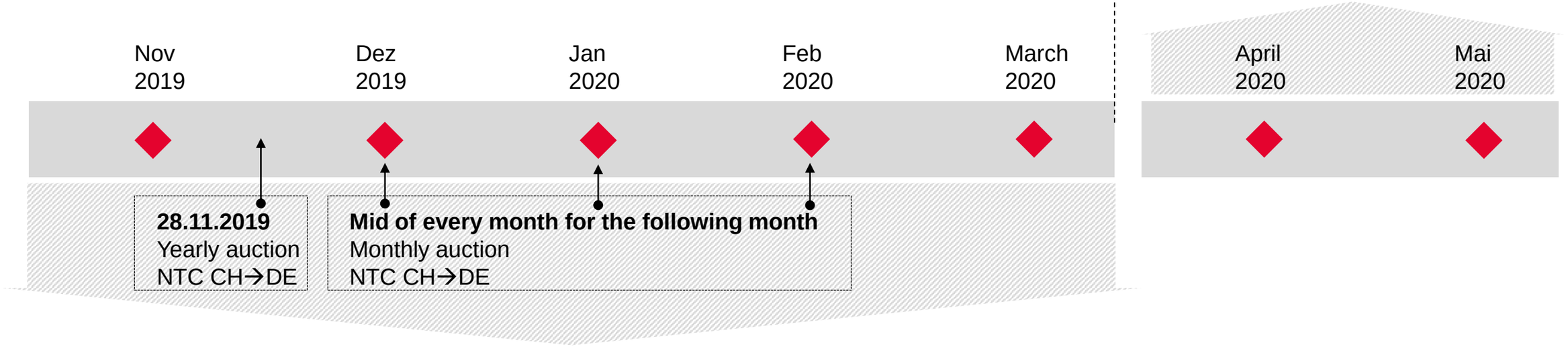
Swissgrid aims to have a new process for determining the export NTCs towards Germany, based on proper scenarios, in Q2 2020

Implementation of new process

- Adaption of monthly products according to maintenance planning
- Scenario-based D-2-NTCs



- For winter season: processes of today remains unchanged!
- Also, the 2020 yearly auction will not be impacted

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Questions for the preparation of the breakout sessions

How are the export NTCs specifically used (physical export, trading ,…)?

What is the timeframe for taking the NTCs into account?

Where do you take the information from?

How could the situation be improved in the future?

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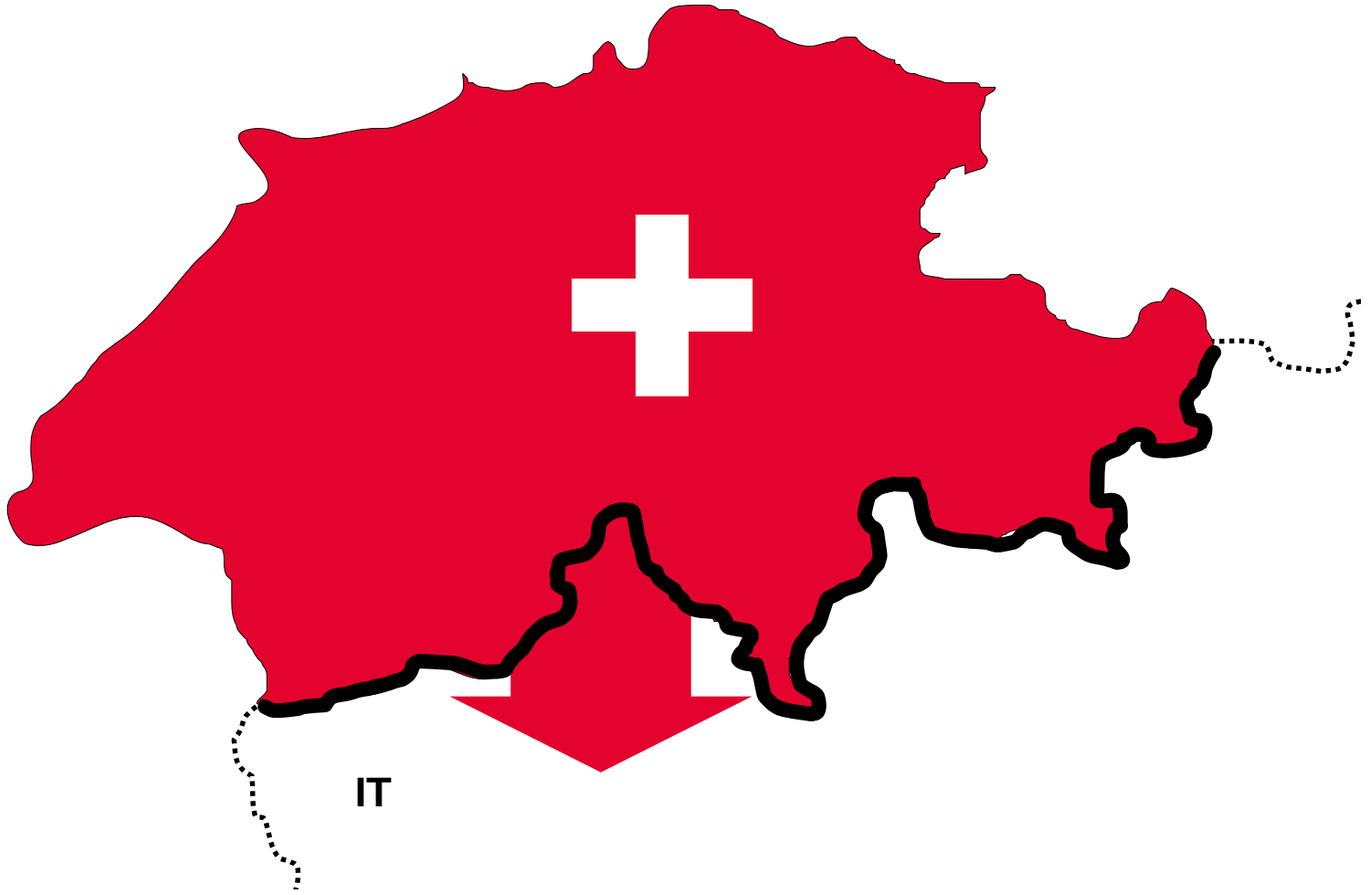
The forecast for this winter does not look critical – so let’s start this year with a review of the summer and recent congestion management developments



2 **Switzerland-Italy border**
New Intraday capacity calculation (CH → IT)

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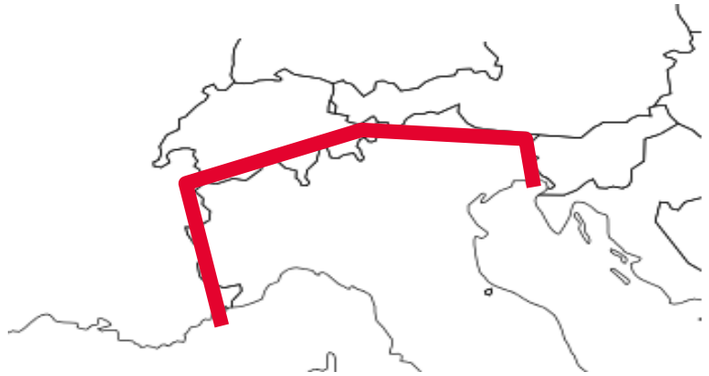
The TSOs at the Northern Italian Border aim to implement a new Intraday Capacity Calculation Process at the end of 2019

- The IDCC process is a **coordinated capacity calculation process** in the Italy North CCR developed by RTE, Swissgrid, APG, ELES and TERNA
- It will recalculate the NTC values for the **IDA2-auction** on a daily basis for the target timeframe **16:00 – 24:00**
- The calculations are performed by **TSCNET** and **CORESO** using the latest available grid information provided by the TSOs of CCR Italy North
- Since **mid September 2019**, the results are published on the **JAO** website as information for the market participants but without allocation (http://www.jao.eu/ → Support → Resource Centre → IBWT IDCC External // Run)
- The allocation will start once the process has been approved by the relevant EU regulators (expected by mid-November)
- The IDCC process will provide additional Intraday capacity if feasible from a grid security perspective and will shorten the ATC if required and available – **Already allocated capacity will not be curtailed!**
- An average NTC increase of **50 MW** is expected for the NTC CH-IT



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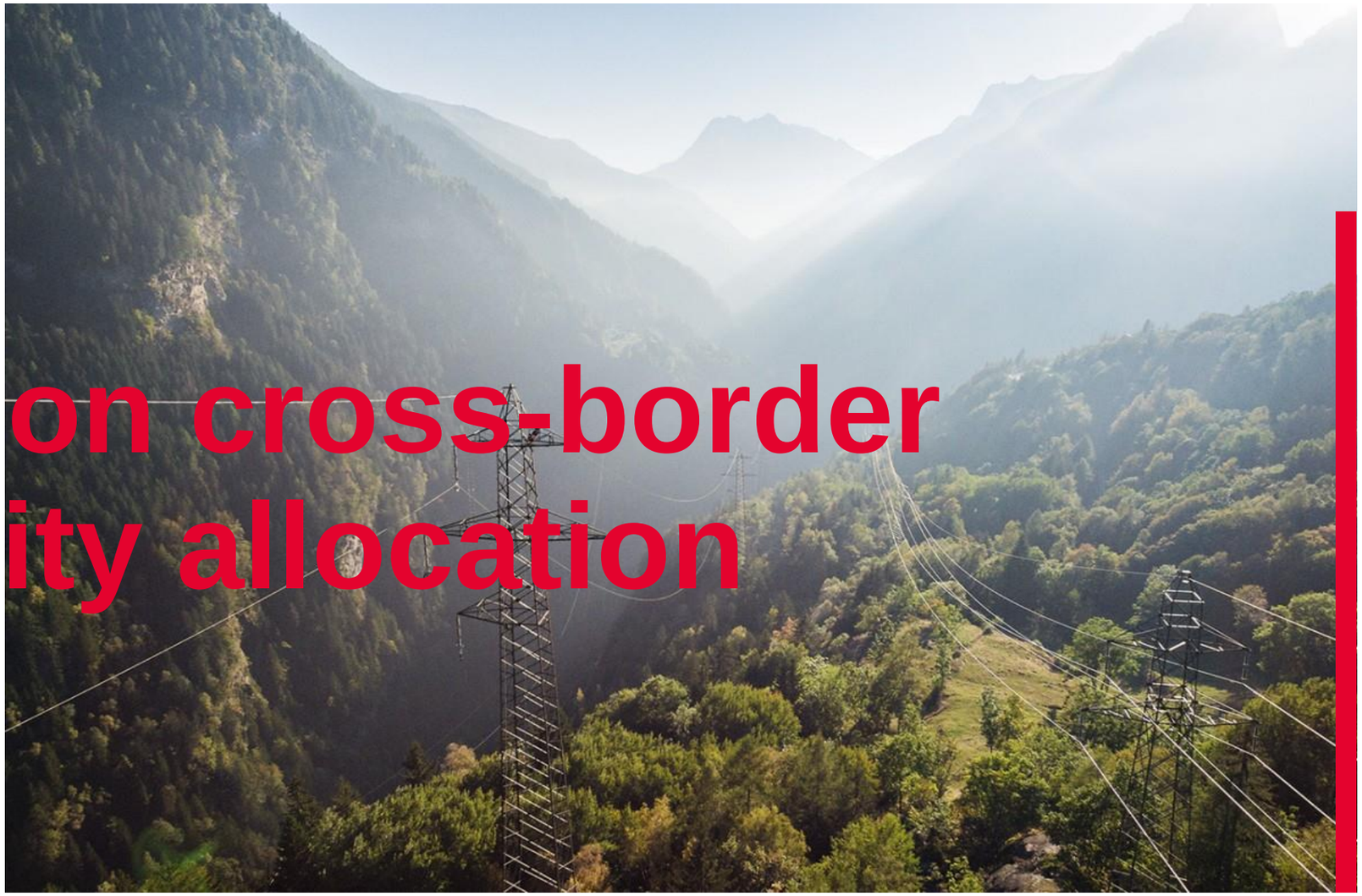
News on cross-border capacity allocation



Theodoros Sevdas
Senior Specialist Capacity and Congestion Management Market

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Positive reaction to introduction of implicit intraday auctions CH-IT

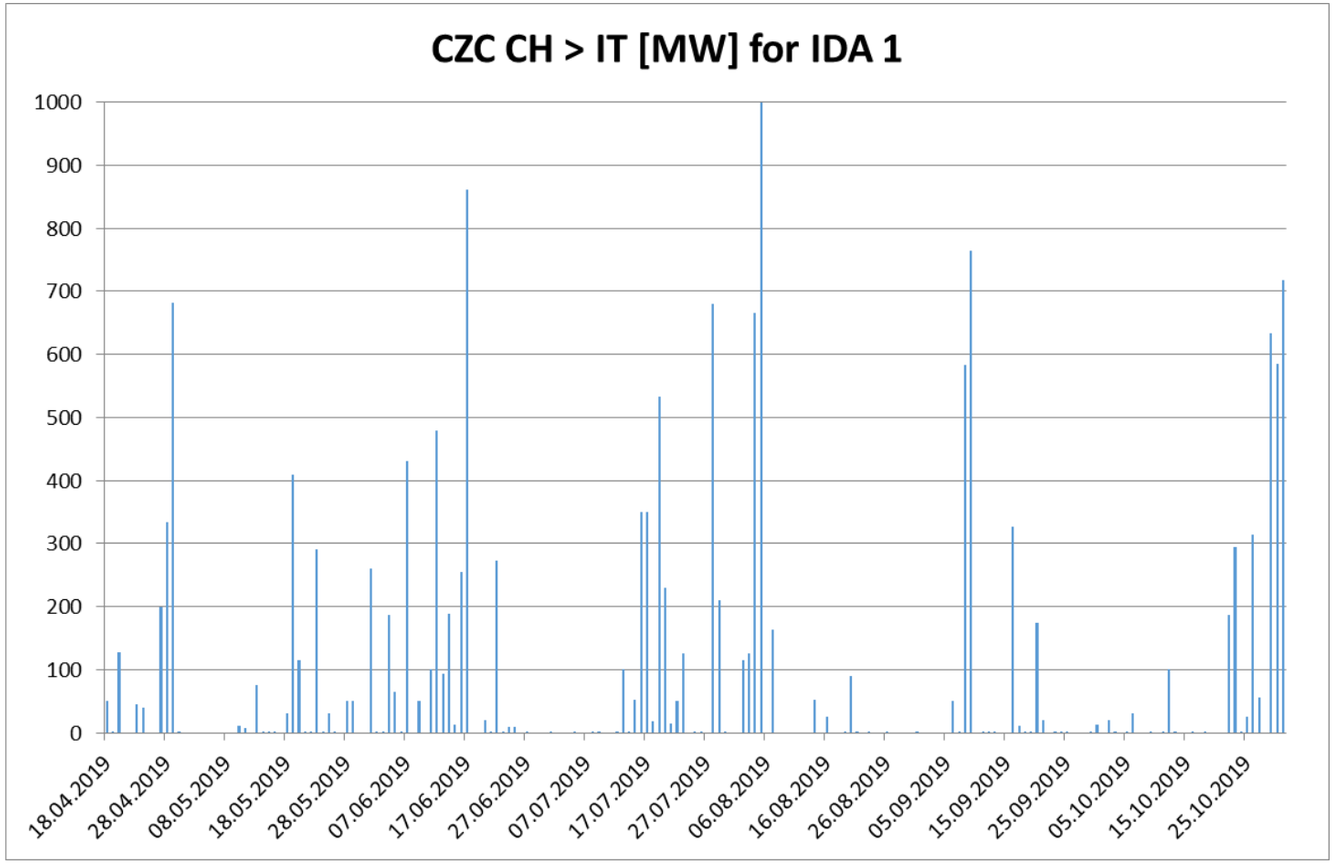
- Stable operation
- No auctions have been cancelled so far but…

… capacities made available by the TSOs for the implicit auctions are very low

… capacity was only offered in 8% of the hours

During summer months very low residual capacity due to high price differences in day ahead

With the introduction of intraday capacity calculation at CH-IT border, additional capacity is expected to become available for the hours 16-24



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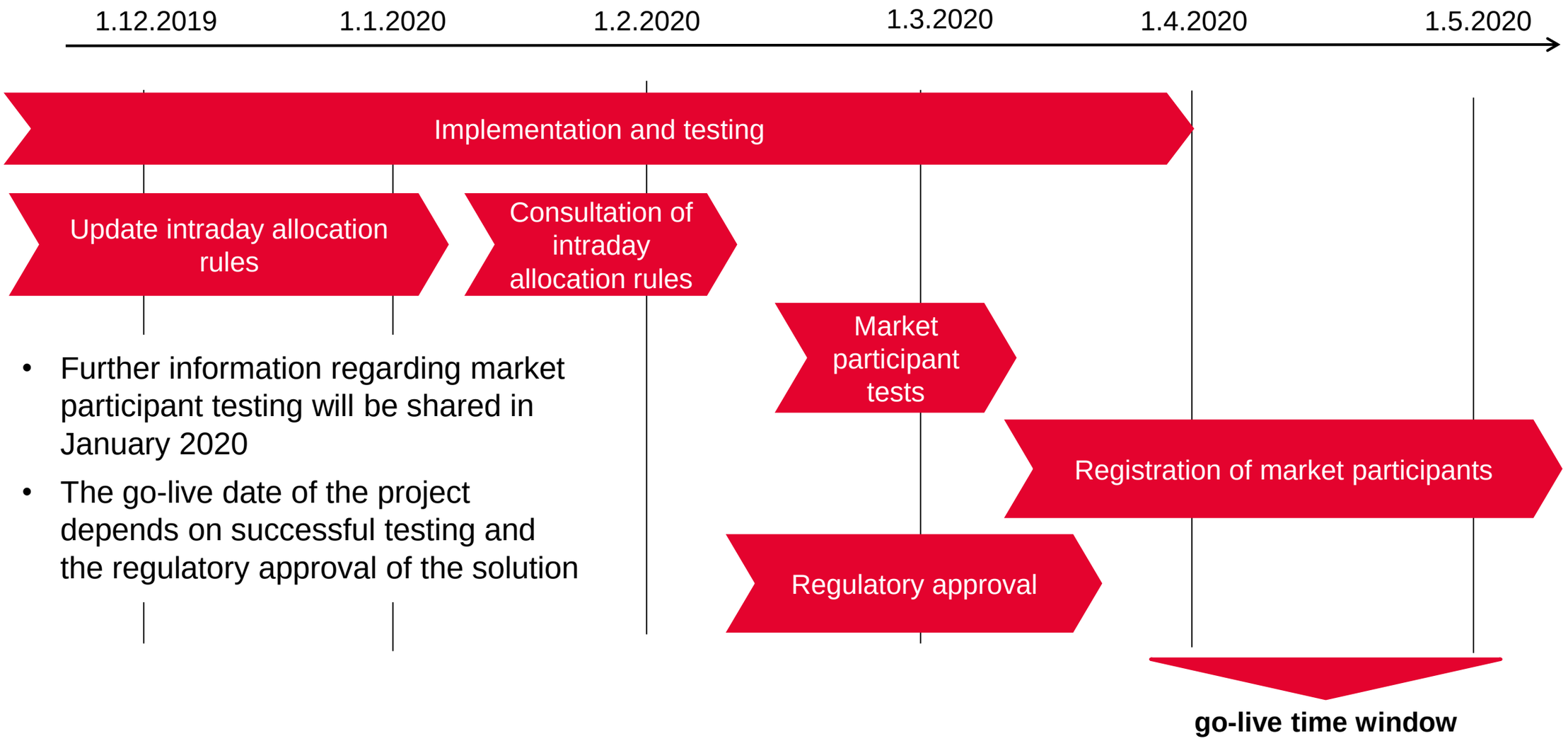
Swissgrid and APG are implementing an IT based intraday allocation on CH-AT border

- Swissgrid and APG are implementing a mechanism for intraday capacity allocation similar to CH-DE and CH-FR borders
- Before this implementation could begin, the scheduling harmonization project had to go live
- The Deutsche Börse AG platform will be used
- Allocation will take place continuously on an explicitly «first come, first served» basis, with 15-minute and hourly products
- Intraday Gate Opening is planned at d-1 22:00
- Intraday allocation rules have to be updated
- Market participants have to register for this intraday allocation at Swissgrid, details will be communicated at a later stage
- Swissgrid will be the single point of contact for this process

Planning for the introduction of IT-based intraday allocation on the CH-AT border



- Further information regarding market participant testing will be shared in January 2020
- The go-live date of the project depends on successful testing and the regulatory approval of the solution

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Swissgrid is in discussions with his neighbouring TSOs to update the processes on the CH-DE and CH-FR borders

The following topics are being discussed at the moment

- Deactivation of «mécanisme d'ajustement» on the CH-FR border if the TERRE project goes live on the French and Swiss side

- Introducing of an explicit intraday gate opening auction on the CH-DE border

- Introduction of monthly auctions during summer period for the FR → CH direction

Please give us your opinion on these two points by completing our online survey

Swissgrid will keep you updated on this topics

swissgrid

EPEX Spot Market Analysis and Design evolutions

BRP Meeting

Zurich, 12/11/2019

Juan PEREZ – Director of Strategy

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part of eex group

EPEX SPOT: 10 Years of Power

https://www.youtube.com/watch?v=vbFu3WAFRkM

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1. Market Analysis

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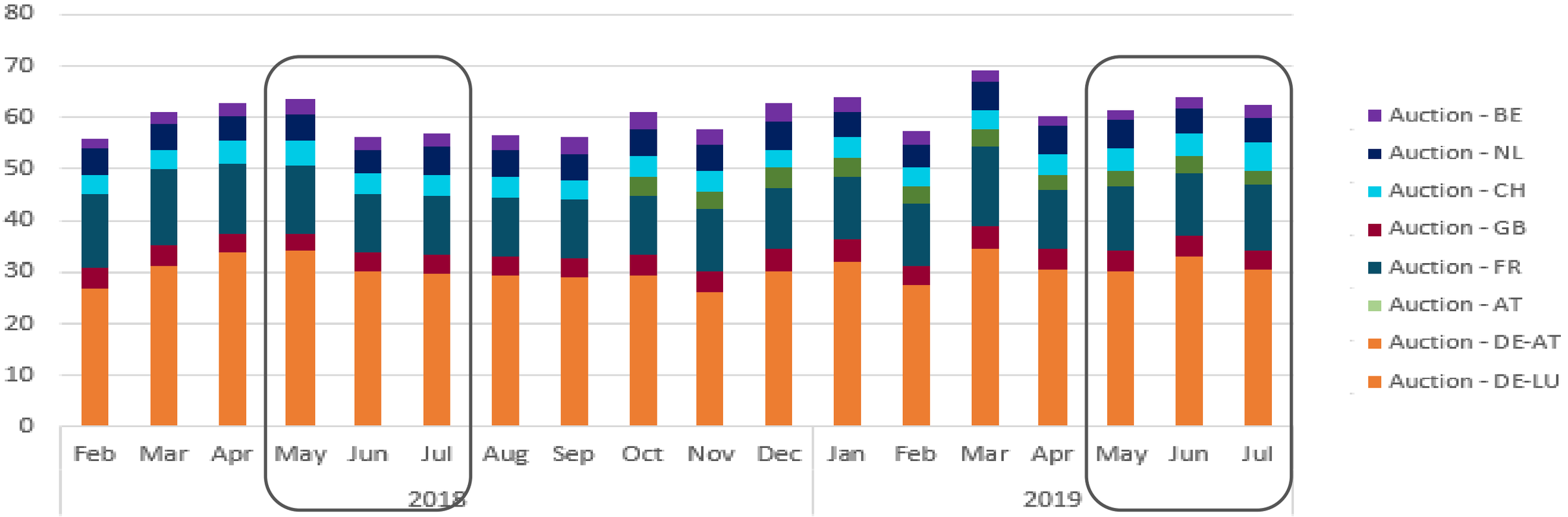
EPEX SPOT Volumes: Day-Ahead Markets

- **Day-ahead** volume Q2 increases by 11.2 TWh compared to May '18 to Jul '18.
  - **May '19**: Stable growth for GB auction (3.9 TWh)
  - **Jun '19**: Growth driven by DE (33.0 TWh, +6.1 TWh) and FR (12.2 TWh, +0.7 TWh)
  - **Jul '19**: Record volume for CH auction (5.3 TWh)



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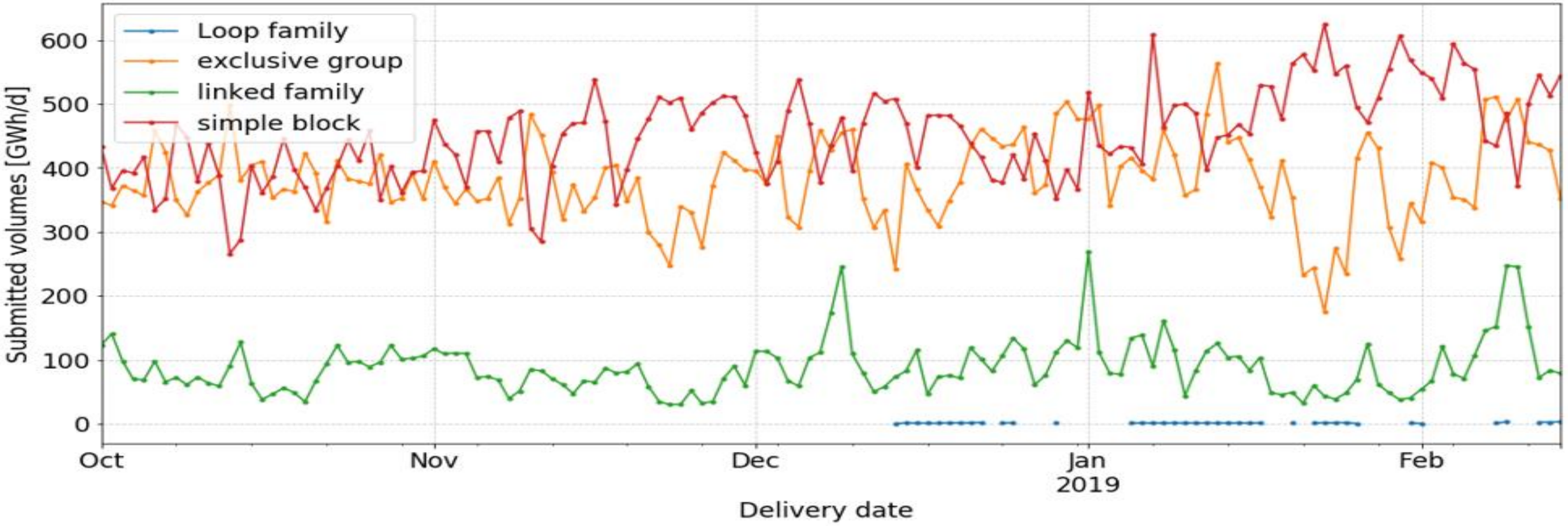
Blocks types overview (DAM AT, BE, CH, DE, FR, NL, GB)



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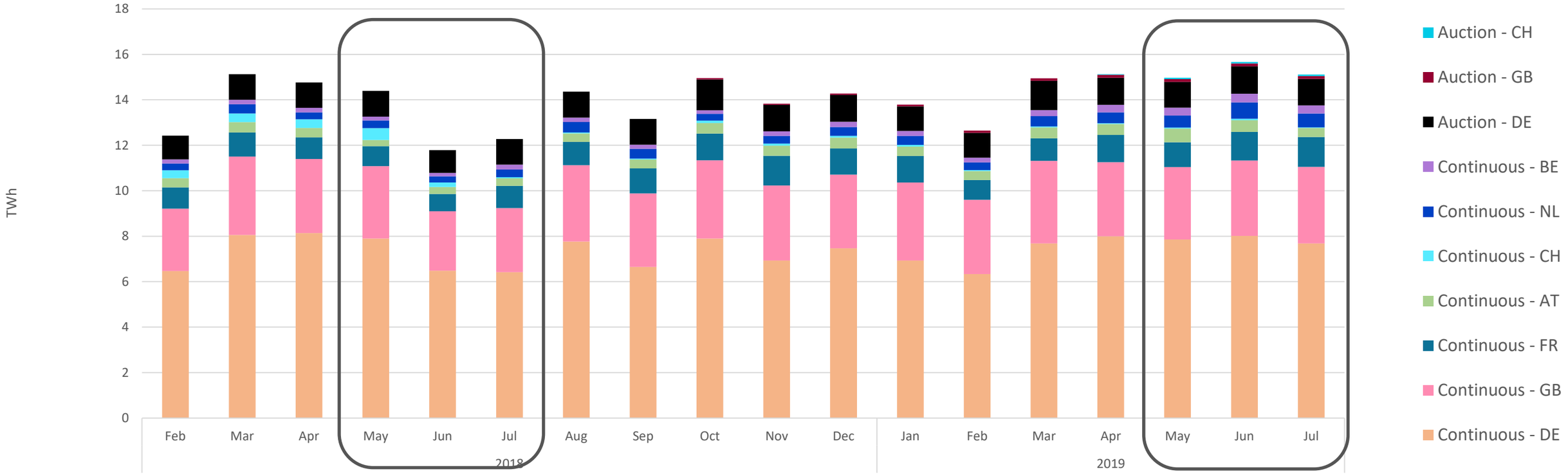
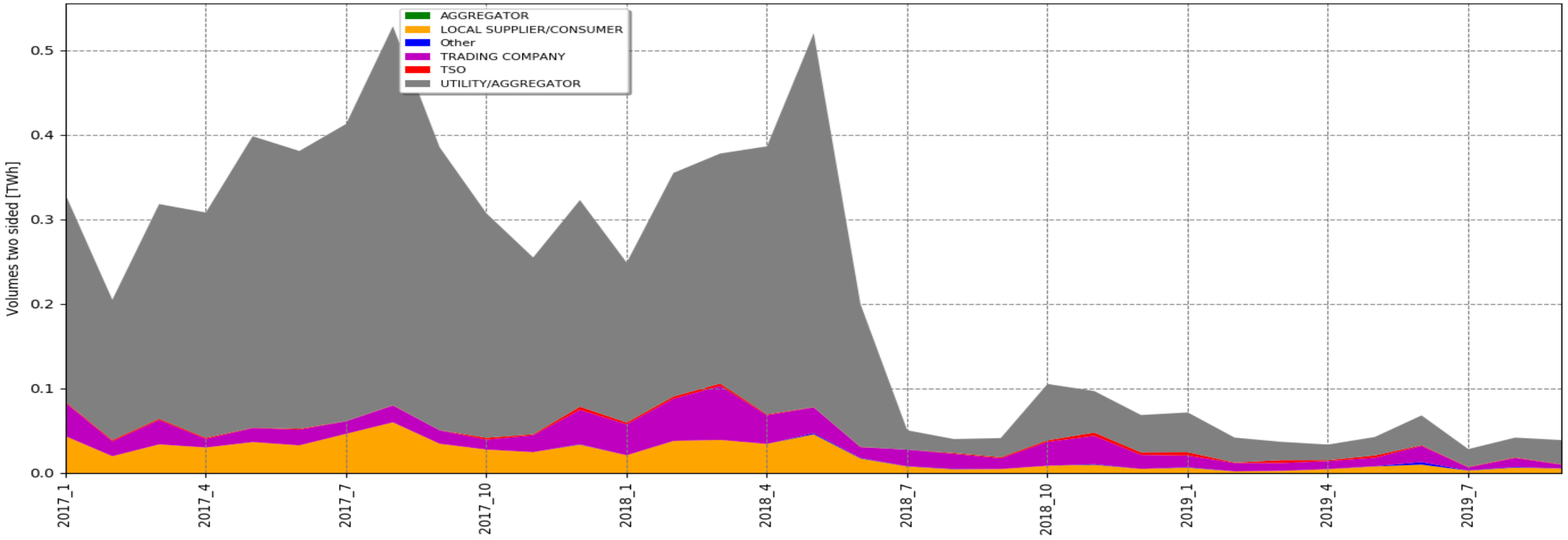
EPEX SPOT Volumes: Intraday Markets

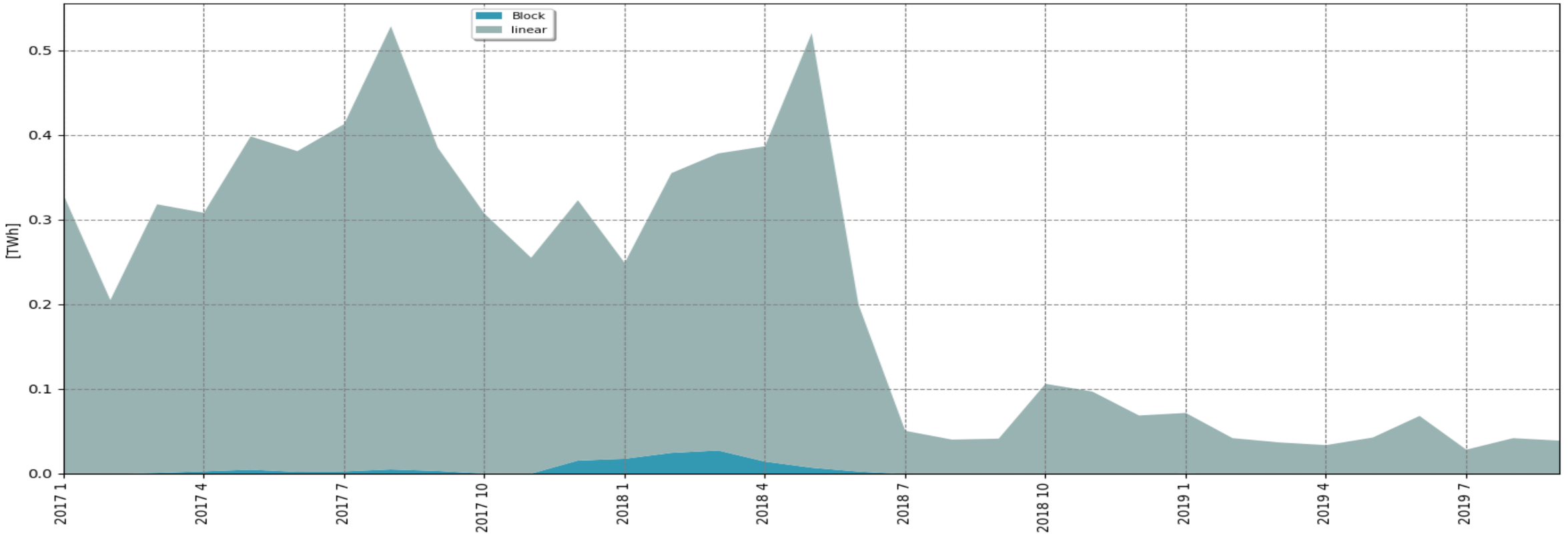
- **Intraday** volume Q2 increases by 0.8 TWh compared to May '18 to Jul '18.
  - **May '19**: Record volumes for AT, NL and BE, increase of +0.6 TWh compared to May ‘18.
  - **Jun '19**: Consecutive monthly records NL (0.7 TWh)and BE (0.4 TWh)
  - **Jul '19**: Record volume for FR (1.3 TWh)



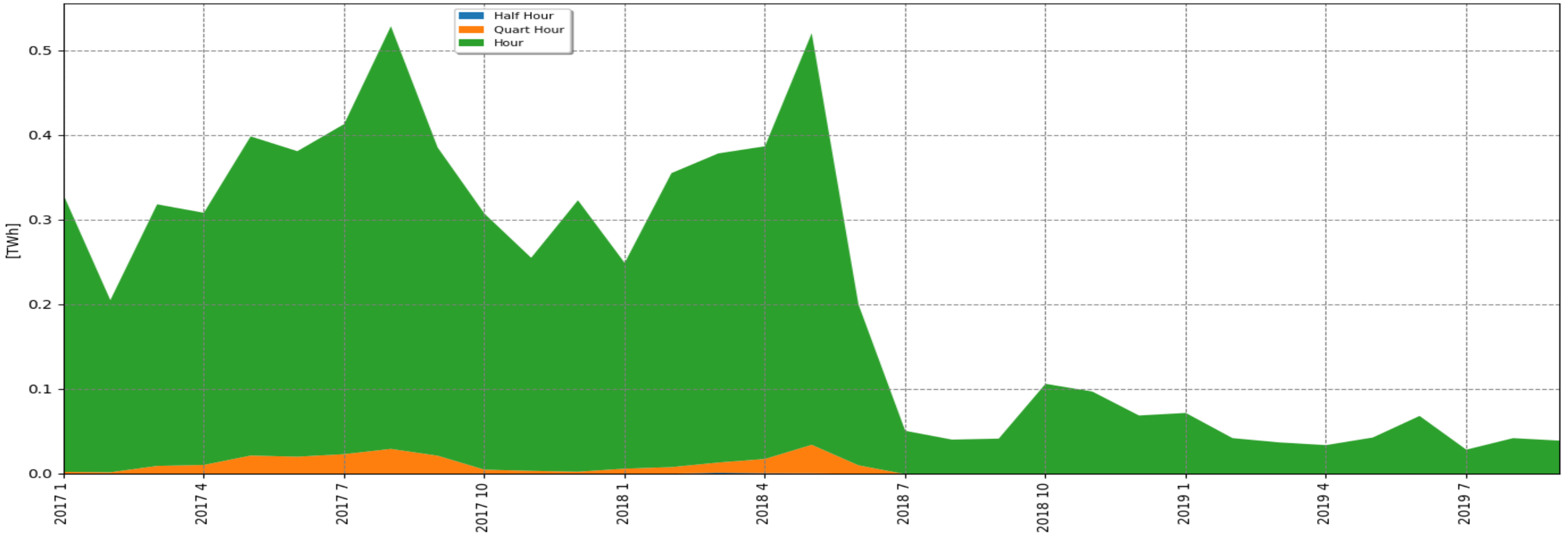
IDM CH volumes - Two sided Local volumes



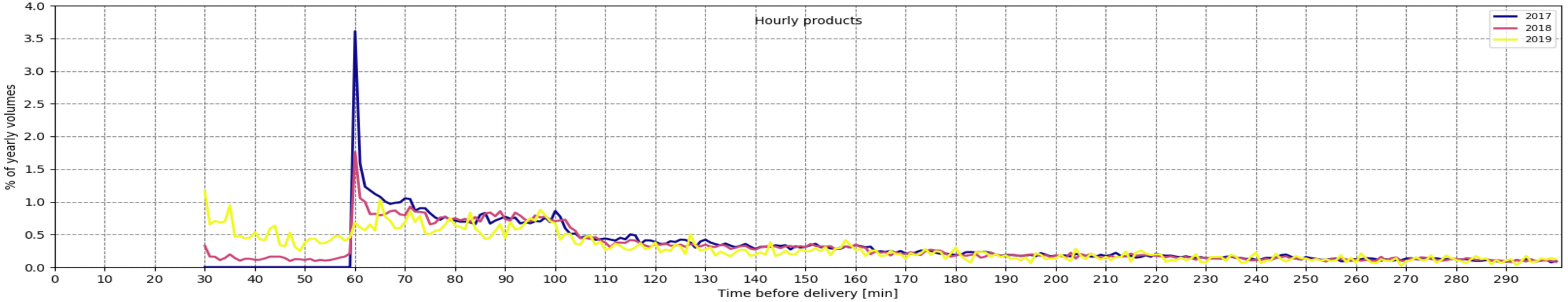
IDM CH volumes - Split individual product/Blocks

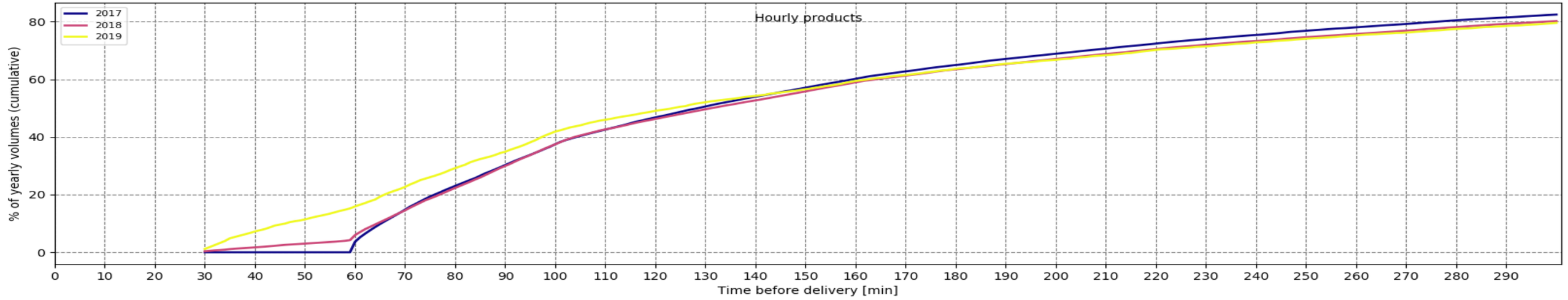


IDM CH volumes per intrument types

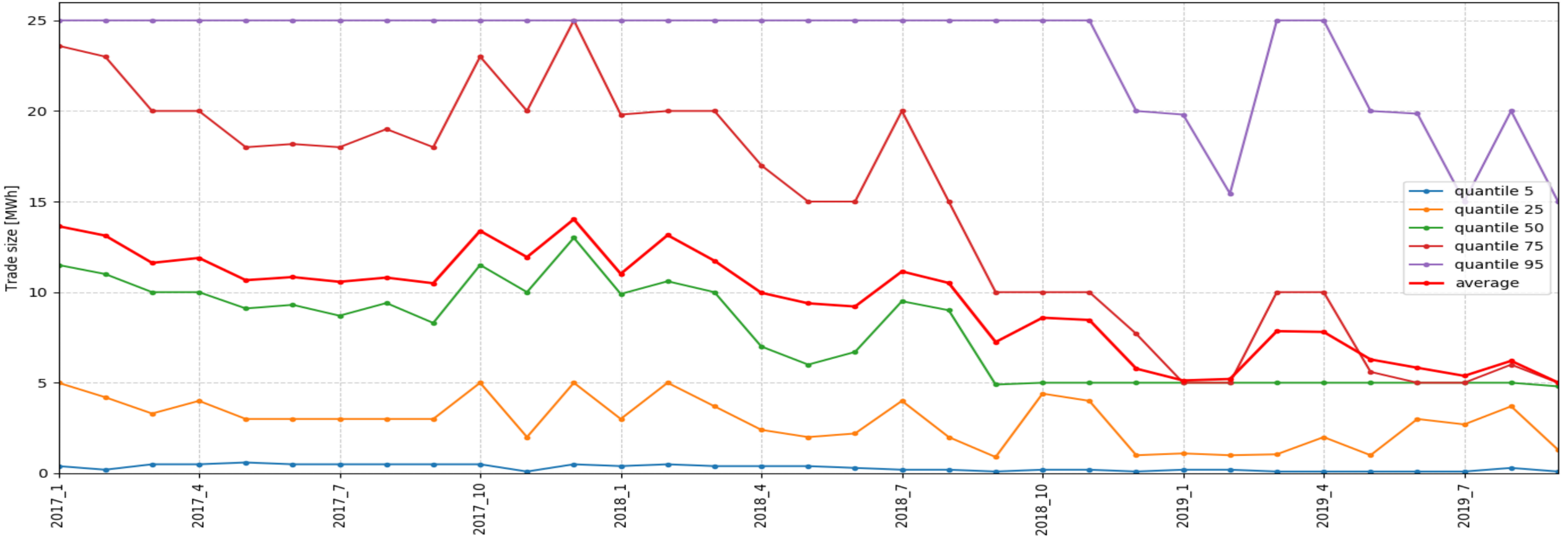


Lead Time - CH - Hour

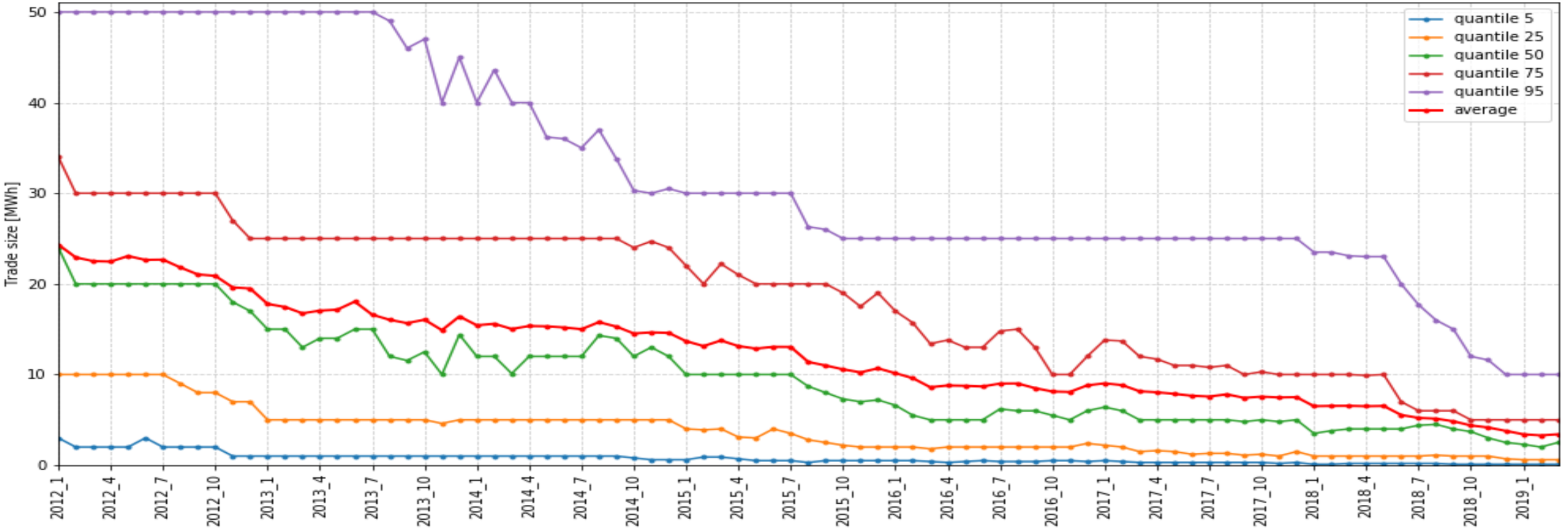




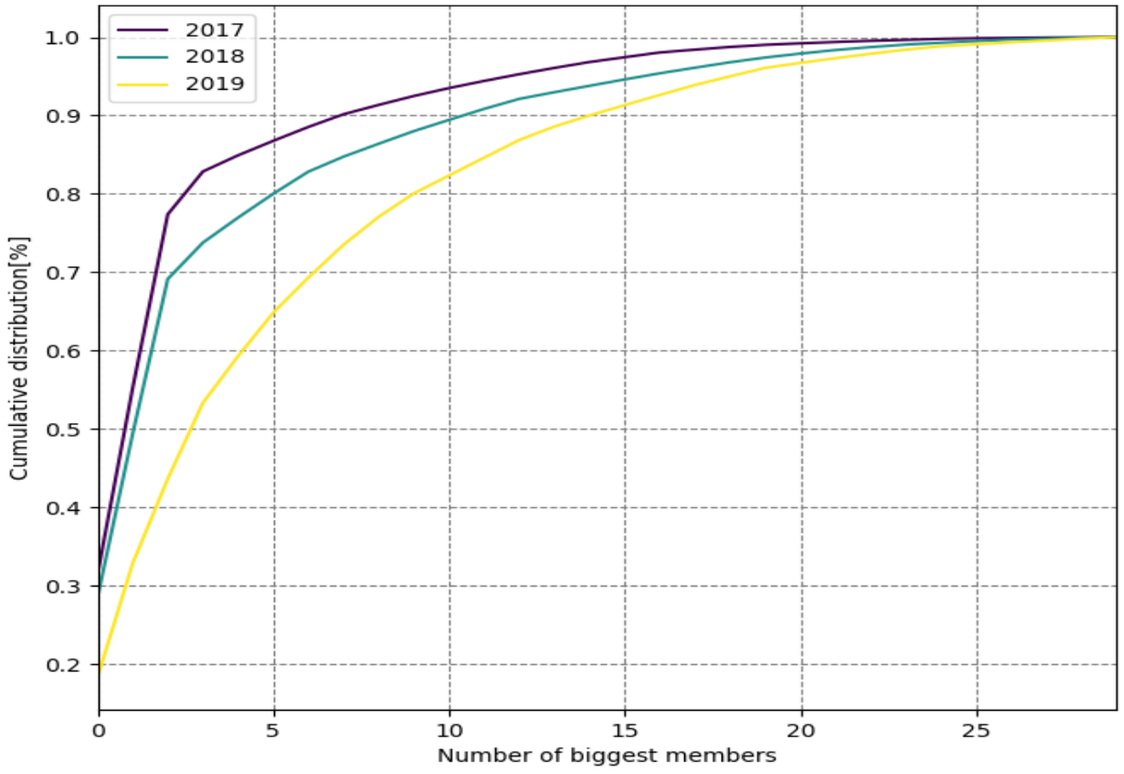
Trades size distribution evolution - CH - Hour

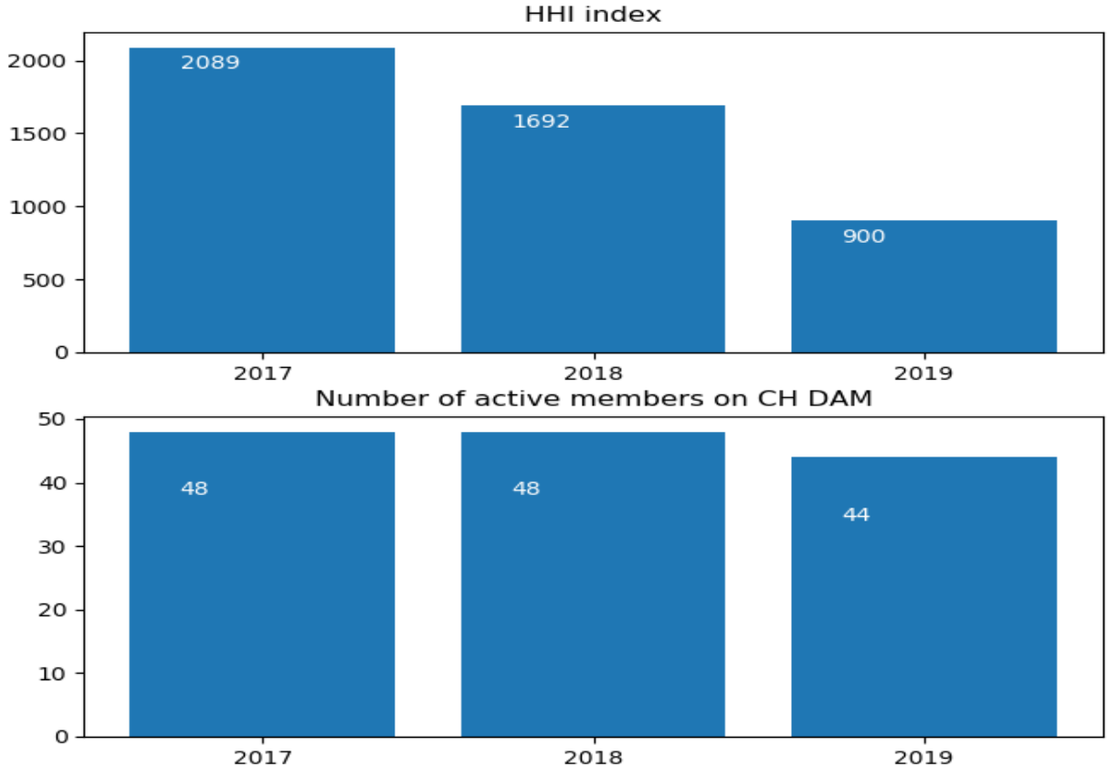


Trades size distribution evolution - DE - Hour

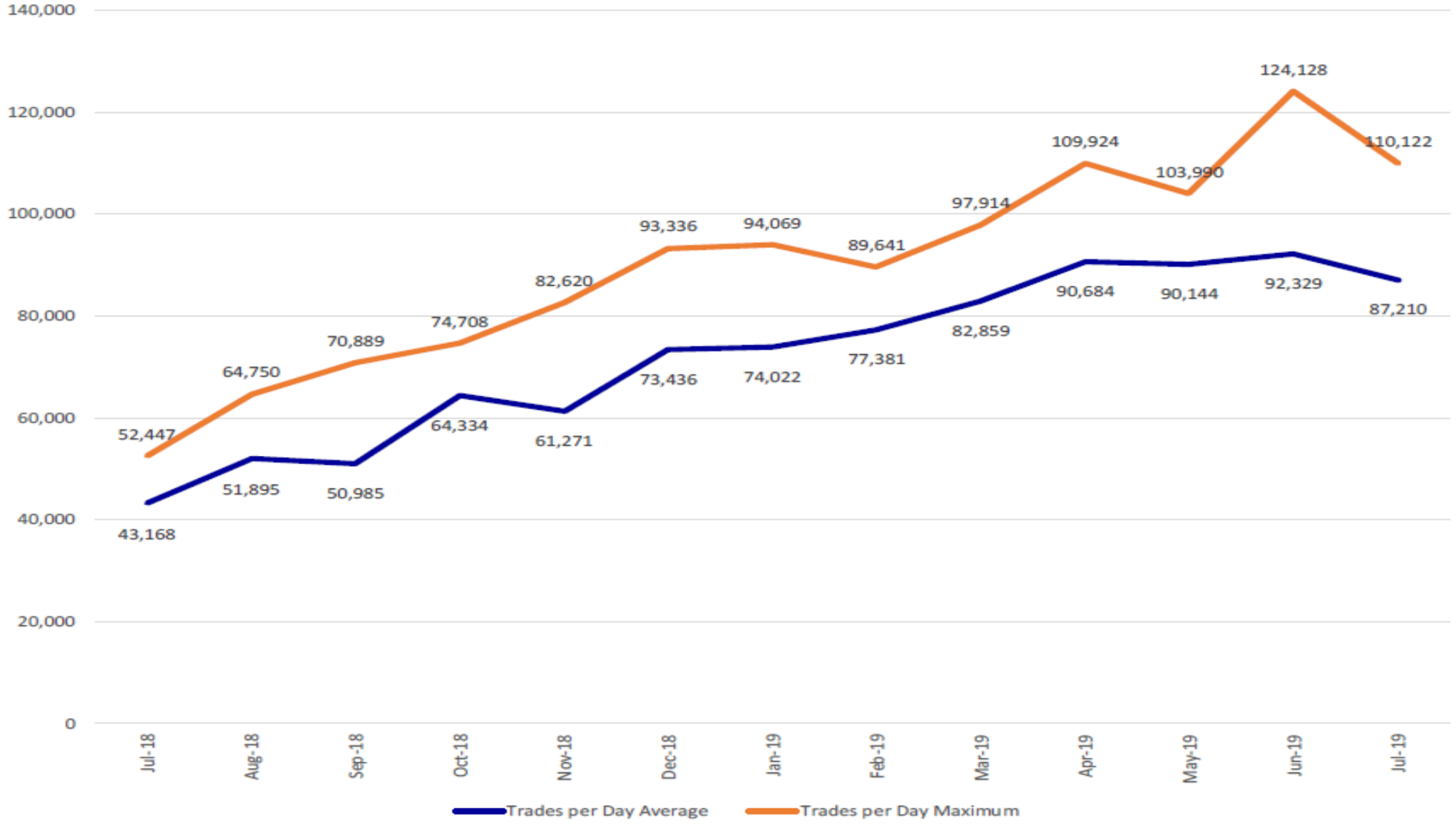


IDM CH - Market Concentration - all products





Average and max. daily number of trades/month



Month	AVG	MAX
Jul-18	43,168	52,447
Aug-18	51,895	64,750
Sep-18	50,985	70,889
Oct-18	64,334	74,708
Nov-18	61,271	82,620
Dec-18	73,436	93,336
Jan-19	74,022	94,069
Feb-19	77,381	89,641
Mar-19	82,859	97,914
Apr-19	90,684	109,924
May-19	90,144	103,990
Jun-19	92,329	124,128
Jul-19	87,210	110,122

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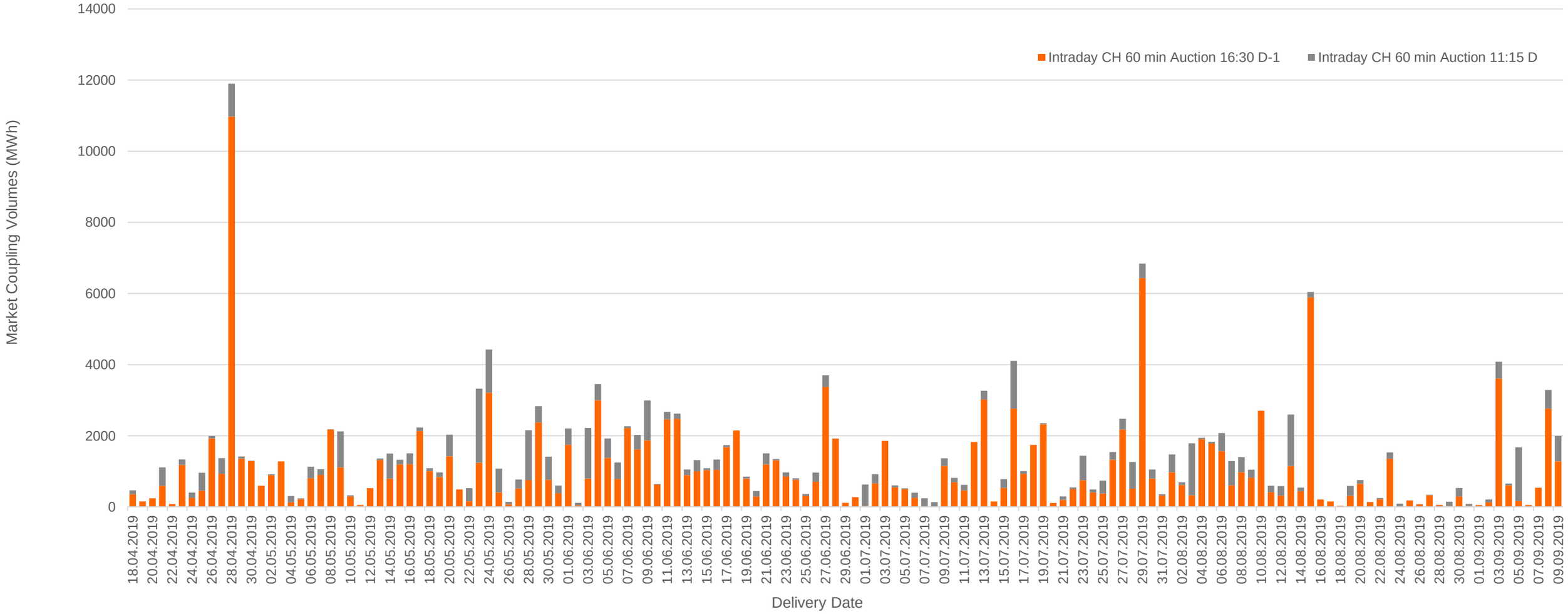
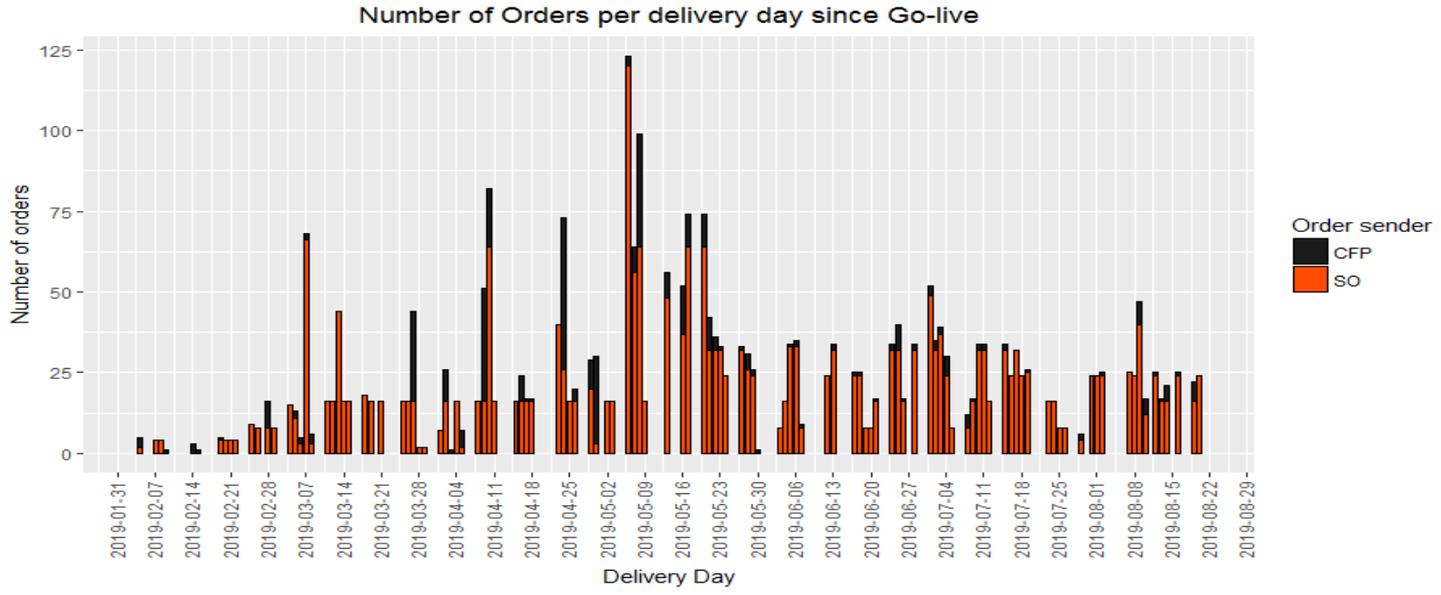
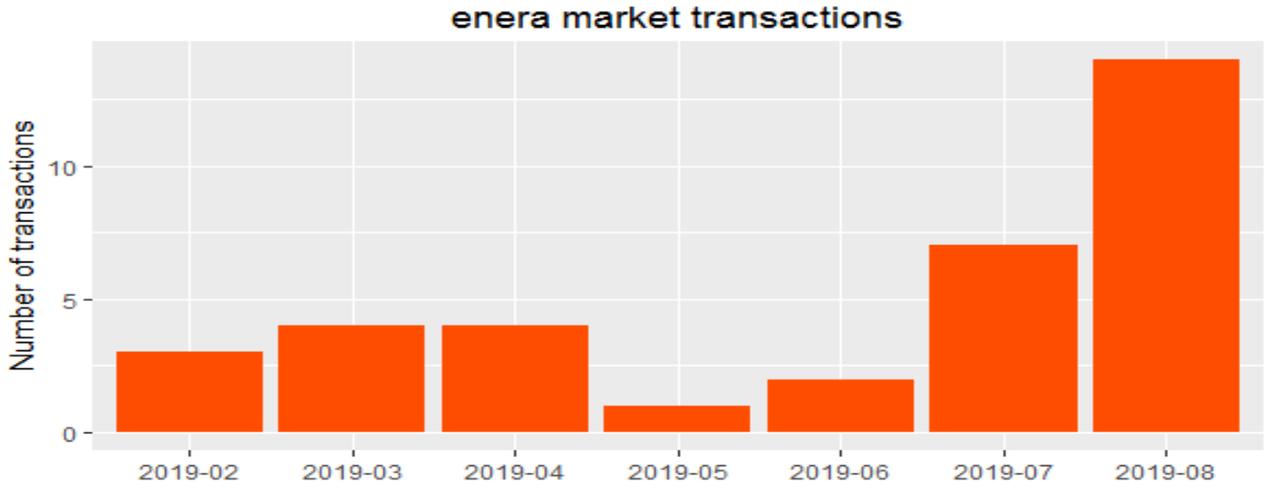
Statistics of the new Swiss-Italian Intraday auctions

Market Clearing Volumes on the Swiss Italian Intraday Auctions (April-September)



Transactions on the enera local flexibility market





- Covers an area in the North West of Germany
- 50+ transactions (5000 orders) in total since Go-live with activity ramping up in October
- Increasing number of Certified Flexibility Providers trading
- All three system operators are involved

- **Further increases in activity foreseen in Q4 2019**:
  - Trading automation
  - Congestion management activations
  - Increase in wind output leading to more congestion-management needs

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2. Market design evolutions

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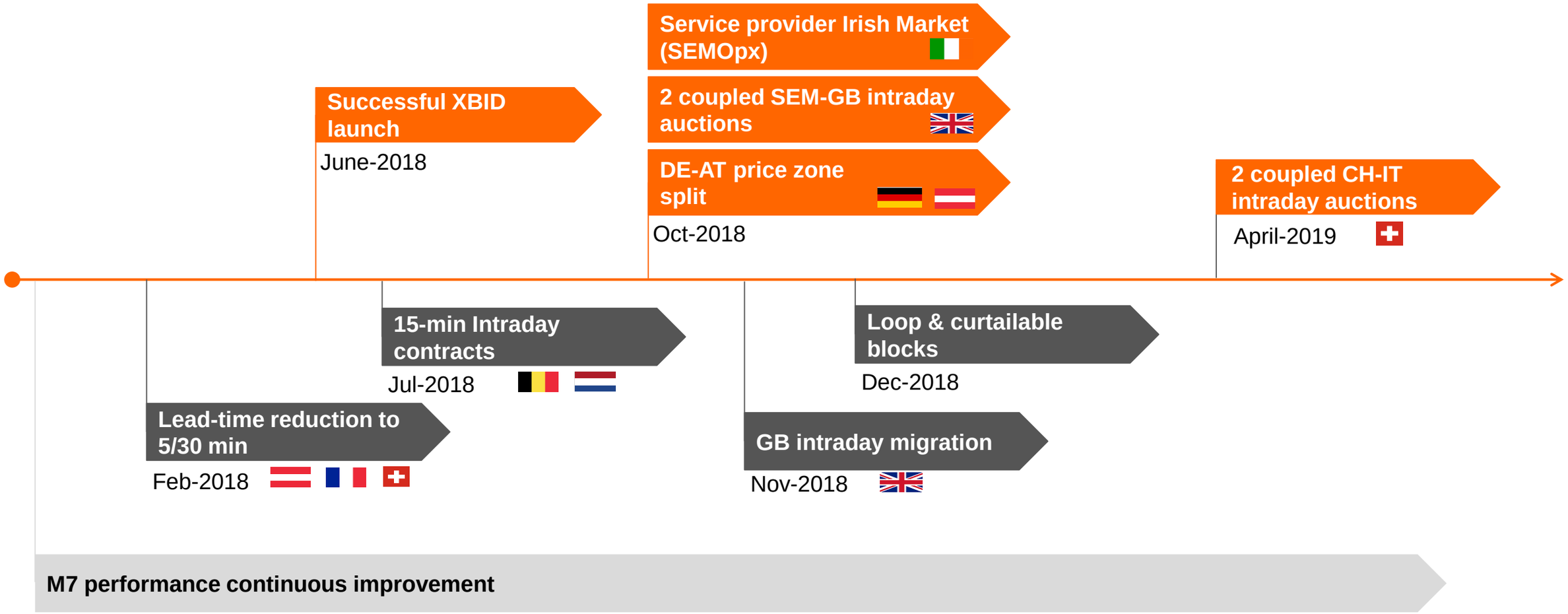
Continuous service and products improvements…



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Continuous service and products improvements…

New Markets Launch
Nordic, Poland, Baltic

2020 (Nordic – Q1)

Local Flexibility markets

Pilot launched in Feb.2019

Connection of micro-grid to power market

Increase size & number of blocks in CWE

Sep-2019

M7 performance continuous improvement

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Nordic market expansion in 2020

EPEX is a licensed NEMO in the Nordic, Polish and Baltic regions*

*Nominated Electricity Market Operator

What's in it for members?

—

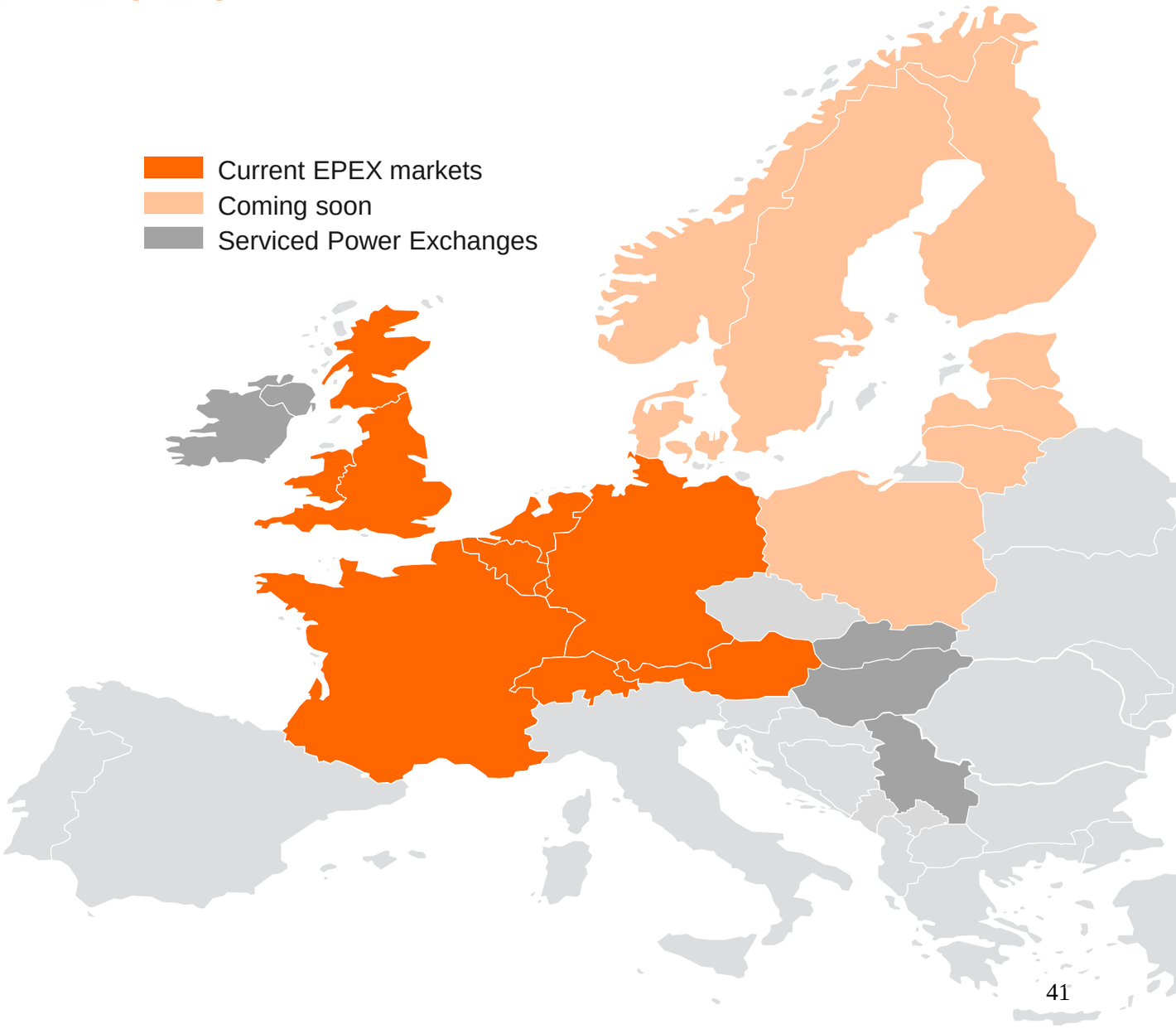
Operational & IT **Simplification**

Enhanced Trading **Experience**

Financial **Security**

Economies of scale

using EPEX SPOT as your European power spot trading gateway



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Intraday auctions: Status update

- There are several initiatives on Local and XB Intraday auctions, this slide presents an overview of the EPEX SPOT initiatives and the pan-EU XB IDM auction

LOCAL

- **On opening auctions with finer granularity products :**

15mn Local NL auction (exp. Q2 2020 (delayed))

30mn Local FR auction (exp. Q2 2020 (delayed))

15mn Local AT auction (exp. Q2 2020) (NEW)

15mn Local BE auction (exp. Q2 2020) (NEW)

15mn Local CH auction (exp. Q2 2020) (to be further evaluated)

XB

- **On Pan-European XB Intraday auction (beyond 2021):**

Still many open question on the design of the pan-European Intraday auctions.

Regulators not clear about market / border closing in XBID while IDAs are performed. Very different views from NRAs, TSOs and NEMOs.

Fallback and dependency of IDA 3pm with Day-Ahead 12:00 auction

Product: Open question whether different product than hourly will be proposed.

Whether CH can join and deadline for implementing not discussed yet!

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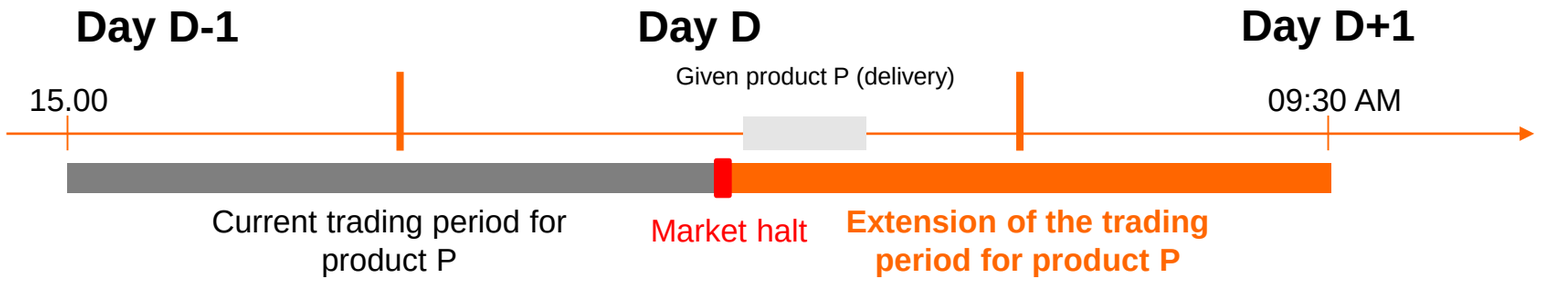
Day-after trading

- idea is to extend the trading timeframe of EPEX SPOT intraday contracts until a fixed time in D+1 to facilitate transactions between market participants in the ex-post timeframe.



Market	Characteristics	Project development
Netherlands	• TSO allows for ex-post nomination after the delivery, until 10.00 AM in D+1. • For some settlement periods dual-price balancing system	**Launch planned before the end of 2019**
Belgium	• TSO allows for ex-post nomination • For some settlement periods dual-price balancing system • **Transition full single price exp. April 2019**	
Germany	• Ex-post nominations possible • Single-price imbalance system ➔ **no financial day-after netting incentive**	Regulatory uncertainty, BNetzA/TSOs against exchange organized day-after trading
Switzerland	• Possibility to make ex-post nominations	**Assessment ongoing**

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Thank You for your attention!

j.perez@epexspot.com

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Long-term procurement for the compensation of active power losses

Christoph Hodel

Specialist Ancillary Services and Analytics Market

swissgrid

Initial situation

Swissgrid is responsible for procuring active energy on the electricity market to compensate for transmission losses on the extra-high-voltage grid.

Today's procurement process comprises five stages

1. **Long-term procurement of month-ahead products**
   Monthly tenders on the 4th Wednesday, with delivery the following month.
2. **Day-ahead EPEX Spot auction**
   Procurement of the hourly estimated losses-profile at the day-ahead auction conducted by EPEX Spot.
3. **Intraday EPEX Spot market**
   Adjustment of forecast deviation up to 30 minutes before delivery on intraday market EPEX Spot
4. **Post-Scheduling market at Ompex**
   Compensation for procurement deviations from provisional measurement data on the second working day after delivery at Ompex
5. **Swissgrid's balancing energy**
   Compensation procurement deviations from effective measurement data through Swissgrid's balancing energy billing

The adjustment of forecast deviations on the Intraday market will be conducted automatically using a trading tool from the first quarter of 2020 onwards.

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Initial situation

Need for action in today's procurement strategy

- Procurement mainly via the spot market implies high price risks
- Impossible to obtain a reliable tariff forecast and thus generate coverage differences

Central objective of new long-term procurement strategy

- Reduce exposure to price fluctuations on the spot market
- Increase predictability of the costs of procuring active loss
- Minimize costs for procuring effective loss (prospectively against forward-market prices)

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Initial situation

Contractual situation with ASPs

- The prerequisites for participating in the auction is: a) to have a balance group registered with the delivery point Swissgrid, and b) to have the signed Framework Agreement governing the supply and purchase of energy for the compensation of active power losses
- Today's Framework Agreement covers the presented adjusted products to be tendered in the auctions.

Screenshot of «Framework Agreement governing the supply and purchase of energy for the compensation of active power losses»:

> Tenders for monthly products include continuous supplies and, at the discretion of Swissgrid, peak and off-peak products for the following month. Swissgrid reserves the right, in future, to also invite tenders for hourly monthly profiles.
>
> Swissgrid also reserves the right, in future, to invite tenders for quarterly products in addition to yearly and monthly products. These tenders can, at the discretion of Swissgrid, include continuous supplies, peak and off-peak products as well as hourly profiles for the following quarter.
>
> The tenders are split into individual tranches, whereby bids are submitted not for specific tranches but for any tranches of a particular tender.
>
> The exact conditions of tender are determined by Swissgrid independently and are published on the Swissgrid website. By submitting a bid the ASP acknowledges its acceptance of the conditions of tender in force at the time that the tender is published.

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Tender conditions

New terms for tenders and according products in «SDL B&E»

- KompWV_KWXX_20XX_BaseM_2020_09 Product: Verluste+M
- KompWV_KWXX_20XX_BaseQ_2020_Q3 Product: Verluste+Q
- KompWV_KWXX_20XX_BaseY_2020 Product: Verluste+Y

Adjusted characteristics

- Volume limit per tender: 1 MW
- Closing tender: Wednesday at 2 p.m. (prematurely due to PRL closing at 3 p.m.)

From the delivery period January 2021 onwards, a breakdown by product will be enclosed with the settlement for the ASPs

Permanent characteristics

- Price limit: Min.: 0.00 EUR/MWh / Max.: 3,000.00 EUR/MWh
- Monthly settlement (yearly and quarterly products proportionally)
- Procurement exclusively of baseload products
- Publication of purchased quantity and results on the Swissgrid website

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Tender conditions

Determination of reference price per tender and per product

1. Priority: Last same-day traded price published on broker platforms
2. Priority: Closing price on broker platforms from the previous day
3. Priority: Settlement price of Swiss Futures of EEX from the previous day

If bids from market participants significantly exceed the reference price

1. Suspension tender
2. Inform market participants of reason for suspension
3. The quantity not procured shall proportionately increase the quantity allocated for subsequent tenders of the same product

If this process occurs in the last ordinary tender of a product, the quantity not procured will be procured in the subsequent tender for the same delivery period.

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Time schedule of the procurement delivery period 2021

Start of procurement delivery period 2021:

- First tender «Baseload Cal» 2021 begins as of 6 November 2019
- First tender «Baseload Quarter» Q1-2021 begins as of Q2 2020
- First tender «Baseload Month» January 2021 begins as of November 2020

The ASPs will be informed prior to the opening of the tenders.

Concerning delivery period 2019 and 2020:

The tenders for the Month-Ahead product will be carried out regularly until delivery in December 2020.

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Successful go-live of the scheduling harmonization project

Hermann Feldmann
Project Manager

swissgrid

SchedHar project review / Impact on balance groups

The new, harmonized scheduling process was put into operation on 26 June 2019.

The performance of the new scheduling system/process is stable and smooth.

Effects of new process on balance groups

- Switch from total netted to rights-based nomination process for all Swiss borders
- Merge «nomination of capacity rights» and scheduling into one process step, nomination via Swiss Nomination System became obsolete
- Introduction of long-term matching process for the CH-IT border
- Balance groups are informed of potential capacity violations via an «anomaly capacity» (ANC) document
- Switch from continuous intraday scheduling to a quarterly scheduling process

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Still to come (1/3)

Activation of intraday rights check at the CH-FR border

Swissgrid has implemented and tested the related functionality in time but
the other involved parties needed more time than expected for their own tests

→ Tests have to be finalized, the goal is to put it into operation **in December 2019**

Activation of intraday rights check at the CH-DE border

Swissgrid has implemented and tested the related functionality but since the German TSOs had other project priorities, the cross border tests could not take place yet.

→ The goal is to put it into operation in **Q2 2020**

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Still to come (2/3)

Switch to harmonized scheduling process on the CH-AT border

Swissgrid has implemented and tested the related functionality, but needs to wait until the readiness of APG, so the initially agreed timeline could not be met.

There is an APG commitment in place to put the new process into operation **in Q2 2020**

Switch to harmonized scheduling process on the CH-FR border

Swissgrid has implemented and tested the related functionality, but needs to wait until the readiness of RTE, so the initially agreed timeline could not be met.

Once RTE has put its new scheduling system into operation, they will be able to support the scheduling process agreed with Swissgrid

The goal is to put the new process into operation **mid of 2021**

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Still to come (3/3)

Secure communication via ECP (Energy Communication Platform)

Swissgrid has successfully completed a pilot test with a voluntary balance group

During the SchedHar project, Swissgrid noticed that an ECP infrastructure including a corresponding internal support organisation is a prerequisite for providing productive ECP communication to balance groups

Next steps

- Starting Q3 2020, balance groups may switch to ECP
- The deployment to ECP communication will be accomplished according to operational experiences, E-Mail and FTP are still available as alternative channels
- For the time being, Swissgrid provides free installation and operational support on a «best-effort» base
- Swissgrid will collect the required additional ECP-related information via the customer portal as part of the balance group registration process
- Balance groups are required to accept a contractual amendment before they can use ECP
- Mid of 2021, Swissgrid will define the next steps in ensuring the secure connection of balance groups, based on the experiences gathered with ECP up to then

Swiss balance group management and operational incidents

Marc Rüede - Head of Capacity Allocation and Market Systems
Marko Pranjic - Specialist Capacity Allocation and Market Systems

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Introduction to Capacity Allocation & Market Systems team


Valerio Arquint


Benito Barberio


Ivo Caduff


Thomas Eckert


Jürgen Ganter


Marko Pranjic


Marc Rüede


Christoph Rüfenacht


Tobias Schwarz


Monica Talerico


Roman Uhl

Day-Ahead Schedule Management / Post Scheduling Adjustment
scheduling.day-ahead.FO@chtso.ch
Office hours:
Monday to Sunday
7.30 a.m. – 12 noon
1.30 – 4.30 p.m. CET

Auction Office Switzerland
auction.office@chtso.ch
Office hours:
Monday to Sunday
7.30 a.m. – 12 noon
1.30 – 4.30 p.m. CET

Balance Group Registration
bg-registration@swissgrid.ch
Office hours:
Monday to Friday
8 a.m. – 12 noon
1 – 4 p.m. CET

Phone +41 58 580 30 77

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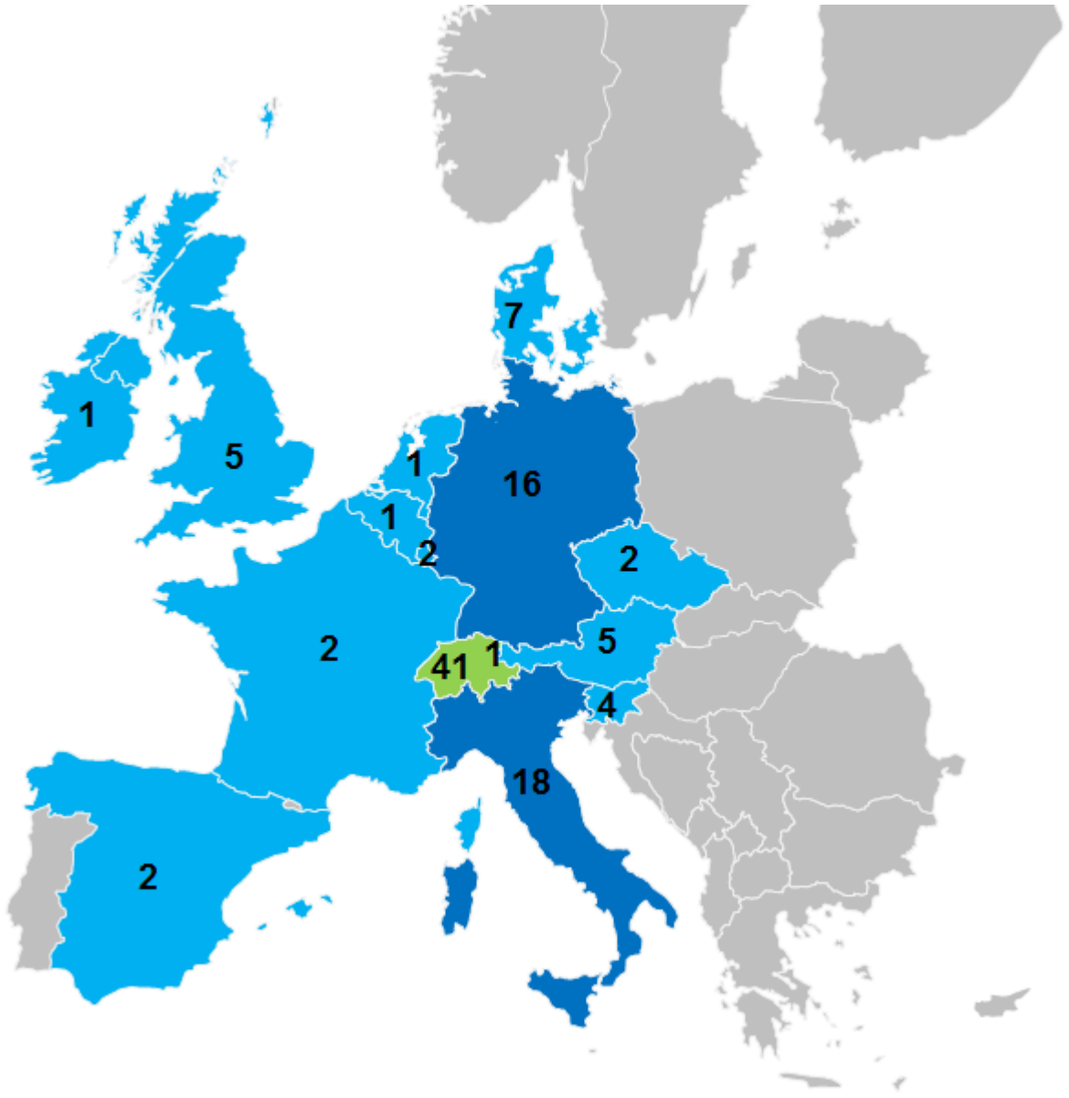
Balance group statistics

	# BGs	↓	↑	Mutations
2016	111			163
2017	111	3	3	191
2018	104	13	6	161
2019	110	2	8 (+3 planned)	95

Canada 1

USA 1



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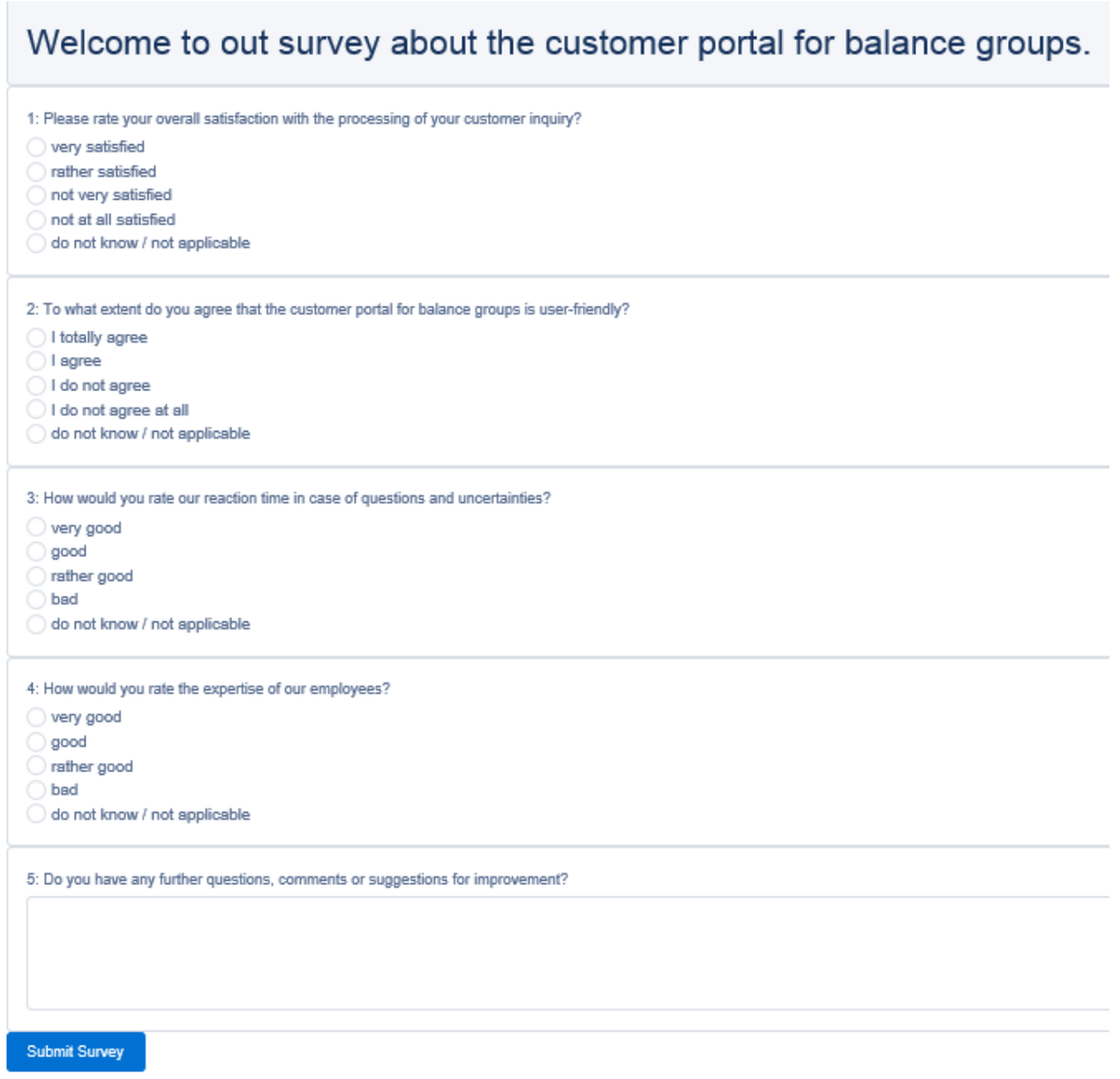
Balance group mutations – feedback

Swissgrid only received feedback on 6% of all mutations.

We would appreciate if you give us instant feedback to improve our service!



Welcome to out survey about the customer portal for balance groups.

1: Please rate your overall satisfaction with the processing of your customer inquiry?
- very satisfied
- rather satisfied
- not very satisfied
- not at all satisfied
- do not know / not applicable

2: To what extent do you agree that the customer portal for balance groups is user-friendly?
- I totally agree
- I agree
- I do not agree
- I do not agree at all
- do not know / not applicable

3: How would you rate our reaction time in case of questions and uncertainties?
- very good
- good
- rather good
- bad
- do not know / not applicable

4: How would you rate the expertise of our employees?
- very good
- good
- rather good
- bad
- do not know / not applicable

5: Do you have any further questions, comments or suggestions for improvement?

Submit Survey

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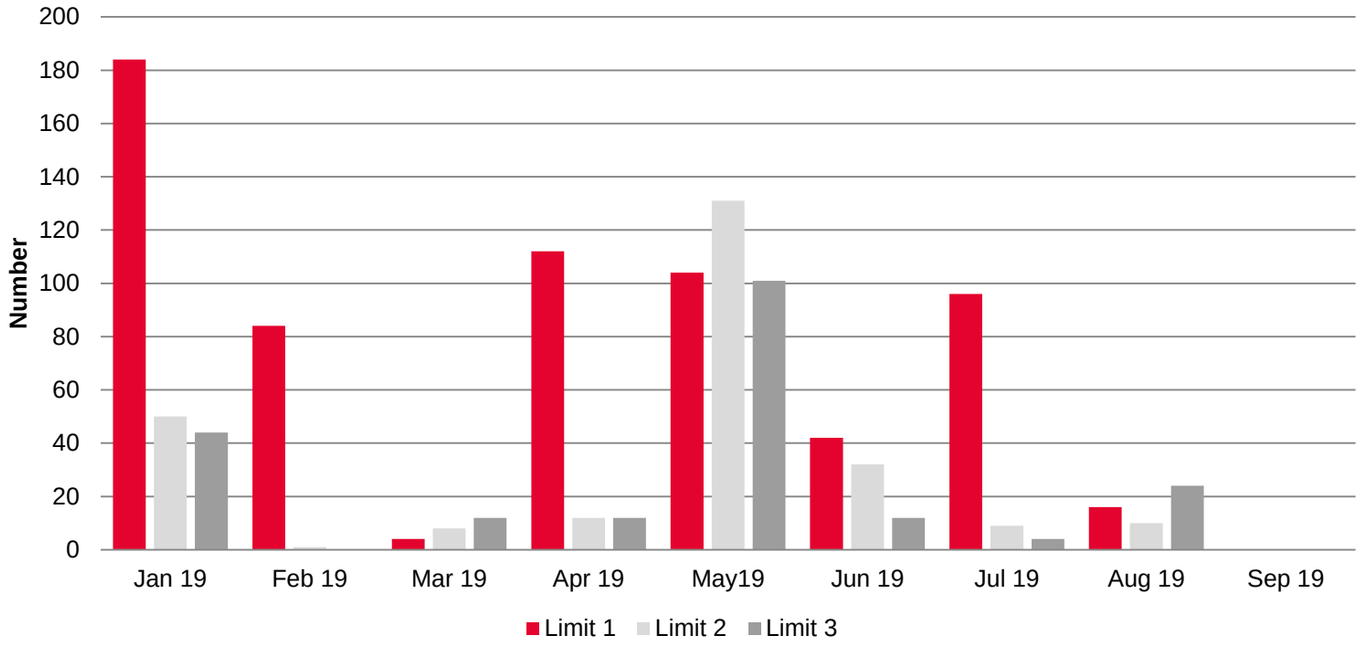
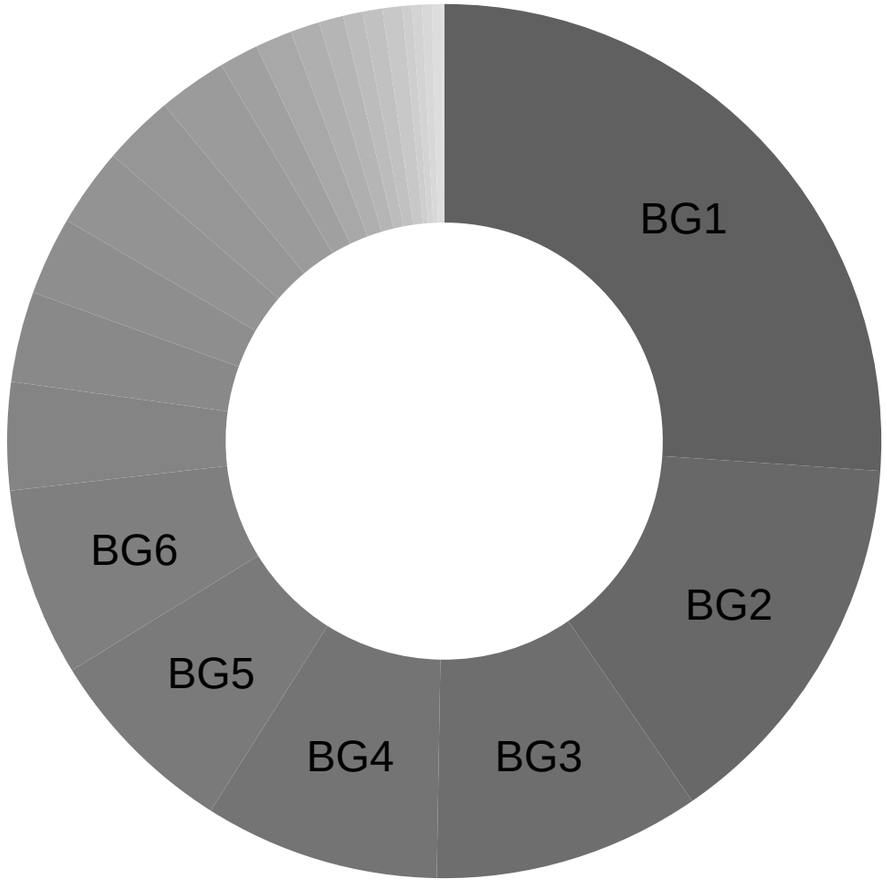
Balance group limit violations

Number of limit violations



Measures 2019	
Written explanation	17 BGs
Meeting at Swissgrid	7 BGs
Intraday suspension	1 BG
Penalties – in case of repeated L3 violations	4 BGs → EUR 33’119

Number of limit violations per BG



Total: 1,104 violations

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Operational occurrences on 4-5 January 2019

4-5 January 2019 – Control Area Short

- 4 January from 7.00 until 18.00
- 5 January from 7.00 until 10.00
- Short position around 500 MW

Deployed Control Energy

- Positive 8,209 MWh
- Negative 551 MWh

Average price short for balance energy in this period (14 hours) was around 160 Euro/MWh

Reason:

Short position of a BG entered due to an incorrect production forecast for a power plant with 500 MW instead of 500 kW.

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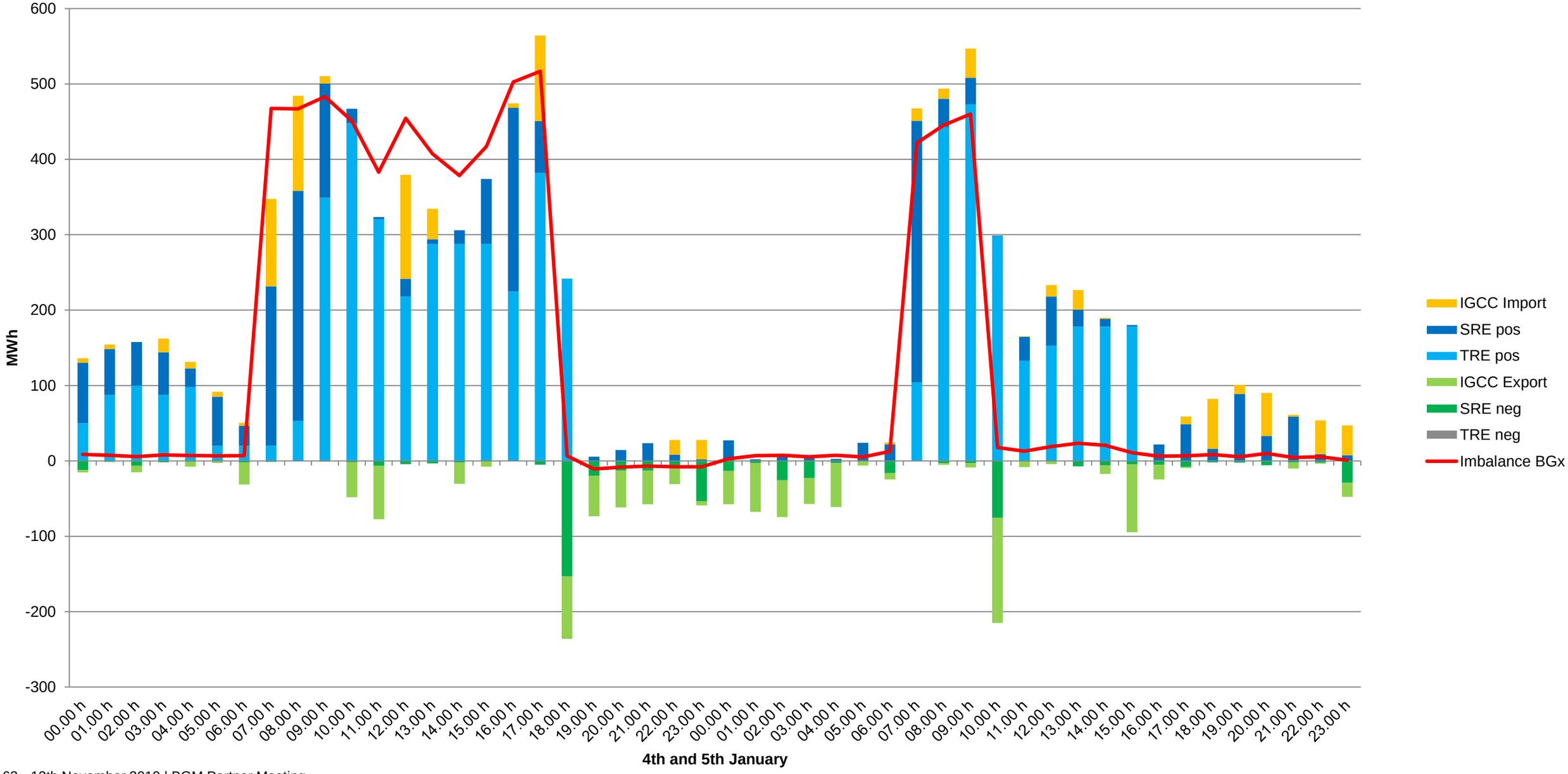
Activated control energy on 4-5 January 2019



Measures to avoid high balance energy prices

Extreme balance energy prices

Highest short price: 26.07.2019 → 5,131.40 €/MWh → Unplanned outage KKW Gösgen (TRE+ 400MW)

Lowest long price: 14.01.2019 → -420.10 €/MWh → Unplanned outage hydro pumps in Tierfehd (TRL- 270MW)

The reason for these extreme prices are calls/requests for TRE bids at high levels of the merit order list

Possible measures Swissgrid could take to reduce the volatility of balance energy prices

- Implement the integrated market (going live expected on 5 February 2020)
- Adjust price cap for TRE bids to +3'000 EUR/MWh for TRE+; after the launch of the integrated market, we would analyse if this is necessary
- Issue a working group congestion warning («AG Kraftwerksprozess») in order to make the process more efficient and to prevent direct power plant intervention (Q2/2020)

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Important information

Long-term process CH-IT

Without curtailment:

D-2 12.30 p.m. JAO S. A. sends the rights document for the long-term to Swissgrid and the neighboring TSOs

D-1 08.30 a.m. Submission deadline for long-term schedule messages

With curtailment:

D-1 07.30 a.m. As a result of a low NTC curtailment of LT rights

D-1 08.20 a.m. Receiving a new rights document after the curtailment

D-1 09.00 a.m. New application of the BG with the new rights document

Important:

- The best way is to send a new schedule after a curtailment
- Ensure your balance group is always available by telephone
- please do not send TPS to Swissgrid as a signed or encrypted email!

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Swissgrid BGM Partner Meeeting

CONTENTS AND CHANGES OF THE NEW BALANCING GROUP CONTRACT

JULIAN HAEUSLER, TRANSNETBW

Zürich, 12.11.2019

AGENDA

1. Declaration of energy quantities
2. Open positions in intraday scheduling
3. Day-after and urgent call
4. System balance disorder in June 2019

01 Declaration of energy quantities

Declaration of energy quantities

ANNEXE 1.1 - DECLARATION OF ENERGY QUANTITIES AND POWERS

Balance group EIC	**FC-Prod** *Max. power MW*	**FC-Cons** *Max. work MWh/week*	**FP-Export** *Max. power MW*	**FP-Export (optional)** *Max. work MWh/day*
11X…				
11Y…				

/ Binding declaration of energy quantities and powers for scheduling

/ Notification requirement for increases from 20% (minimum 10 MW; 240 MWh/day; 2,000 MWh/week)

/ The notification is made at least 5 days in advance

Declaration of energy quantities

WHY ARE ENERGY QUANTITIES DECLARED?

- **The declaration fixes the business volume**
  - Provides a basis for the system of penalties within the contract
  - Exceeding the declaration on a larger scale is a mandatory violation
- **Basis for calculating the possible safety collateral**
  - Changes to the declaration may lead to the adaptation of security deposits
  - Changes in the declaration only become effective after receipt of the collateral

Monitor your trading/feed-in/draw-off volume, report in- and decreases

02 Unbalanced intraday nominations

Intraday – open positions

UNBALANCED INTRADAY NOMINATIONS

EXAMPLE FOR BG WITH 1,000 MW EXPORT

- Remains unchanged: day-ahead scheduling only with balanced 15-minute power report
- New: intraday nomination of schedules may be temporarily unbalanced based on the following criteria:
  - In the period of more than 2 hours until the delivery time: up to 10% of the maximum export
  - In the period of 2 hours to 15 minutes before the delivery time: up to 10% of the maximum export (but up to a maximum of 50MW)
  - In justified cases, the BRP may also register higher values with the TSO using Annexe 8

Intraday – open positions

UNBALANCED INTRADAY NOMINATIONS: SWISSGRID

Limit 1: DA bis D-2h [MW] (long/short)	Limit 2: D-2h bis COT ID [MW] (long/short	Limite3 COT IT und PS [MW] (long/short)	Collateral [EUR]
10	10	10	100 000
25	10	10	200 000
50	25	10	400 000
100	25	10	550 000
200	50	10	850 000
300	75	10	1 100 000
400	100	10	1 400 000

03 Day-After & Urgent Call

URGENT CALL / DAY-AFTER-PROCESS

- The Day-After process remains almost unchanged: subsequent nominations are possible until 4.00 p.m. on the following working day…
- … but no later than 4.00 p.m. on the third calendar day after the delivery date
- **Exception: exclamation of the Urgent Call**
- In order **to clarify the suspected misuse of the nomination of schedules** by the BRP or another balance responsible party, the TSO **may request the final subsequent nomination of schedules for a calendar day by 10.00 a.m. of the next calendar day**
- Specific reasons must be provided for the request and communicated to the BRP by email
- To ensure the operational and procedural availability and executability of the urgent call, the TSO is entitled to issue an associated test request up to twice a calendar year without any suspicion of misuse

Day-After & Urgent Call

WHY URGENT CALL?

- In 2013, the TSOs submitted an application for adjustment of the BG contract, with the objective of abuse prevention
- Even in 2019, cases of fraud are not inconceivable
- In cases of suspected fraud, the TSOs are obliged to intervene
- To limit the damage, the final schedule must be available as soon as possible to deregister the fraudulent market participant

Urgent Call instead of a generally shortened day-after deadline

NCG UND GASPOOL BEKLAGEN BILANZKREISBETRUG

GAS & WÄRME 16.01.2019 - 16:40 - HEIKO LOHMANN - 0 -

Gaspool und NCG sprechen von außergewöhnlichen Schiefständen in den Bilanzkreisen. (Foto: Gaspool Balancing Services GmbH)

Quelle: energate Messenger vom 16.01.2019

04 System balance disorder in June 2019

System balance disorder in June 2019

WHAT HAPPENED?

- On the 6, 12 and 25 June 2019, deviations in the system balance of up to 10GW occurred
- Underfrequency levels reached 100 mHz despite massive interventions by the TSOs
- Intraday prices increased to EUR ~1,300/MWh
- Balancing energy prices < EUR 500/MWh

Blackout-Gefahr

Deutsche Netzbetreiber kämpften mit akuter Stromnot

Im deutschen Stromnetz herrschten zuletzt chaotische Zustände: Elektrizität wurde knapp, Nachbarländer starteten Hilfsaktionen, die Preise explodierten. Ursache könnten Spekulationen von Händlern sein.

Von Stefan Schultz

F.A.Z. EXKLUSIV

Chaotische Zustände im deutschen Stromnetz

VON ANDREAS MIHM, BERLIN - AKTUALISIERT AM 02.07.2019 - 07:33

Problem: no financial incentive for a balanced quarter-hour performance within the BG

System balance disorder in June 2019

CONSEQUENCES

- **Abolition of the mixed-price-method** and return to the power-price-method
- BRPs are obliged with **immediate effect** to balance their balancing groups at least **15 minutes before cut of time** by means of a corresponding schedule message
- Surcharge and discount on the balancing energy price with a system-balance of more than 80% of the **contracted balancing power**, instead of the activation of 80% of the contracted balancing power
- Transmission of measured values from RLM (Recording Power Measurement) market locations to the TSOs within one working day after delivery for **faster balance group monitoring**
- In order to ensure the financial incentive for balancing group loyalty even at short-term high stock market prices, the **balancing energy price should in future be linked to the 1/4h intradray price** instead of the average hourly price (market consultation from 22.10.2019 to 24.11.2019).

THANK YOU FOR YOUR ATTENTION!

I‘m looking forward to your questions

The Balancing Group Management team is also happy to answer your questions!

☎ +49 711 21858 **3434**

✉ bilanzkreise@transnetbw.de

Breakout Session: Developments in internal and cross-border congestion management

Julius Schwachheim, Constanze Mende

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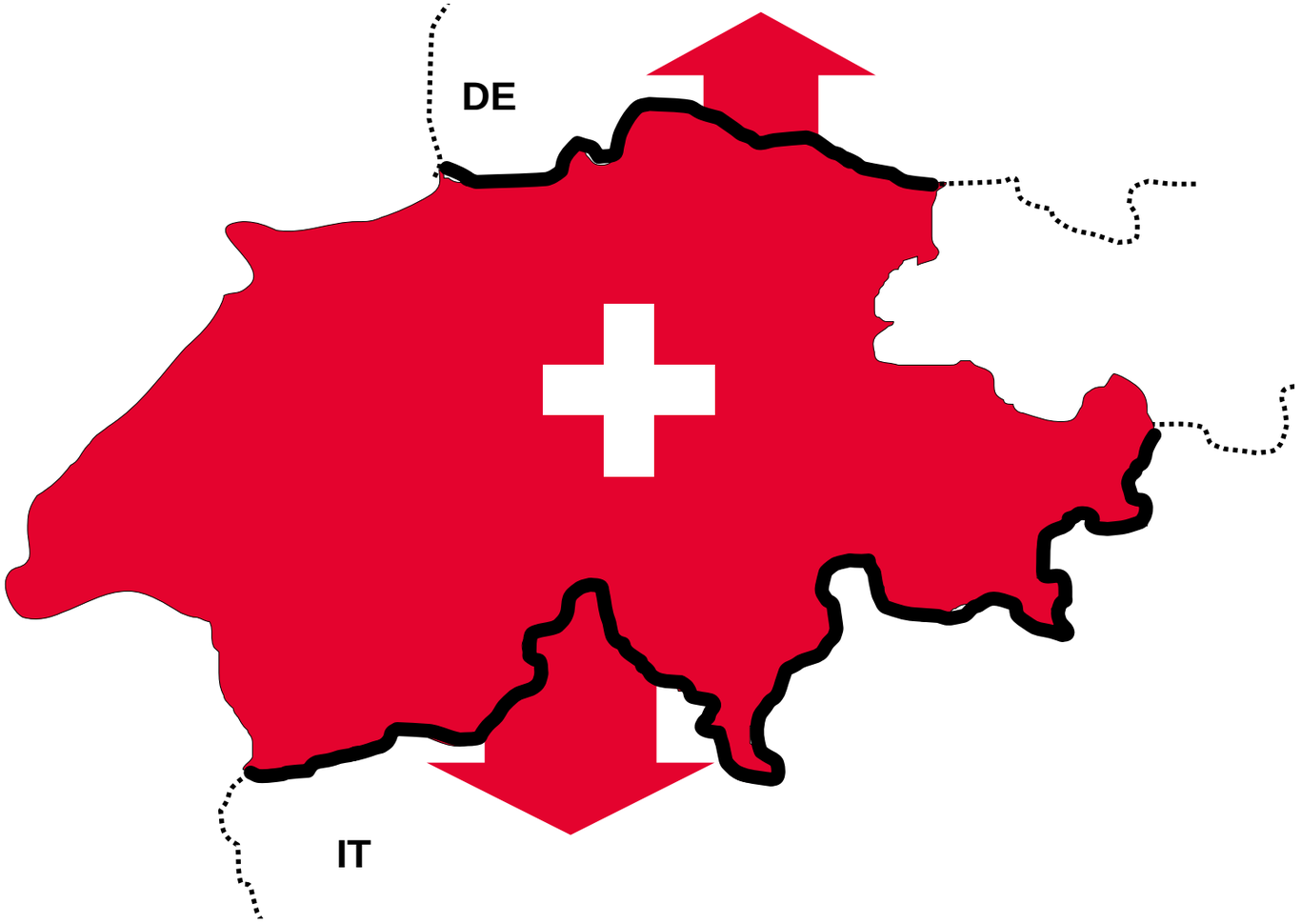
BREAKOUT SESSION – CONGESTION MANAGEMENT



1 **Switzerland-Germany border:**
Developments of NTC in export direction (CH → DE)

2 **Switzerland-Italy border**
New intraday capacity calculation (CH → IT)

Breakout sessions:

Details of 1 & 2

3 **European legislation:**
Impact & clarification of the new CEP 70%-rule

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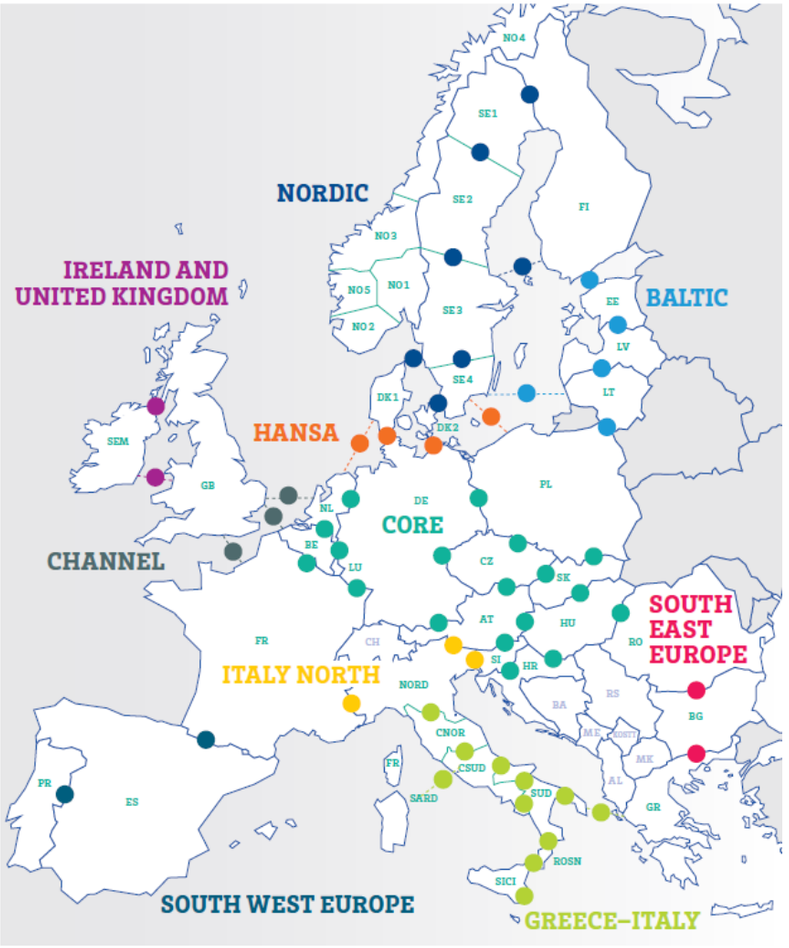
In the future, coordinated congestion management is organised via the Capacity Calculation Regions (CCRs) – Switzerland is formally not part of any of those

- Capacity Calculation and Redispatch are coordinated via CCRs
- CCRs are a set of bidding zones
- Capacity Calculation in the CCRs are performed according to the Network Code Capacity Allcoation and Congestion Management (CACM)

Status Quo on the northern Italian Border:

- The CACM Capacity Calculation Methodology (CCM) is formally approved by the regional NRAs
- Switzerland/Swissgrid is allowed to participate as a «technical counterparty» which essentially means full participation
- The day-ahead capacity calculation process was already implemented as an «early implementation» in 2016



In contrary to the Italian borders, no (regionally) coordinated mechanism do exist on the Swiss Northern Borders.

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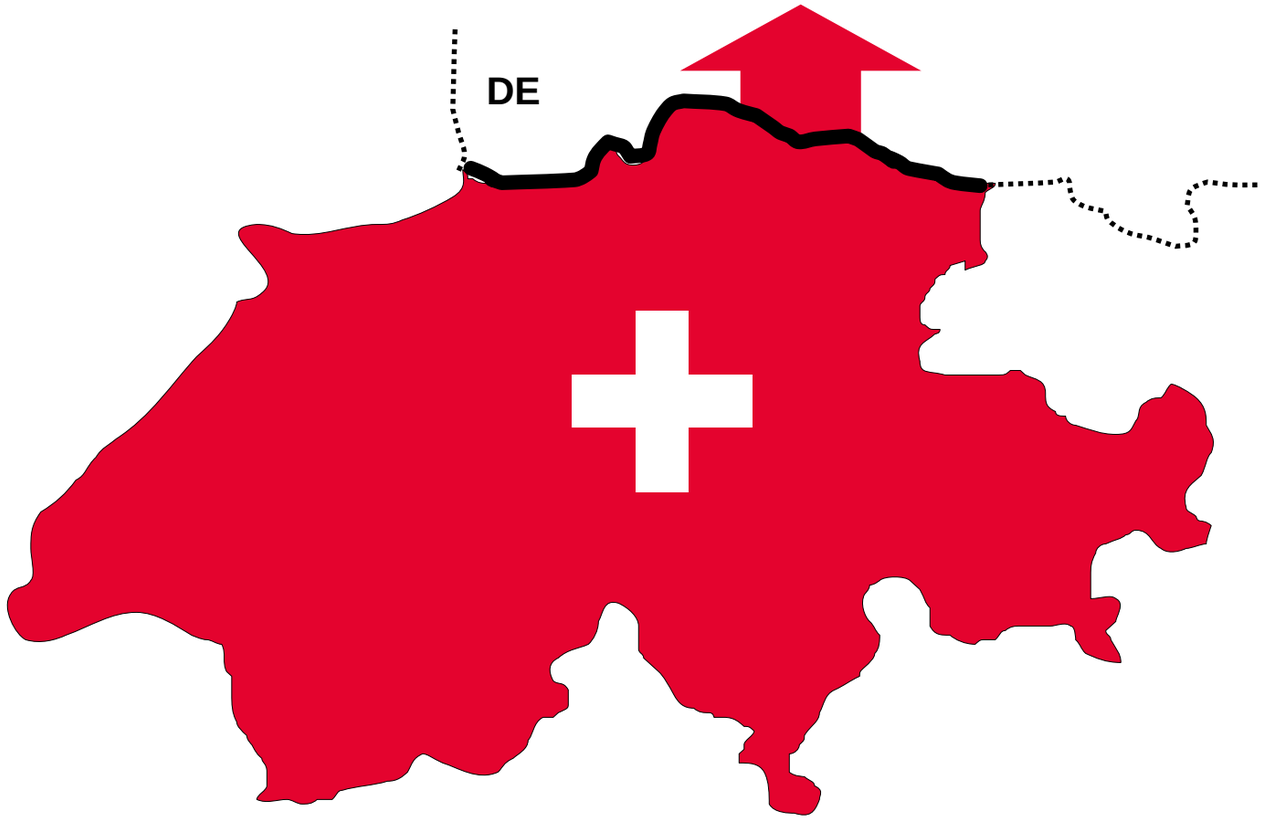

1 **Border Switzerland-Germany:**

- Developments of NTC in Export direction (CH → DE)

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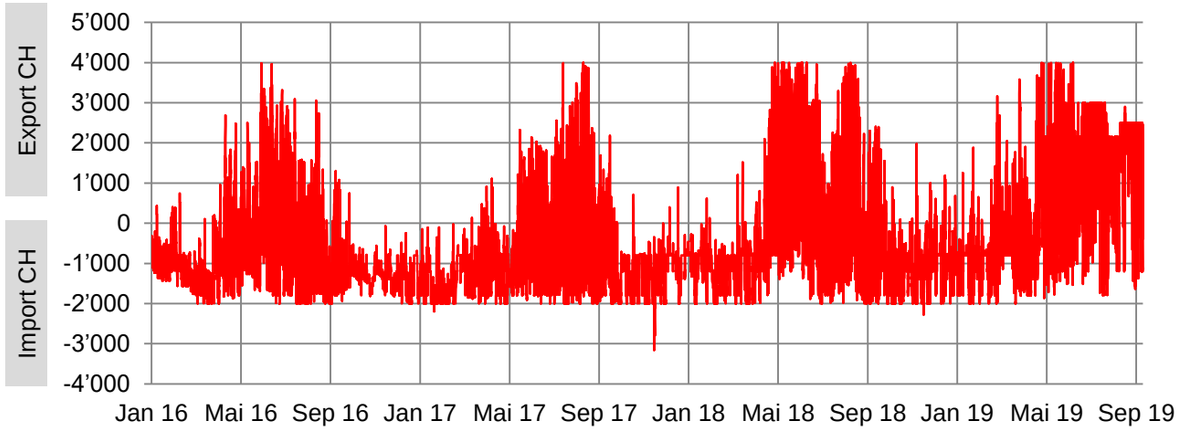
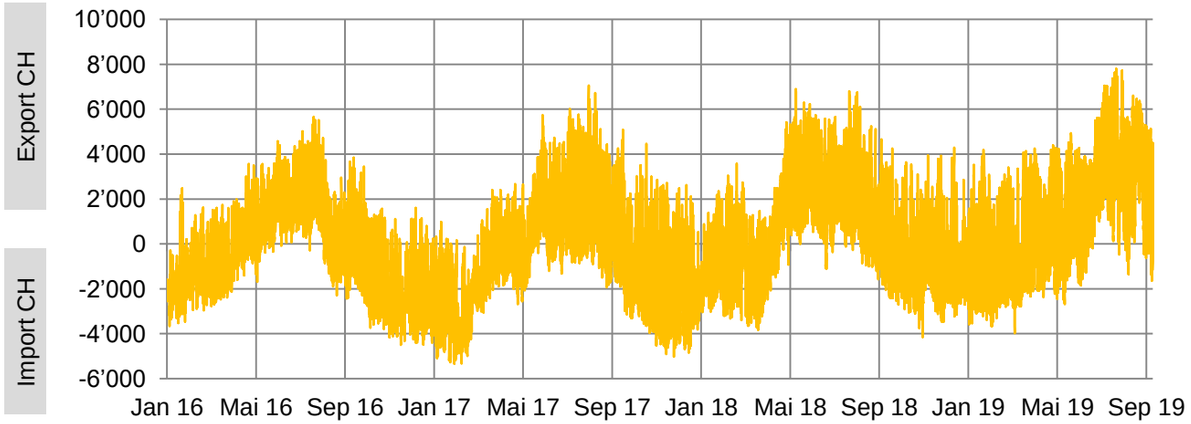
Load flows and net positions of summer 2019 showed a strong increase of exports from Switzerland towards Germany

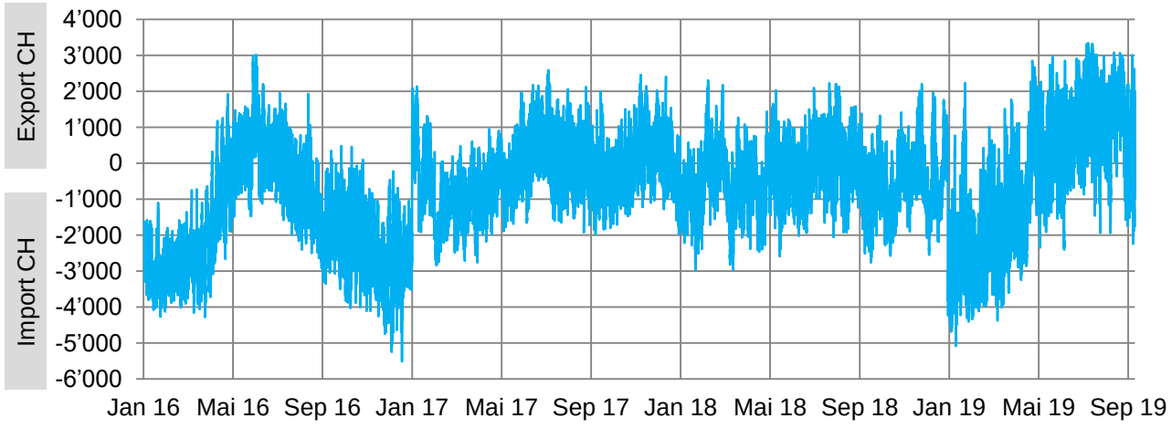
Schedule CH-DE [MW]



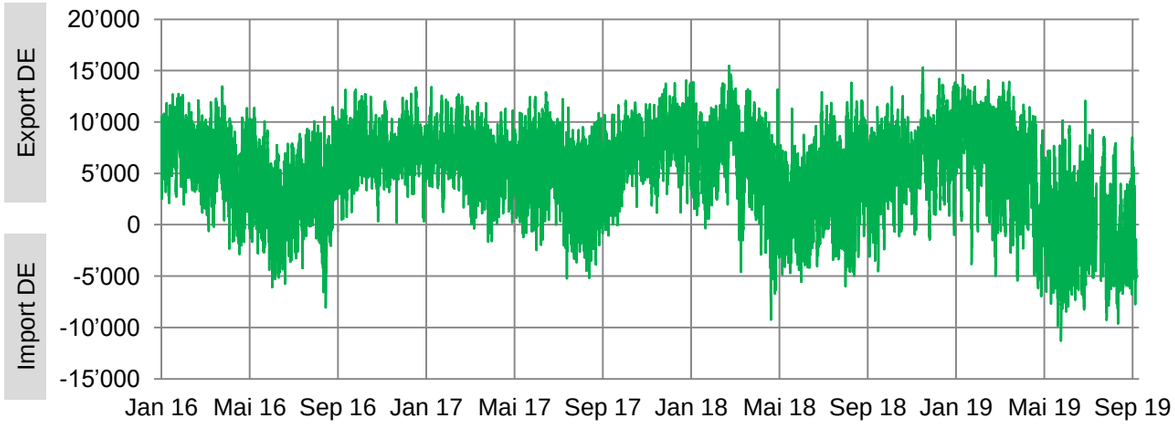
Net Position CH [MW]



Loadflow CH-DE [MW]



Net Position DE [MW]



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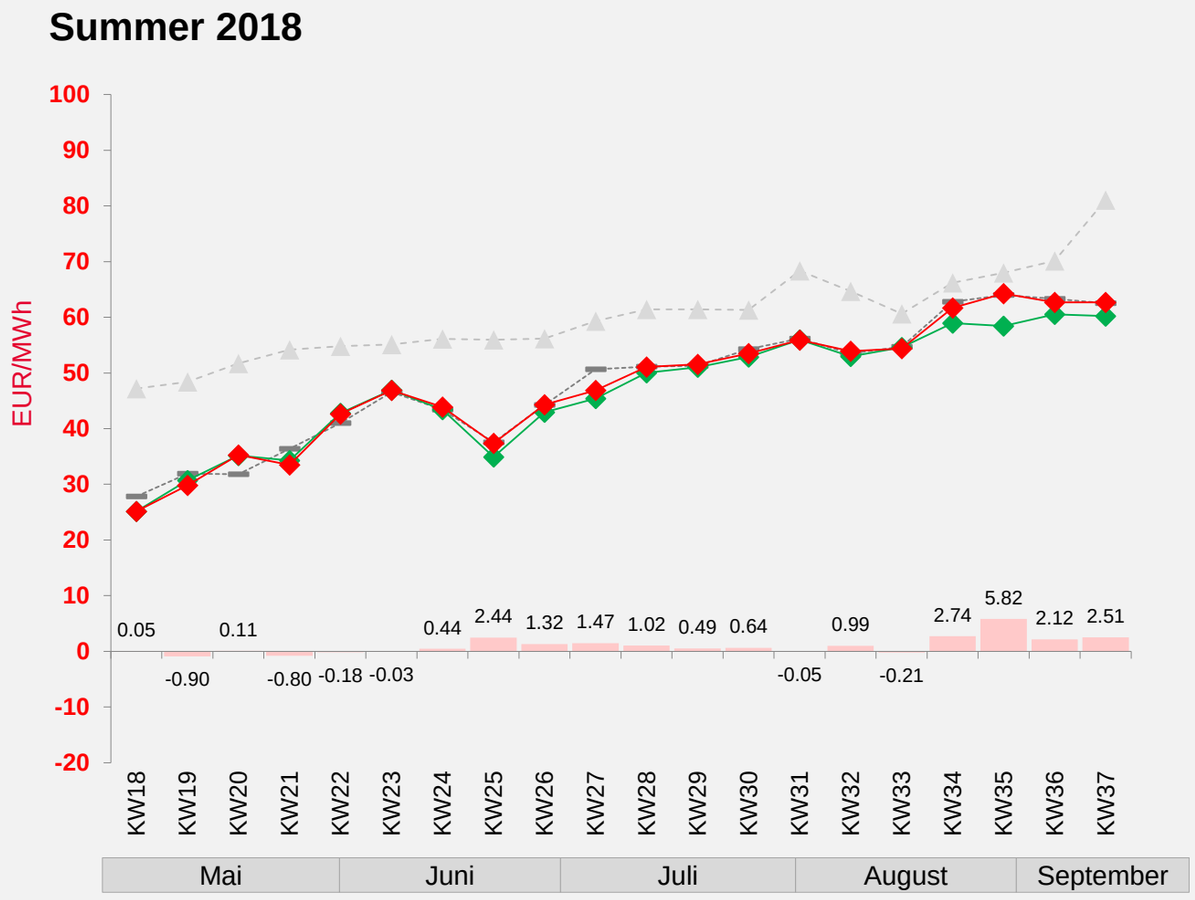
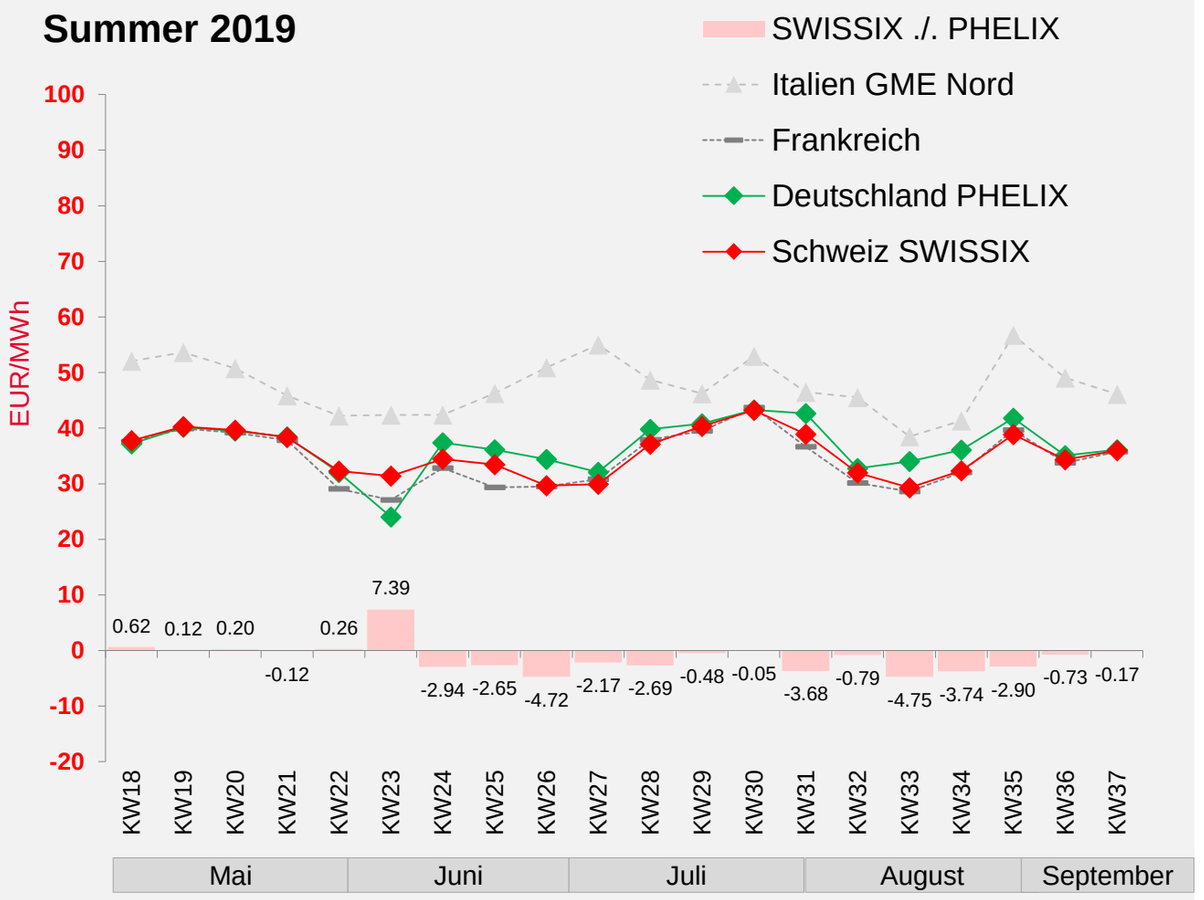
In Summer 2019, the prices in Switzerland were the lowest compared to the neighbours for several weeks – especially compared to Germany

Spot Day-Ahead Base Average per week (EUR/MWh)





Quelle: EPEX Spot / GME

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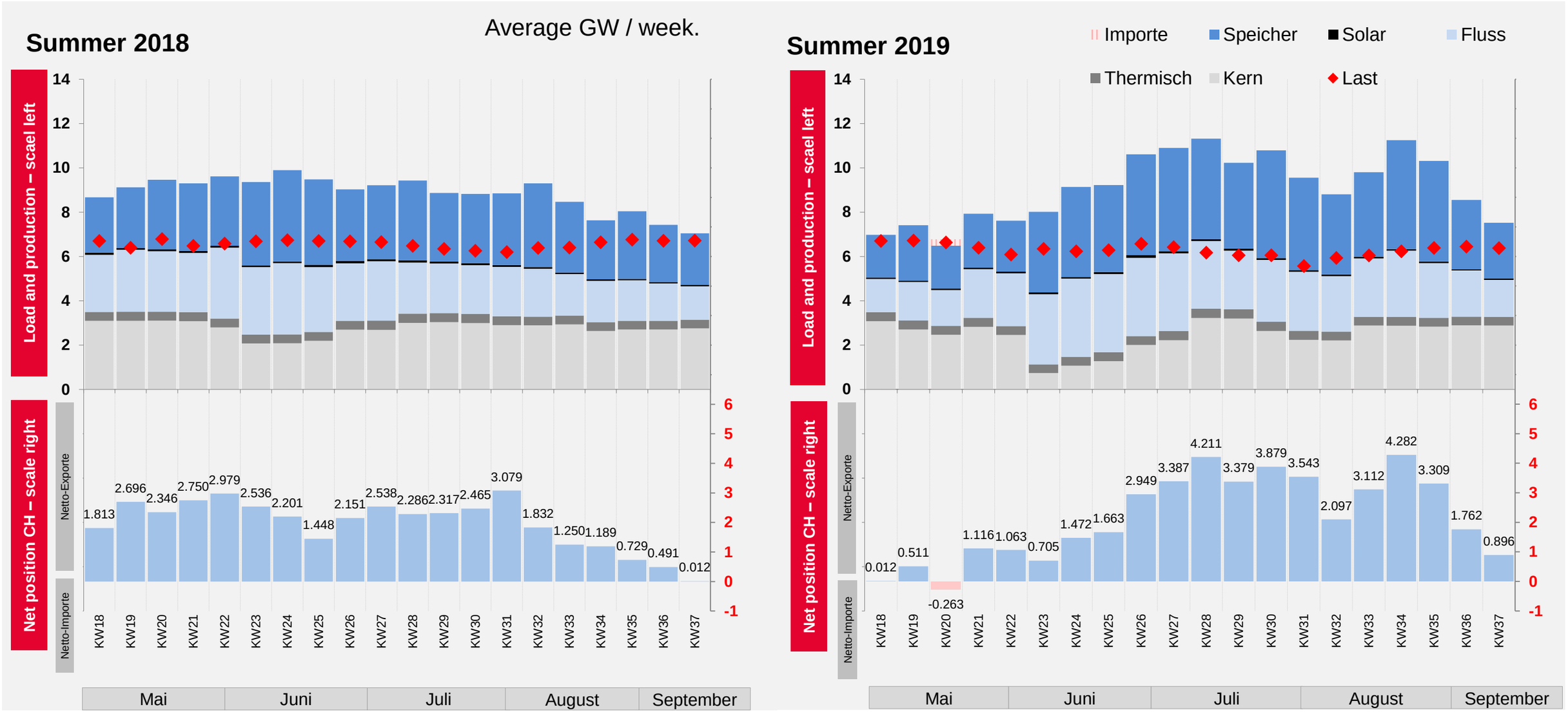
Production and net position Switzerland: 7 weeks with average production above 10 GW and average exports above 4 GW in summer 2019



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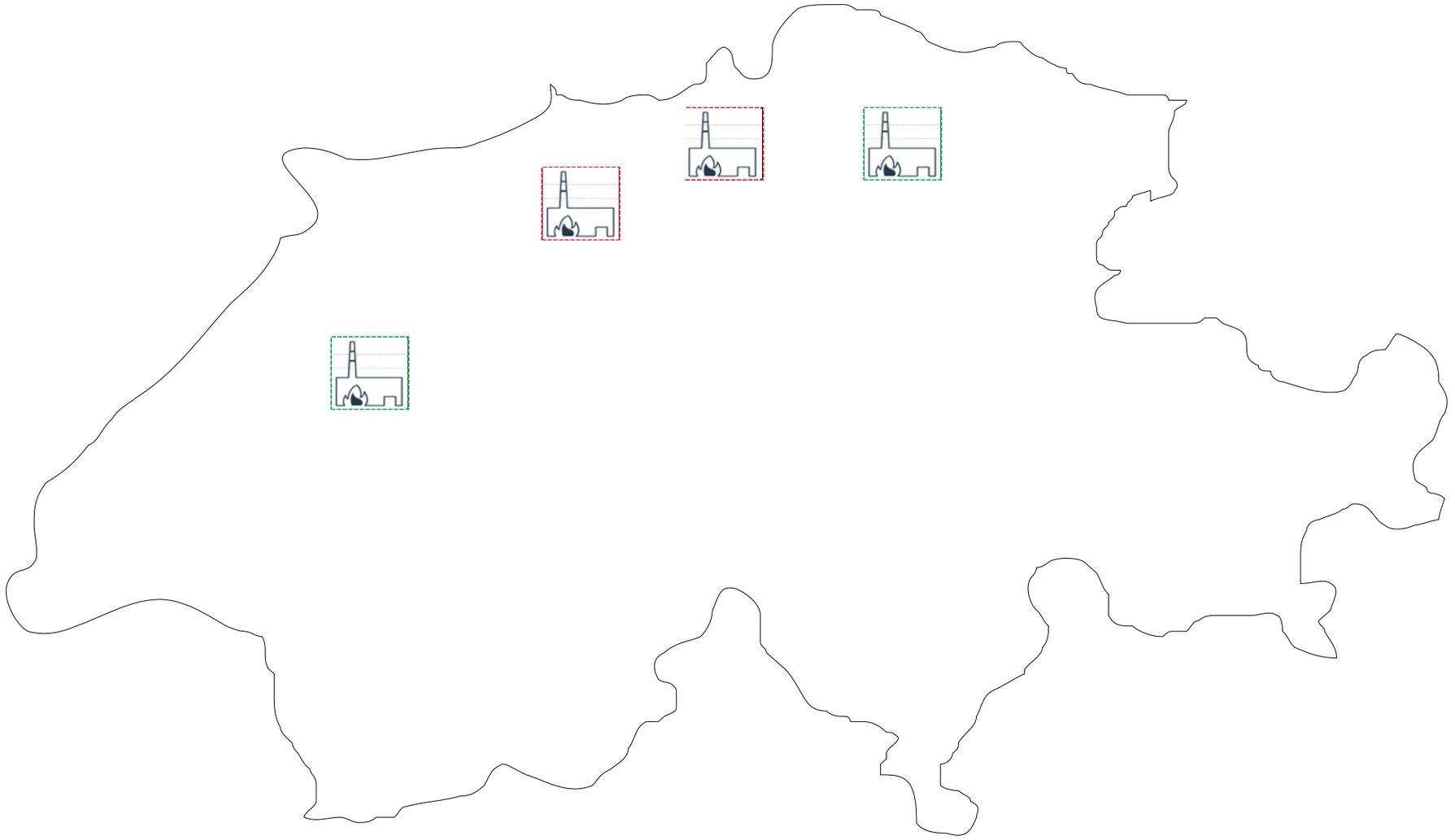
Several factors led to grid violations in the summer 2019



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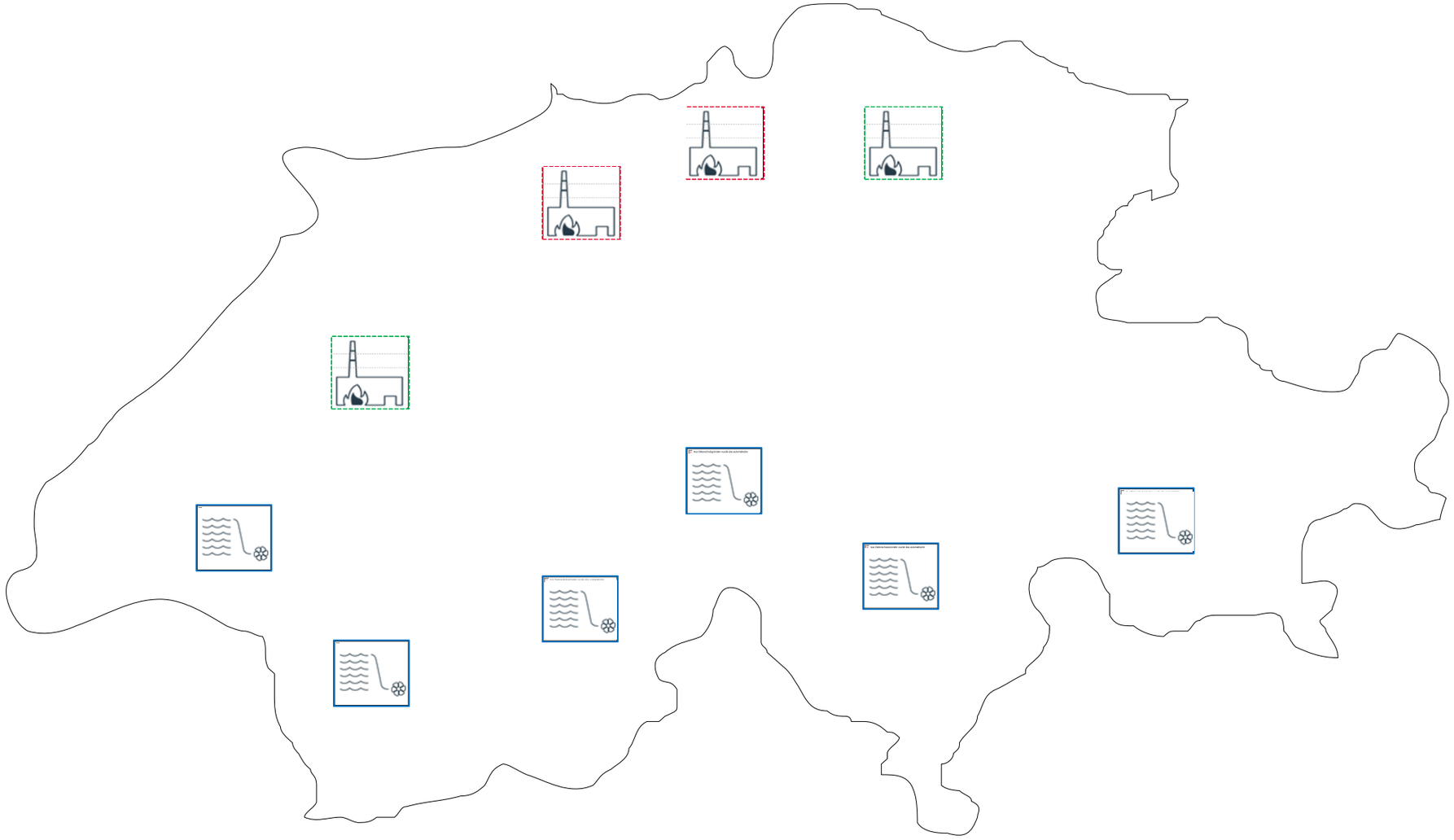
Several factors led to grid violations in the summer 2019



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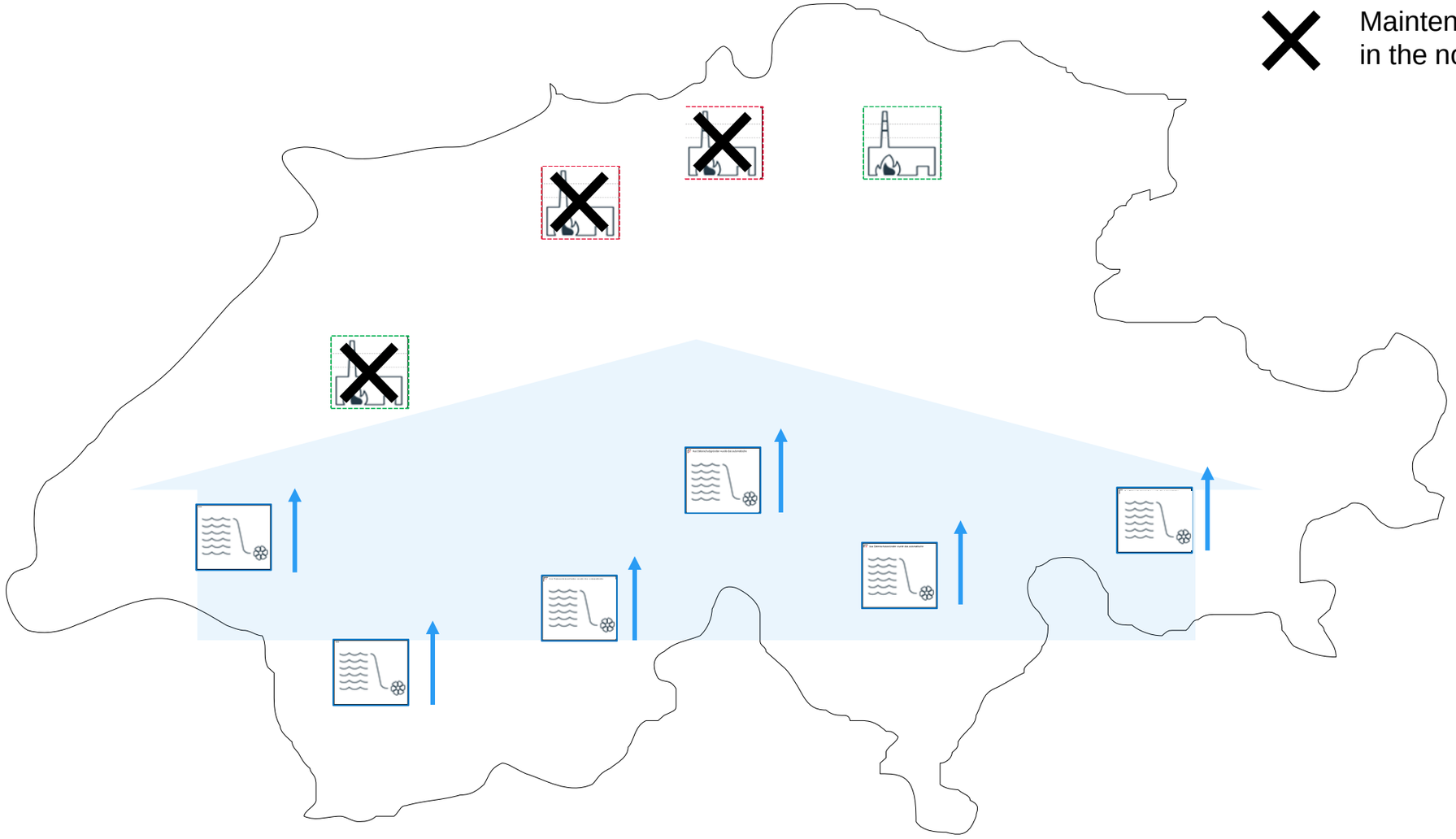
Several factors led to grid violations in the summer 2019



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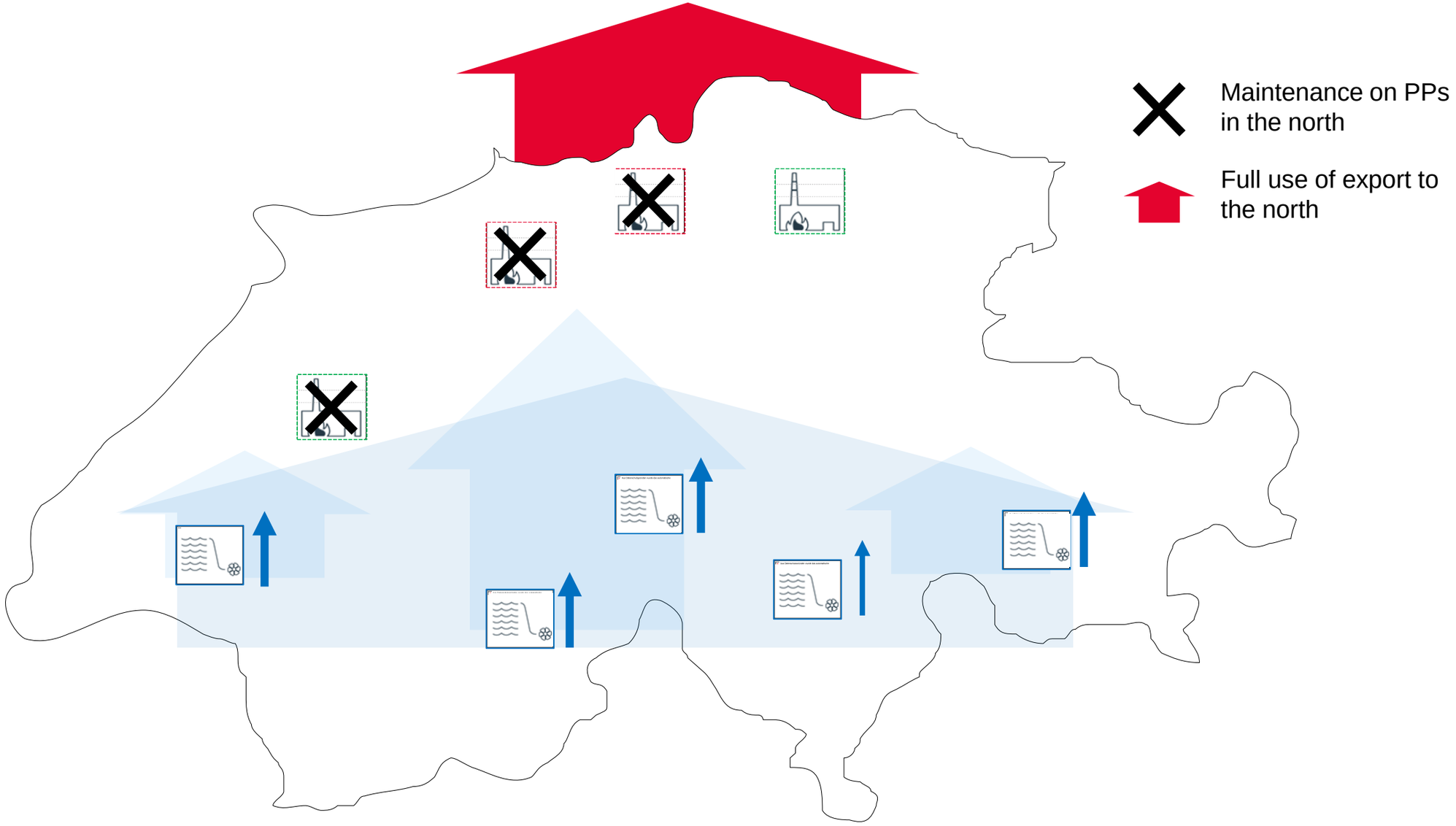
Several factors led to grid violations in the summer 2019



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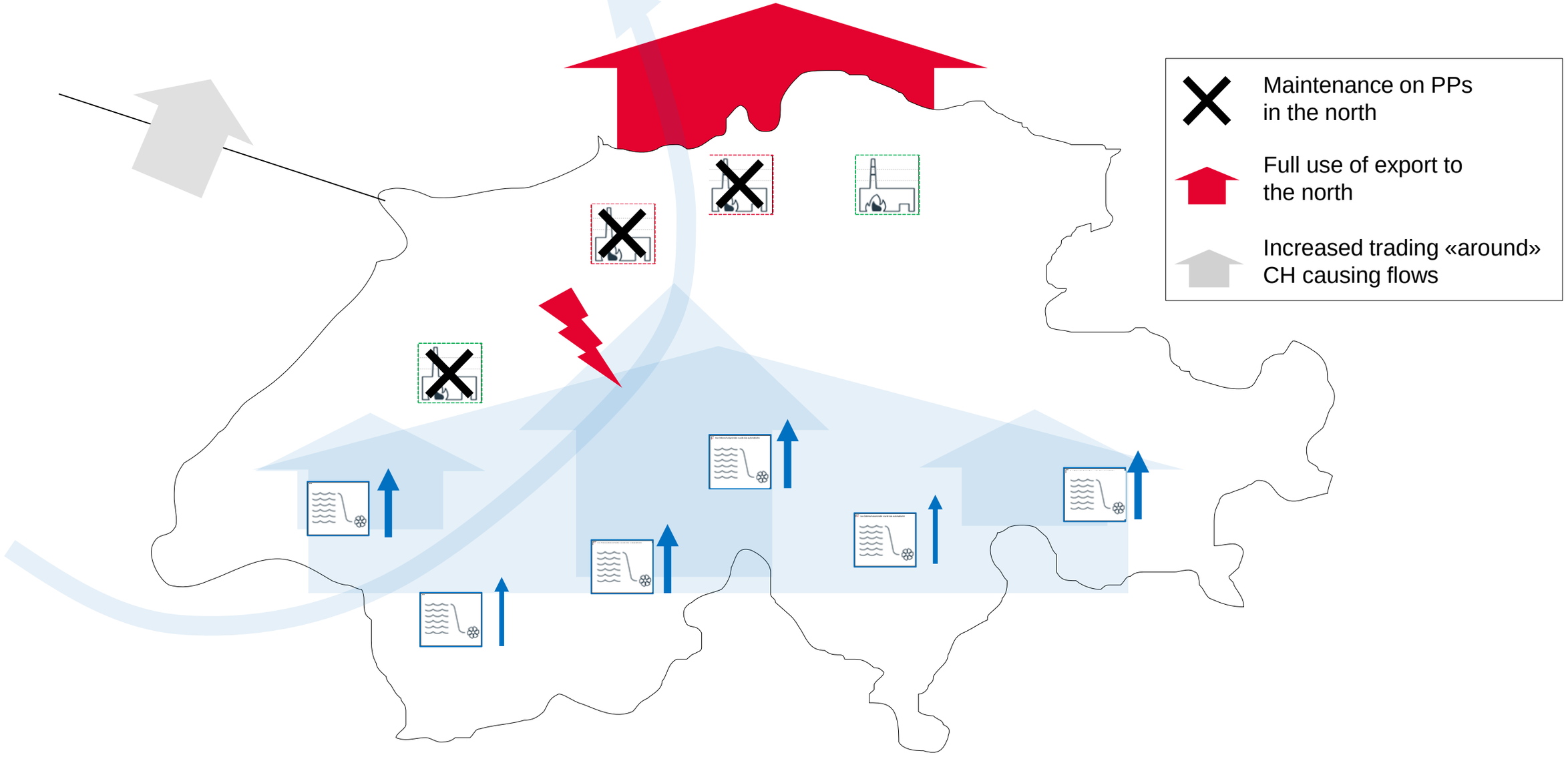
Several factors led to grid violations in the summer 2019



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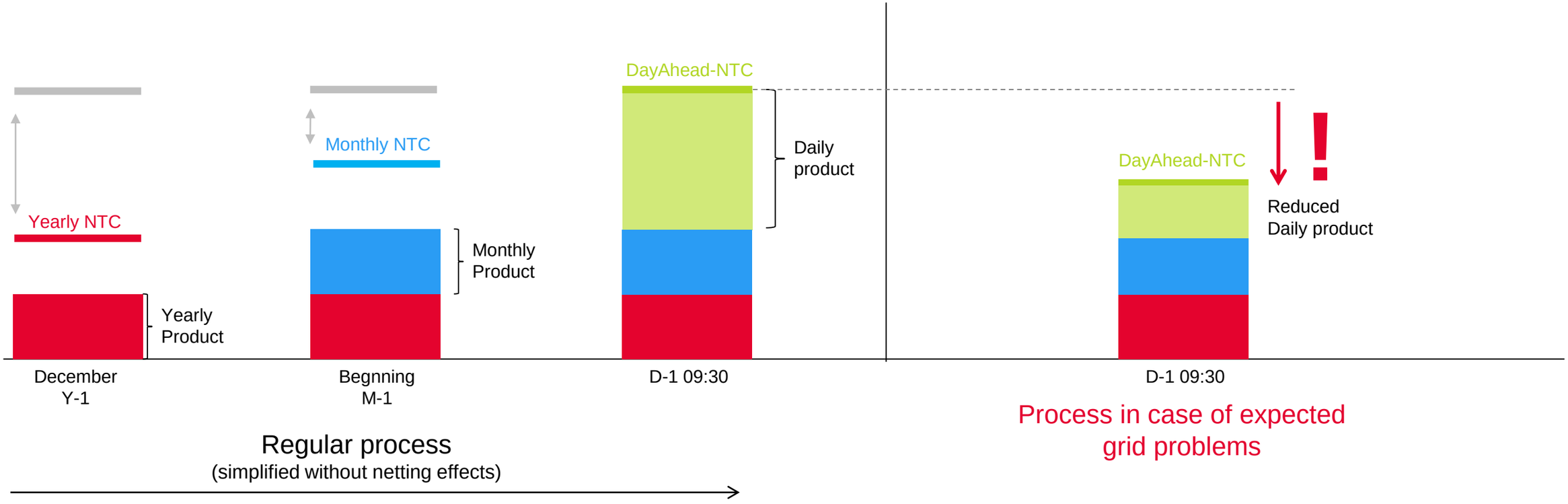
Recap: NTCs are allocated on a yearly, monthly and daily basis.

- Based on the **estimated NTCs**, products are built for the respective time horizon (usually a «thumb rule» is 1/3 per time horizon)
- Yearly and monthly products are allocated as **band products** – day ahead is on an **hourly basis**
- For the export direction towards Germany, daily products are only changed in case of unusual grid situations – no regular procedure
- However, products are built that way that so far yearly and monthly products are **always ensured** («bottom up»)



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For the export NTC CH→DE a value of 4000 MW was built up historically. Swissgrid will change to a scenario based load flow calculation in the future.

- For each scenario, a «base case» grid model is used, that already **historic schedules** (↘) as a forecast/reference for the resulting load flows
- During the NTC based calculation, only **one trading direction** (e.g. Switzerland → Germany) will be optimised. Optimisation means: using Remedial Actions (such as topology, transformers etc.) to increase the NTC.
- It is assumed that all energy is produced in Switzerland, and all consumed in Germany
- The **increase** is performed until **N-1-violations in the CH grid** are not solvable anymore
- The final resulting NTC is then:

Scenarios:
- sets of calculated NTCs
- Based on different individual parameters, such as:

→ Maintenance
→ Availability of PPs
→ Season
→ Peak / offpeak

$$NTC_{CH \rightarrow DE} = (HS_{CH \rightarrow DE} + \Delta MW) - TRM^{*)}$$

*) HS = Historic Schedule,
TRM = Transmission Reliability Margin

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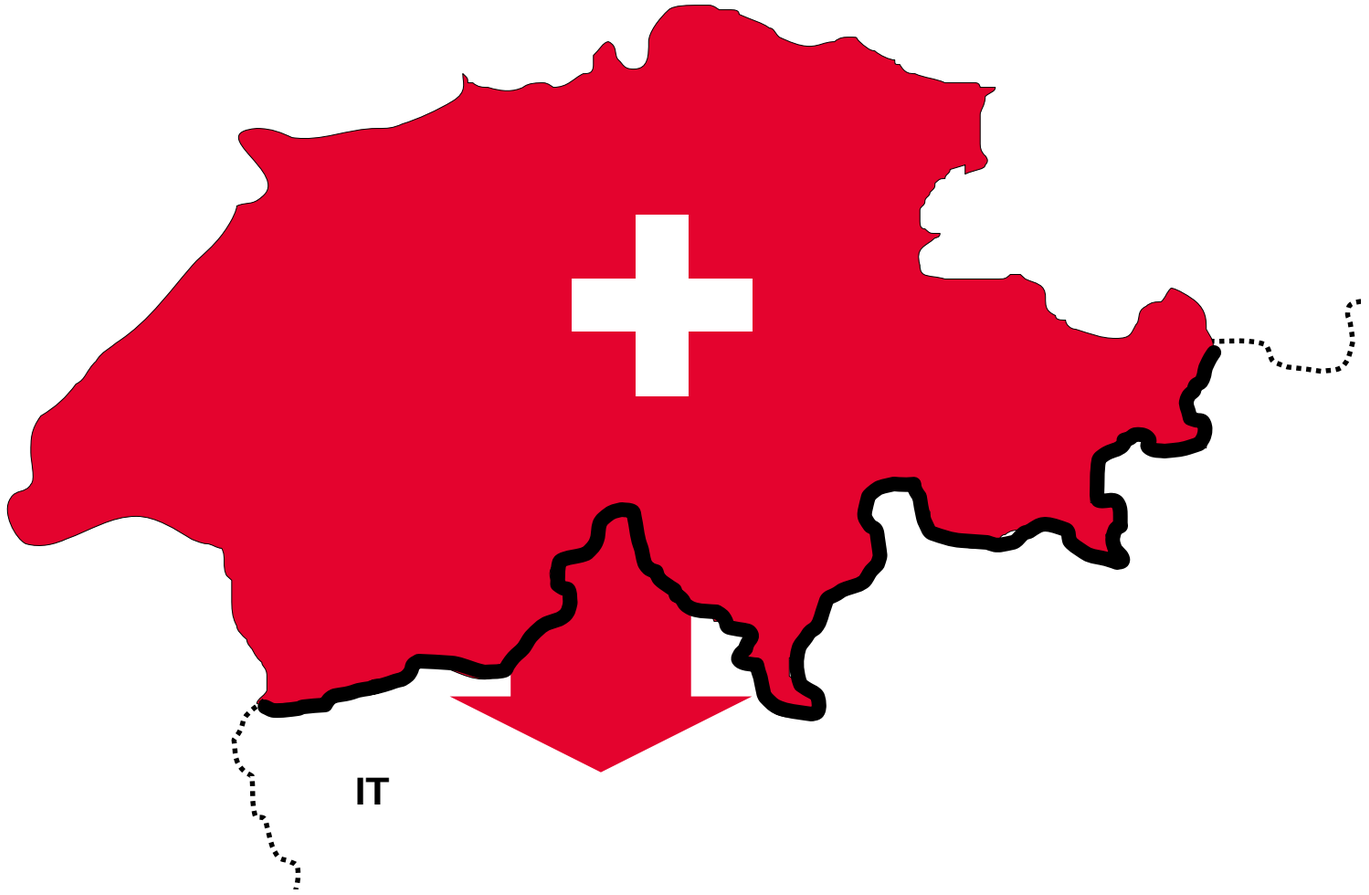


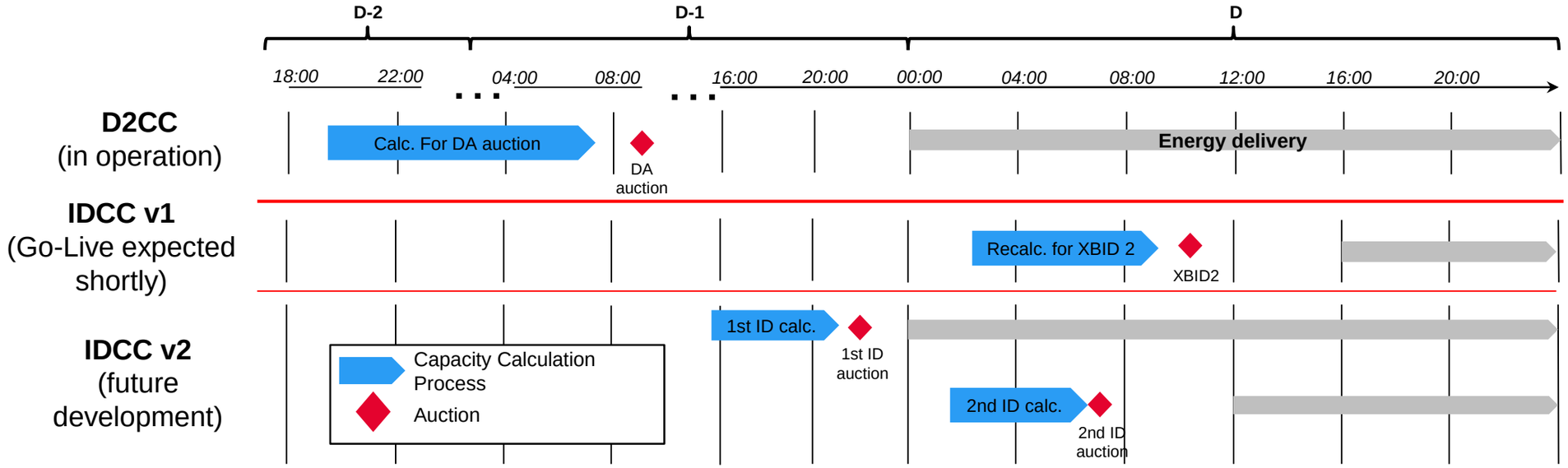
2 **Border Switzerland-Italy**

- New Intraday Capacity Calculation (CH → IT)

swissgrid

In the future, an additional Capacity Calculation Process in D-1 for the ID NTC CH-IT will be implemented.

- The future **IDCCv2** process will be based on the **same principles as the IDCCv1** process that is expected to Go-Live Mid November 2019
- The timings of the **IDA1** and **IDA2** auctions will be **rescheduled**.
- In the evening of **D-1** a **capacity calculation** is performed using the D-1 that is available at this time.



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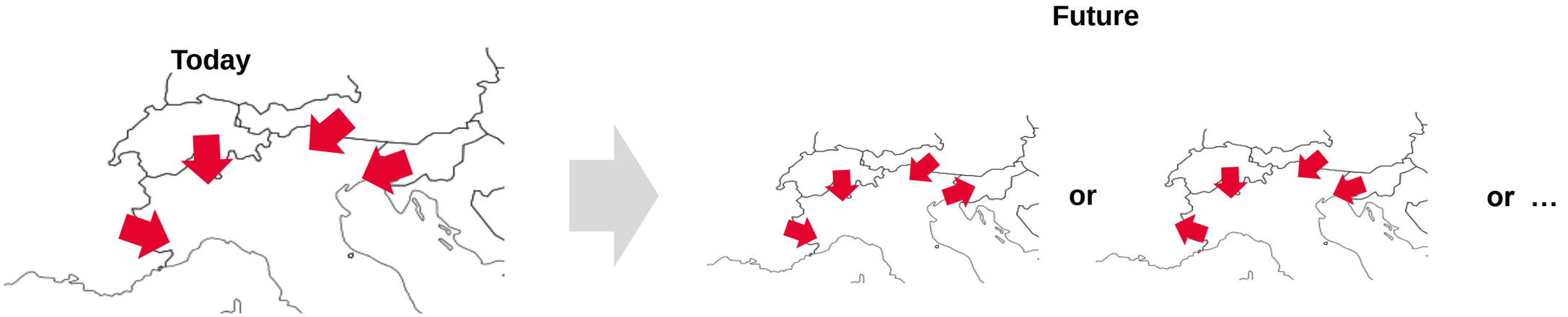
In the future, also the NTC in export direction from Italy will be calculated in specific situations.

- Today's Capacity Calculation process in CCR Italy North are optimizing only the NTC in **Full Italian Import direction**
- In the future, the algorithm will be extended so that scenarios in which >1 country is importing from Italy can be calculated in the capacity calculation processes (**«Export Corner Calculation»**)
- For these countries X an **updated NTC IT → X** will be provided.
- Such calculations will help to optimize the NTC values e.g. in the summer months, when the Balkan region is importing from Italy and the **flow on the SI-IT border is reversed.**
- The algorithm and process will be flexible enough to consider any export scenario.



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OPEN DISCUSSION / QUESTIONS

3

European legislation:

- Impact & clarification of the new CEP 70%-rule

… if there are any?

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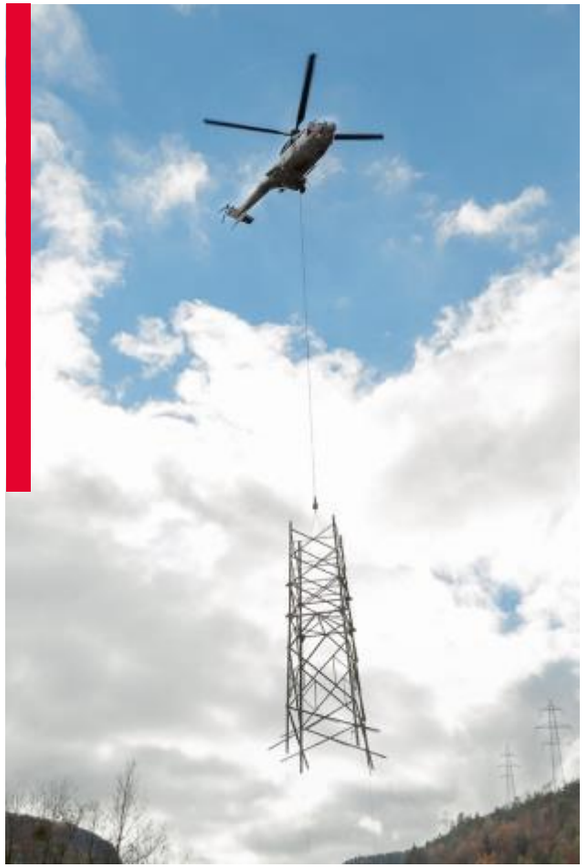
Breakout Session: The Swiss «Integrated Market»: new processes and expected go-live

Tobias Ott
(Slides only available in German)

swissgrid

Agenda



1 Einleitung Tertiärregelung und Redispatch

2 Situation heute

3 Integrierter Markt – Konzept

4 Integrierter Markt – Begleitmassnahmen

5 Zusammenfassung

6 Relevante Themen für BGV

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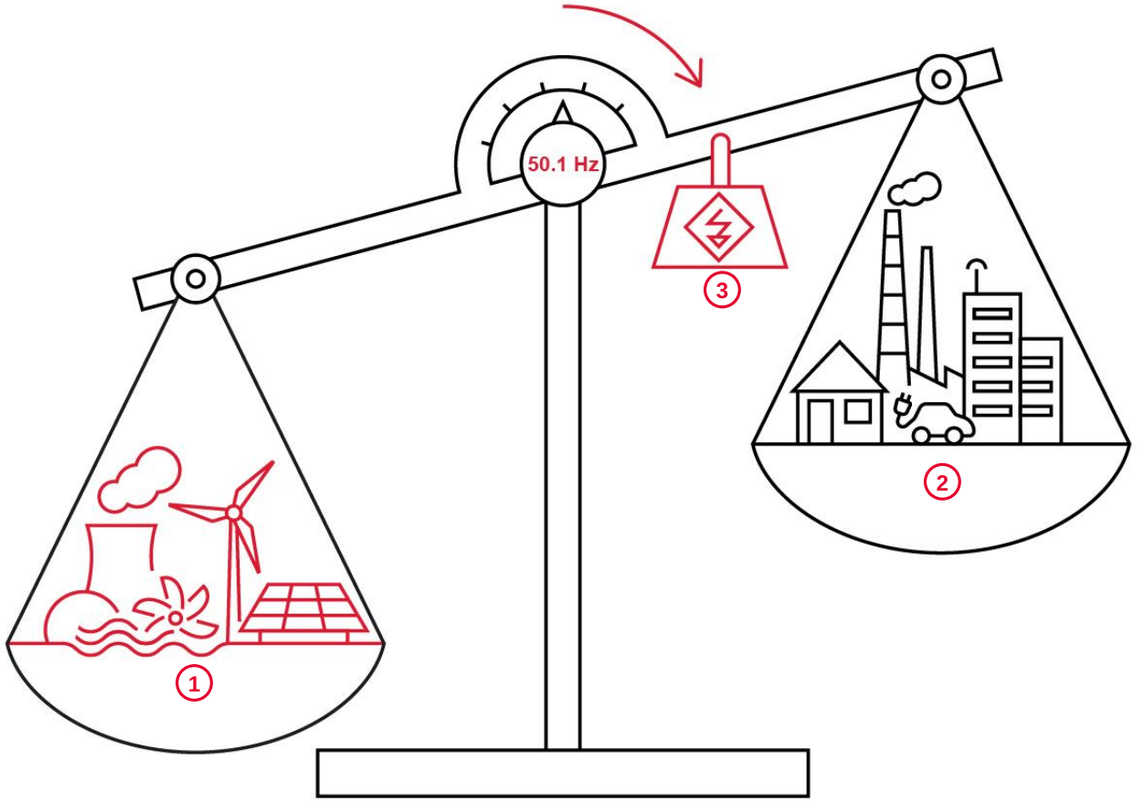
Swissgrid greift bei Schwankungen im Netz aktiv ein …



- Systemdienstleistungen setzt Swissgrid ein, um das Netz stabil zu halten. Dazu gehört unter anderem die Beschaffung von Regelleistung.
- Kraftwerke halten gegen eine Entschädigung im Auftrag von Swissgrid Regelleistung vor.
- Swissgrid aktiviert bei Schwankungen im Netz Regelenergie, um den Ausgleich wieder herzustellen

1 Erzeuger / Kraftwerke
2 Verbraucher: Privathaushalte und Industrie
3 Systemdienstleistungen

swissgrid

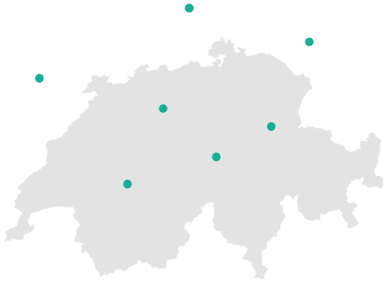
… und geht beim Einsatz von Regelenergie dreistufig vor

Primärregelung:
0,5 min nach Ausfall

- Frequenzmessung bei den Kraftwerken
- Wird automatisch am Generator des Kraftwerks aktiviert
- europaweit

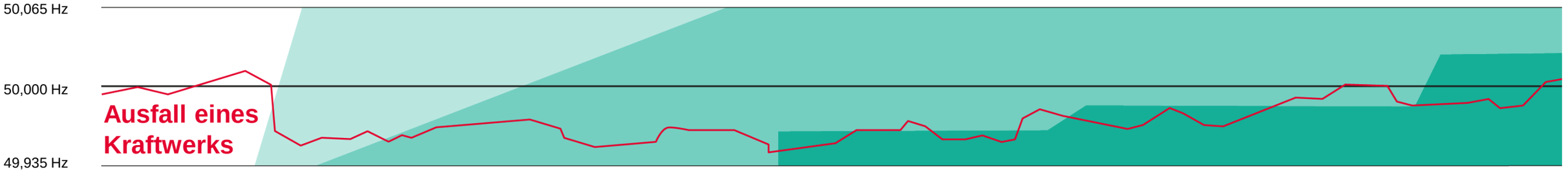
Sekundärregelung:
5 min nach Ausfall

- Messungen an den Schweizer Grenzleitungen
- Wird durch den zentralen Netzregler bei Swissgrid aktiviert
- schweizweit



Tertiärregelung:
15 min nach Ausfall

- Aushilfeverträge mit einzelnen Anbietern im Ausland
- Entlastung der Sekundärregelung
- Wird durch den Operateur aktiviert



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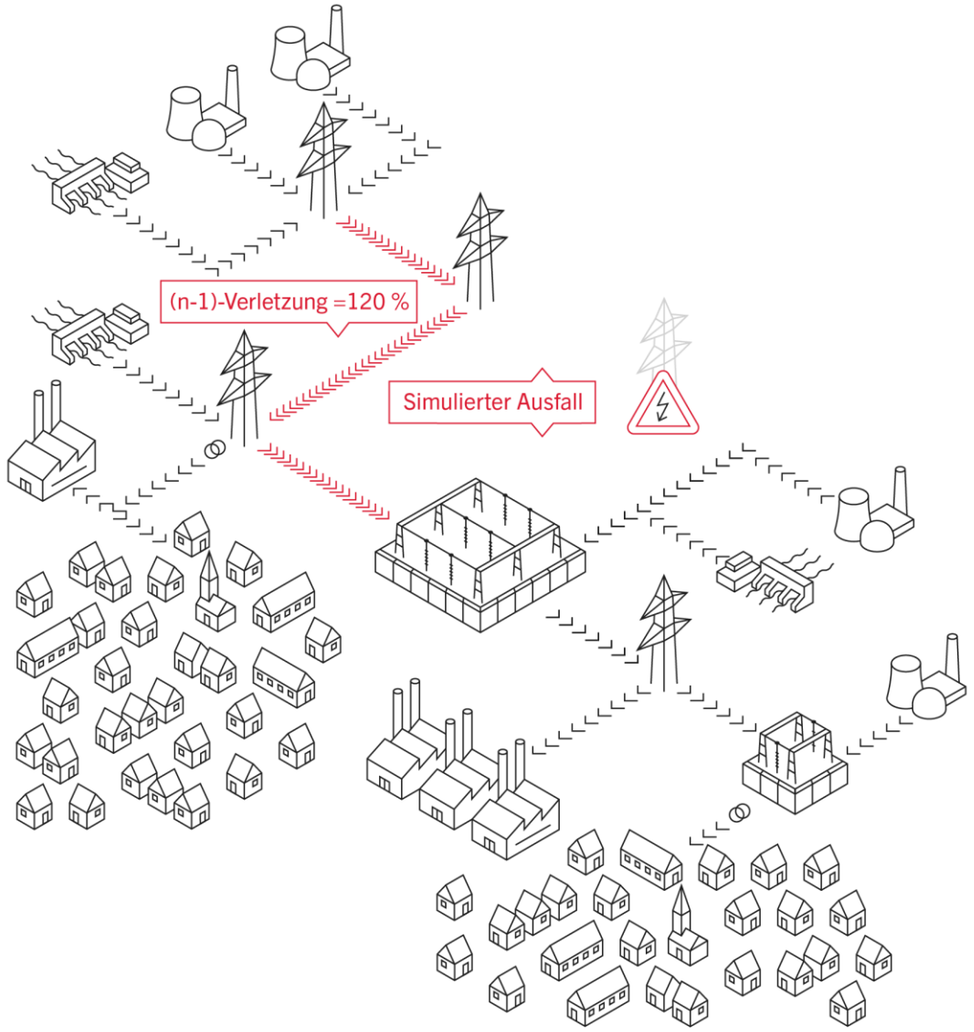
Swissgrid überwacht das Netz rund um die Uhr…



- Swissgrid betreibt das Netz so, dass auch bei einem Ausfall eines Netzelements keine anderen Elemente überlastet werden ((n-1)-Sicherheit).
- Dafür berechnet Swissgrid im 5-Minuten-Takt, wie hoch die Netzbelastung aller anderen Netzelemente wäre, wenn eines davon ausfallen würde.
- Diese Simulation, die Netzanalyse, ist die Basis für die Entscheidungen der Operateure.

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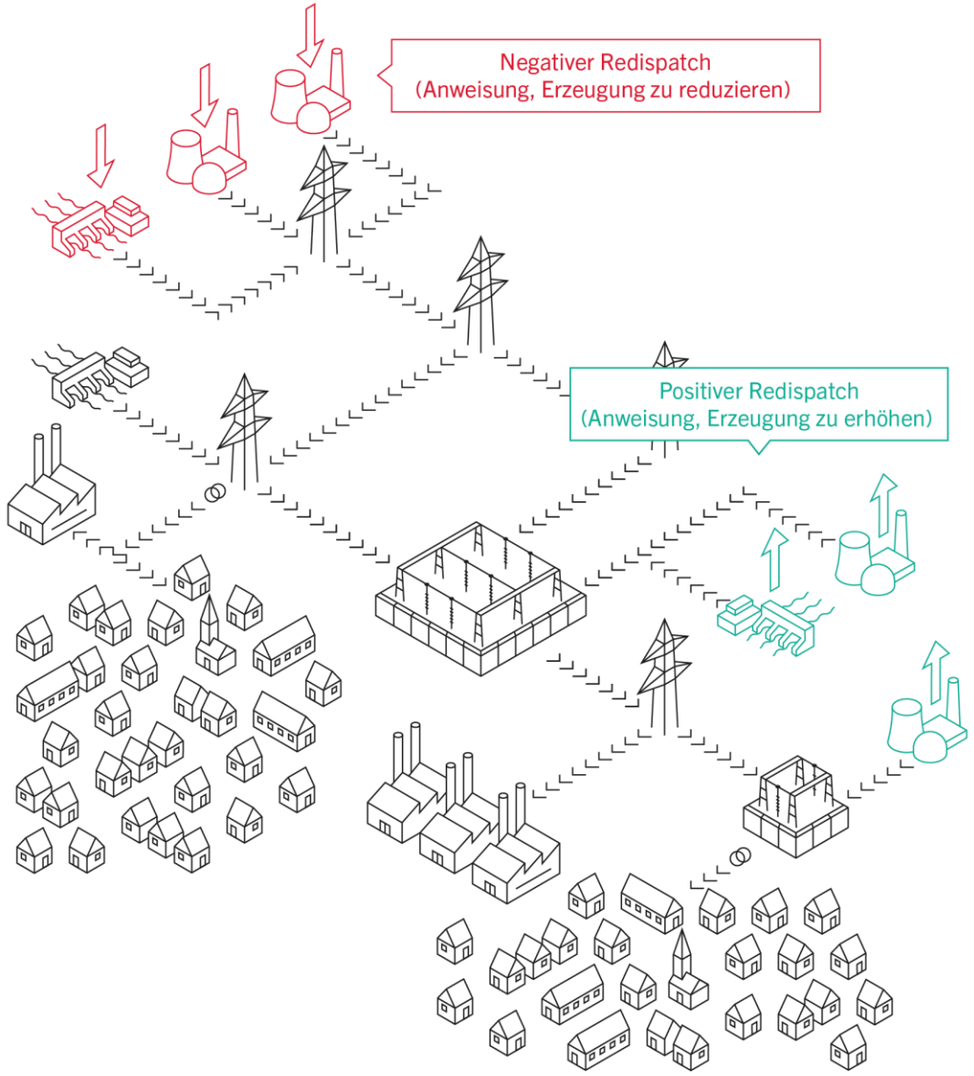
… und wendet bei drohenden Überlastungen unter anderem Redispatch an



- Bei einem Redispatch weist Swissgrid Kraftwerke an und verlagert damit die Erzeugung von einem Ort zum anderen.
- Die Summe der Einspeisung bleibt gleich, die örtliche Verteilung der Produktion jedoch verändert sich.
- Swissgrid setzt diese Massnahme entweder präventiv (bei frühzeitiger Erkennung)
oder kurativ (bei kurzfristigem Ausfall einer Leitung) ein.

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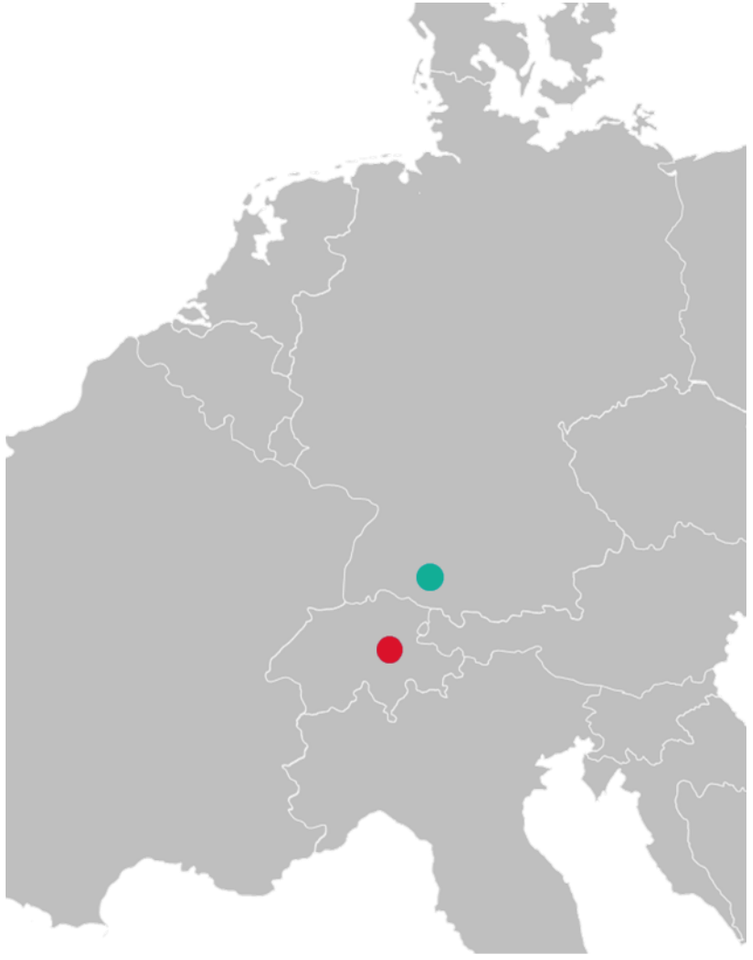
Welche Arten von Redispatch werden unterschieden?

Nationaler Redispatch nodal

Internationaler Redispatch nodal



Internationaler Redispatch zonal

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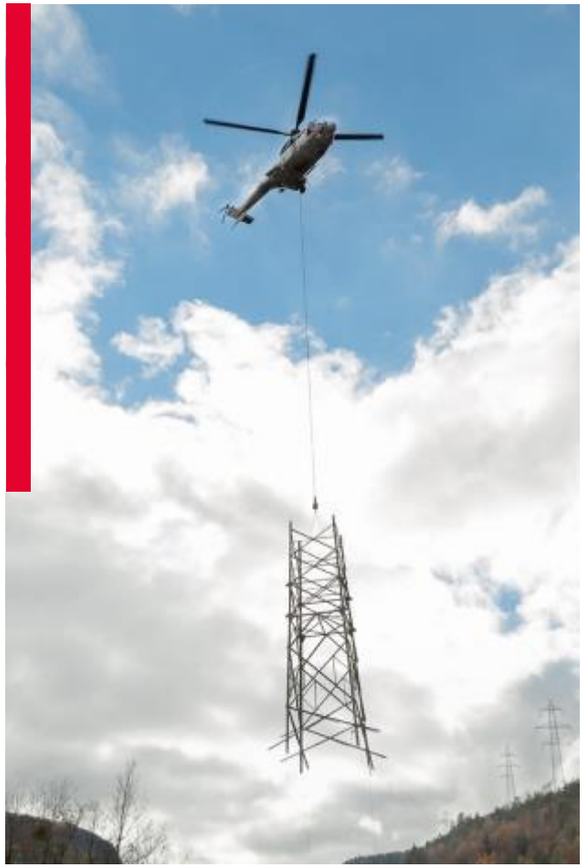
Agenda



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Situation heute

Zweck		Heute
Tertiärregelung	**Leistung (Vorhaltung)**	Tertiärregelleistung (TRL) • Auktionen Tertiärregelleistung (Tages- und Wochenauktionen) • Bei einem Zuschlag Vergütung für die Vorhaltung gemäss Angebotspreis
	Energie	Tertiärregelenergie (TRE) • Vergütung gemäss Angebotspreis • Angebote und Abrufe pro Pool (nicht Kraftwerksscharf) • Pflicht zur Abgabe von Angeboten bei Zuschlägen in der Leistungsausschreibung • Freiwillige Abgabe weiterer Angebote möglich
Redispatch	**International zonal**	Pflicht zur Teilnahme für alle Kraftwerke auf Netzebene 1 • Abrufe pro Kraftwerk • Energiepreis für Vergütung indexiert an day-ahead Spotpreis
	International nodal	
	National (nodal)	

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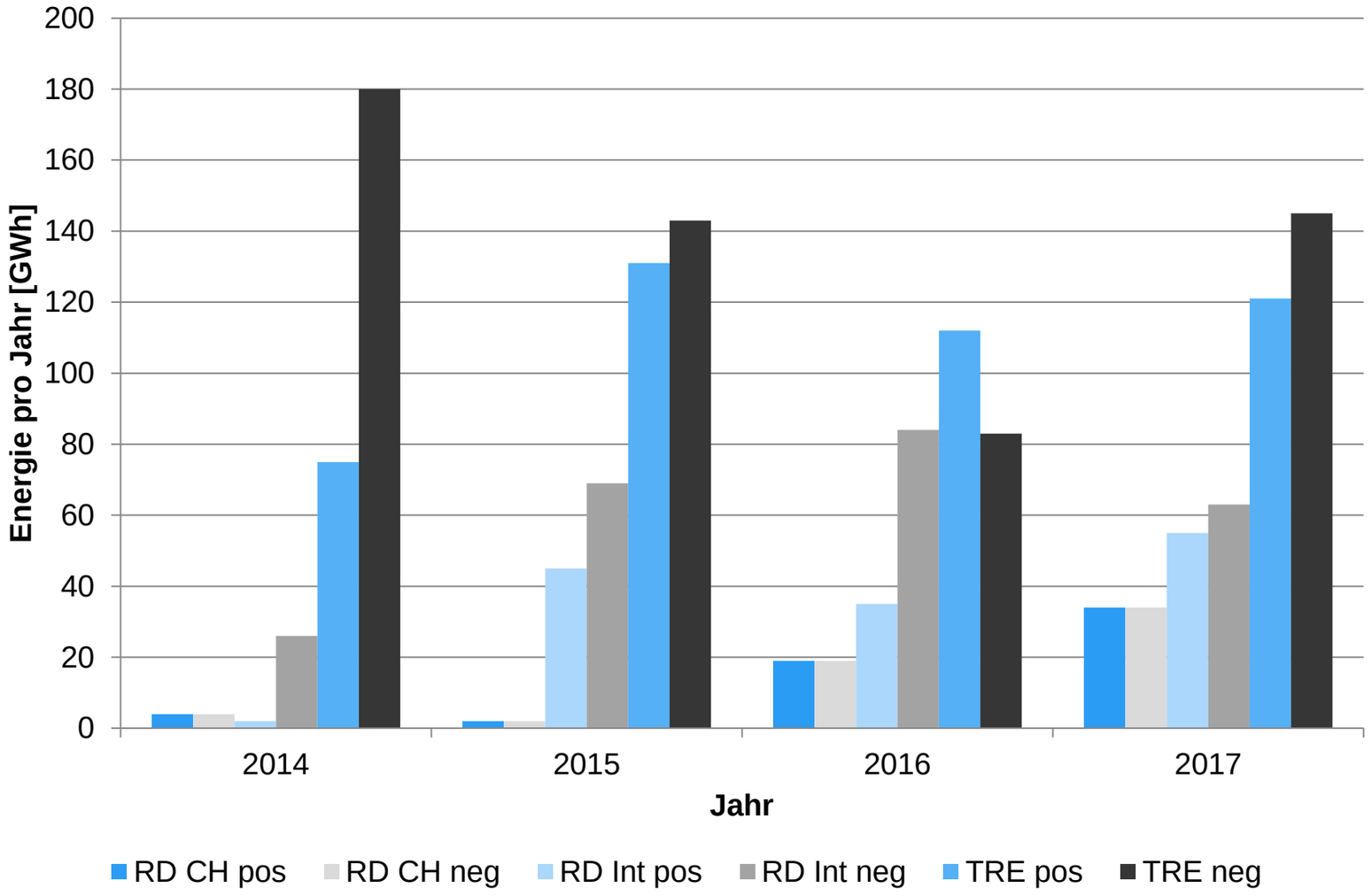
Energiemengen Tertiärregelung und Redispatch



- Die Energiemenge für Redispatch hat in den letzten Jahren zugenommen.
- Die Energiemengn für Tertiärregelung ist in etwa auf dem gleichen Niveau geblieben
- Die Gesamtmenge für Redispatch und Tertiärregelung beträgt pro Richtung ca. 150 – 200 GWh pro Jahr.
- Durchschnittlich entspräche das ca. 20 MW über das ganze Jahr.
- Einzelne Redispatch-Massnahmen können im Extremfall aber bis zu 1000 MW betragen

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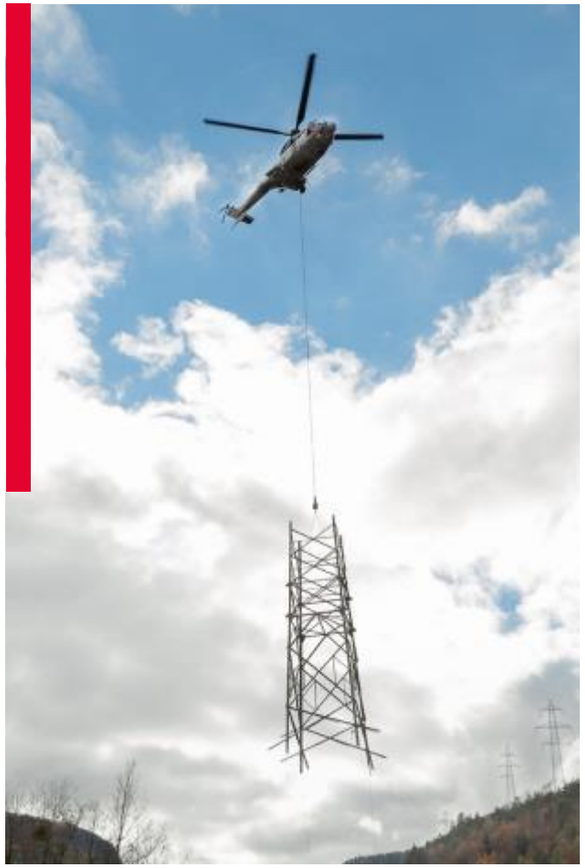
Agenda



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Integrierter Markt – Konzept

<table>
<tr><th colspan="2">Zweck</th><th>Heute</th><th>Integrierter Markt</th></tr>
<tr><td rowspan="2">Tertiärregelung</td><td>Leistung (Vorhaltung)</td><td colspan="2">Tertiärregelleistung (TRL)</td></tr>
<tr><td>Energie</td><td>Tertiärregelenergie (TRE)</td><td rowspan="2">Tertiärregelenergie (TRE)
(Integrierter Markt)</td></tr>
<tr><td rowspan="3">Redispatch</td><td>International zonal</td><td rowspan="3">Pflicht zur Teilnahme für alle KWB auf Netzebene 1</td></tr>
<tr><td>International nodal</td><td rowspan="2">Pflicht zur Teilnahme für alle KWB auf Netzebene 1</td></tr>
<tr><td>National (nodal)</td></tr>
</table>

Integrierter Markt: Nutzung Tertiärregelenergiemarkt für Tertiärregelung und zonale internationale Redispatches.

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Integrierter Markt – Rückblick und Ausblick

Konsultation Konzept nodal
Konzept für nodalen Integrierter Markt

Konsultation Konzept pool
Konzept für zonalen Integrierten Markt

Konsultation Verträge
Betriebsvereinbarung KWB und Rahmenvertrag Tertiär

RD-Vertrag CH-DE
Unterschrift angepasster Redispatch-Vertrag CH-DE

GoLive Integrierter Markt 5.2.2020

2017 | 2018 | 2019 | 2020

AG Integrierter Markt
Ausarbeitung nodaler integrierter Markt

AG Integrierter Markt
Ausarbeitung vereinfachter Varianten

Start Umsetzung
Start Swissgrid internes Umsetzungsprojekt integrierter Markt

Freigabe Verträge Zustimmung ElCom
Freigabe Verträge durch Swissgrid GL. Zustimmung ElCom zum integrierten Markt

Tests Angebotsabgabe/Abrufe
Beginn Tests der Angebotsabgabe und Abrufe für TRE über ECP.

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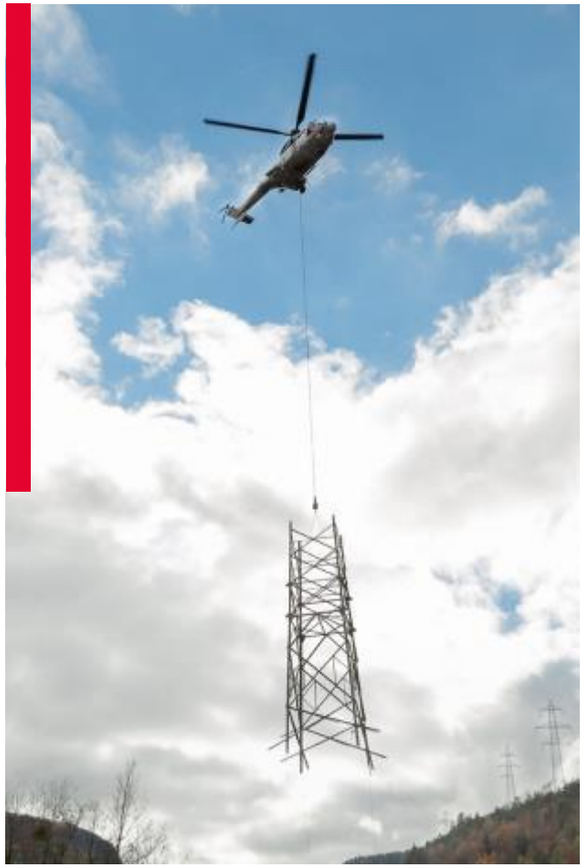
Agenda



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Integrierter Markt – Begleitmassnahmen

1. Anpassung Produktdesign TRE
2. Vereinfachung Angebotsabgabe
3. Verbesserung Transparenz
4. Anpassung Vergütung nodale Redispatches

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Begleitmassname 1/4: Anpassung Produktedesign TRE

Heute

Angebotsscheiben:
4 h

Gate Schliessung:
1 h vor Beginn Angebot

Vorlaufzeit bei Abruf:
schnell positiv/negativ: 15 min
langsam negativ: 20 min

Minimale Abrufdauer:
15 min (Sonderregelung für KKW)

Änderbarkeit Angebote aus TRL:
Nur Energiepreis kann noch angepasst werden

Maximale Menge pro SDV:
100 MW

Mit Einführung Integrierter Markt

Angebotsscheiben:
1 h

Gate Schliessung:
30 min vor Beginn Angebot

Vorlaufzeit bei Abruf:
schnell positiv/negativ: 15 min
langsam negativ: 20 min

Minimale Abrufdauer:
schnell positiv/negativ: 15 min
langsam negativ: 60 min

Änderbarkeit Angebote aus TRL:
Frei änderbar, nur die Gesamtmenge muss mindestens TRL-Zuschlägen entsprechen.

Maximale Menge pro SDV:
unbegrenzt

Begleitmassname 2/4: Vereinfachung Angebotsabgabe

	Kommunikationskanal	Web-GUI		E-Mail		ECP	Webseite
	Format	**GUI**	**csv**	**Text**	**ERRP(xml)**	**ERRP (xml)**	**csv**
Prozess	Angebote	Ja	Ja			Neu	
	Bestätigung Angebote	Ja				Neu	
	Abrufe			Ja	Ja	Neu	
	Bestätigung Abrufe			Ja	Ja	Neu	
	Veröffentlichung					Neu	Ja

- Mit Einführung des Integrierten Marktes kann der gesamte TRE-Prozess im xml-Format über ECP abgewickelt werden
- Dies erlaubt eine direkte Kommunikation mit IT-Systemen der SDV und somit eine beliebige Automatisierung der Prozesse
- ECP: Energy Communication Platform der EntsoE (https://www.entsoe.eu/data/ecp/)

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Begleitmassname 3/4: Verbesserung Transparenz TRE

Heute

Veröffentlichung Tertiärregelleistung (TRL)

- Alle Angebote und Zuschläge
- Direkt nach der Auktion
- Auf der Webseite

Veröffentlichung Tertiärregelenergie (TRE)

- Gesamtmenge und Durchschnittspreis
- Verzögerung von mehreren Wochen

Veröffentlichung Redispatch

- Alle Redispatchmassnahmen
- Auf der Webseite

Mit Einführung Integrierter Markt

Veröffentlichung Tertiärregelleistung (TRL)

- Keine Veränderung gegenüber heute

Veröffentlichung Tertiärregelenergie (TRE)

- Alle Angebote und Abrufe
- Einmal pro Stunde mit aktuellsten Daten
- Auf der Webseite und Versand an alle SDV über ECP

Falls es in einer Stunde hohe Preise gibt, haben die SDV die Möglichkeit, für die nächste Stunde zusätzliche Angebote abzugeben

Veröffentlichung Redispatch

- Keine Veränderung gegenüber heute

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Begleitmassname 4/4: Anpassung Vergütung nodale Redispatches

Heute

Vergütung für TRE-Abrufe

- Gemäss angebotenem Preis

Vergütung für Redispatch-Abrufe

- Leistungserhöhung: Durchschnitt der 10 teuersten Stunden SwissIX-DA der Vorwoche
- Leistungsreduktion: 70% des SwissIX-DA der jeweiligen Stunde

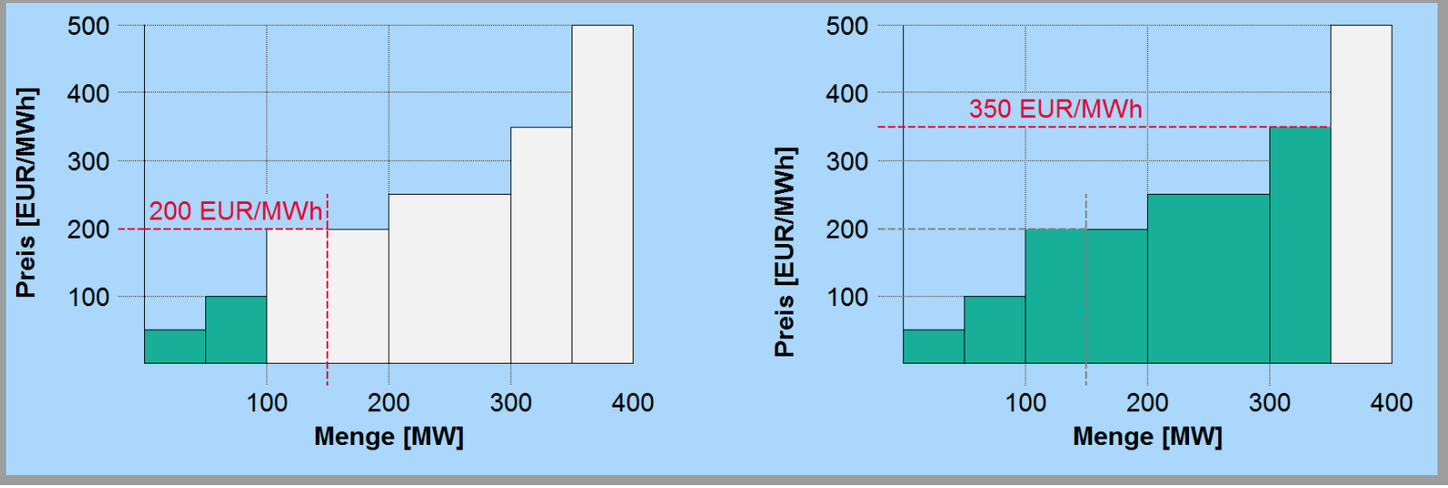
Mit Einführung Integrierter Markt

Vergütung für TRE-Abrufe (für Tertiärregelung und zonale Redispatch)

- Gemäss angebotenem Preis

Vergütung für nodale Redispatch-Abrufe

- Median der günstigsten TRE-Gebote bis zur Menge der beschafften TRL-Menge
- Mindestens teuerster TRE-Abruf der laufenden Stunde



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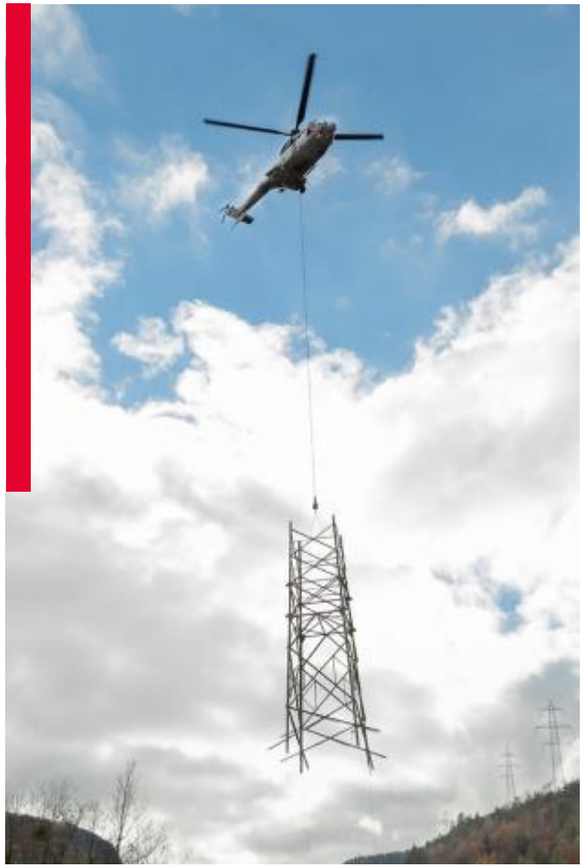

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Zusammenfassung

Zweck		Heute	Integrierter Markt
Tertiärregelung	**Leistung (Vorhaltung)**	Tertiärregelleistung (TRL)	• Keine Veränderung gegenüber heute
	Energie	Tertiärregelenergie (TRE)	Tertiärregelenergie (TRE) (Integrierter Markt) • Anpassung Produktdesign TRE • Vereinfachung Angebotsabgabe • Verbesserung Transparenz
Redispatch	**International zonal**	Pflicht zur Teilnahme für alle KWB auf Netzebene 1	
	International nodal		Pflicht zur Teilnahme für alle KWB auf Netzebene 1 • Anpassung Vergütung
	National (nodal)		

Integrierter Markt: Nutzung Tertiärregelenergiemarkt für Tertiärregelung und zonale internationale Redispatches.

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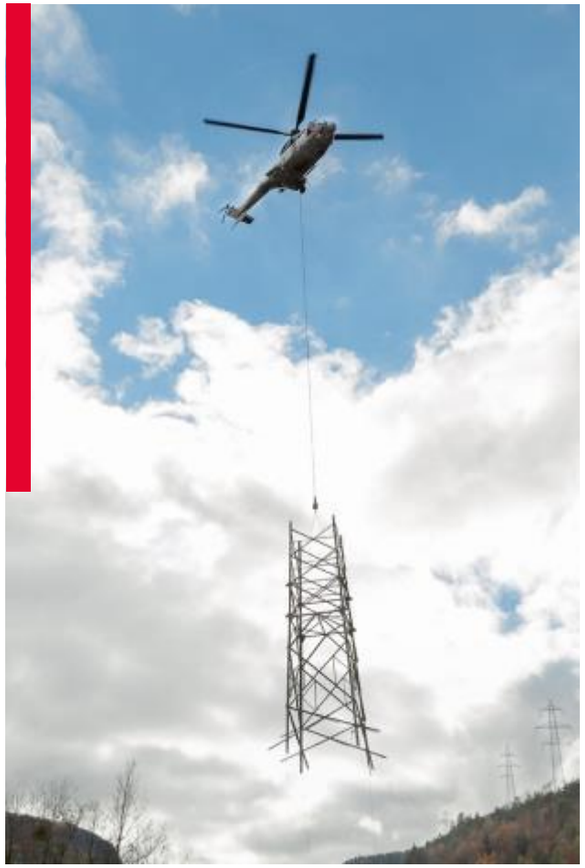
Agenda



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Relevante Themen für BGV - Transparenz TRE-Markt

Neu:

- TRE-Gebote gelten nur noch für 1h
- Gate-Schliessung um H-30
- Veröffentlichung aller Gebote und Abrufe stündlich um hh:05

Diskussion: Was bringt das für die BGVs?

- Bessere Anreize für eine funktionierenden TRE-Markt -> tiefer Ausgleichsenergiepreise
- Transparenz über aktuelle TRE-Preise
- Keine vollständige Transparenz zu aktuellen Ausgleichsenergiepreisen

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Relevante Themen für BGV - Ausgleichsenergiepreis

Auszug BG-Vertrag Anhang 1

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

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 area[4].
5. If the price $(A+P_1)$ results in a negative price, the alpha factor α_1 will be replaced by the alpha factor α_2. If the price $(B-P_2)$ results in a negative price, the alpha factor α_2 will be replaced by the alpha factor α_1.

[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.

Bei gleichzeitigem Bedarf für verschiedene Zwecke gilt: Der Schweizer Bedarf hat Priorität und bekommt die günstigeren Angebote.

Beispiele zur Diskussion

- Verschiedene Bedarfs-Arten («Schweizer Bedarf»)
- Verschiedene Zeitpunkte («gleichzeitig»)
- Netting («gleichzeitiger Bedarf in verschiedene Richtungen»)

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Breakout Session: Balance group contracts: comparison of Switzerland and Germany

Julian Häusler, Marc Rüede, Marko Pranjic, Thomas Hauri

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Declaration of energy quantities in Germany

Balance group EIC	**FC-Prod** Max. power MW	**FC-Cons** Max. work MWh/week	**FP-Export*** Max. power MW	**FP-Export (optional)** Max. work MWh/day
11X…				
11Y…				

- Binding declaration of energy quantities and powers for scheduling
- Notification requirement for increases from 20% (minimum 10 MW; 240 MWh/day; 2.000 MWh/week)
- The declaration is made at least 5 days in advance

Source: Transnet BW

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Declaration of energy quantities in Switzerland

Balance group EIC	FC-Prod • Min. power (MW) • Max. power (MW)	FC-Cons • Min. consumption (MW) • Max. consumption (MW) • Every 1/4 hour consumption forecast in TPS (MW)	FC-Trading • Max. Trading volumes per quarter (MWh)
11X…			
12X…			

What the BGs think about a production forecast in TPS as a time series?

Source: Transnet BW

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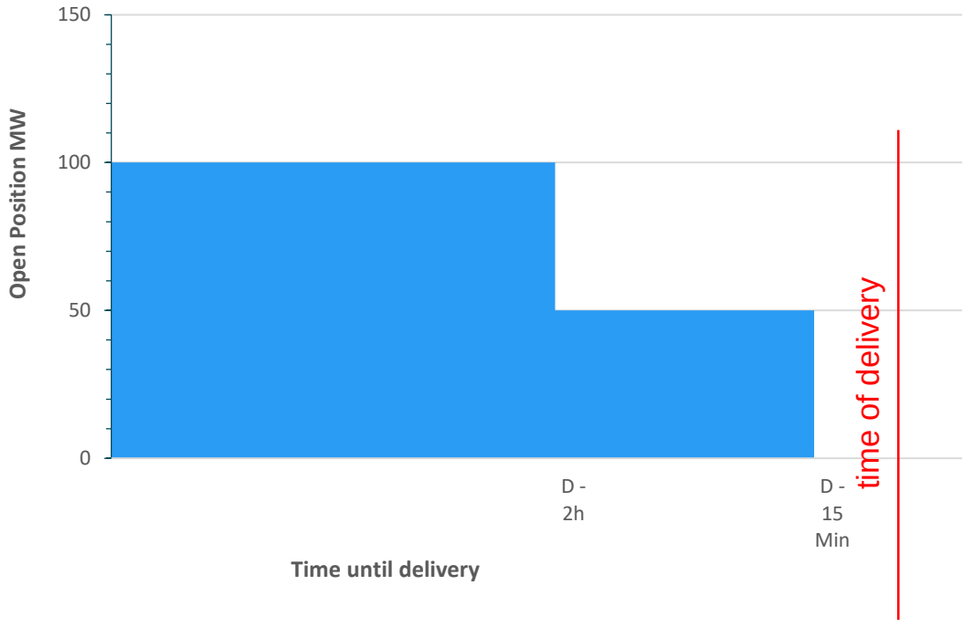
Intraday – Open positions in Germany

EXAMPLE FOR BG WITH 1.000 MW EXPORT



- Remains unchanged: Day-Ahead scheduling only with balanced fifteen-minute power report
- New: Intraday nomination of schedules may temporarily be unbalanced based on the following criteria:
  - In the period of more than 2 hours until the time of delivery: Up to 10% of the max. Export
  - In the period of 2 hours to 15 minutes prior to the time of delivery: Up to 10% of the max. Export, but to a max. of 50 MW.
  - In justified cases, the BRP may also register higher values with the TSO using Annex 8

Source: Transnet BW

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Intraday – Open positions in Switzerland

Limit 1: DA bis D-2h [MW] (long/short)	Limit 2: D-2h bis COT ID [MW] (long/short	Limite : COT IT und PS [MW] (long/short)	Collateral [EUR]
10	10	10	100 000
25	10	10	200 000
50	25	10	400 000
100	25	10	550 000
200	50	10	850 000
300	75	10	1 100 000
400	100	10	1 400 000

Source: Transnet BW

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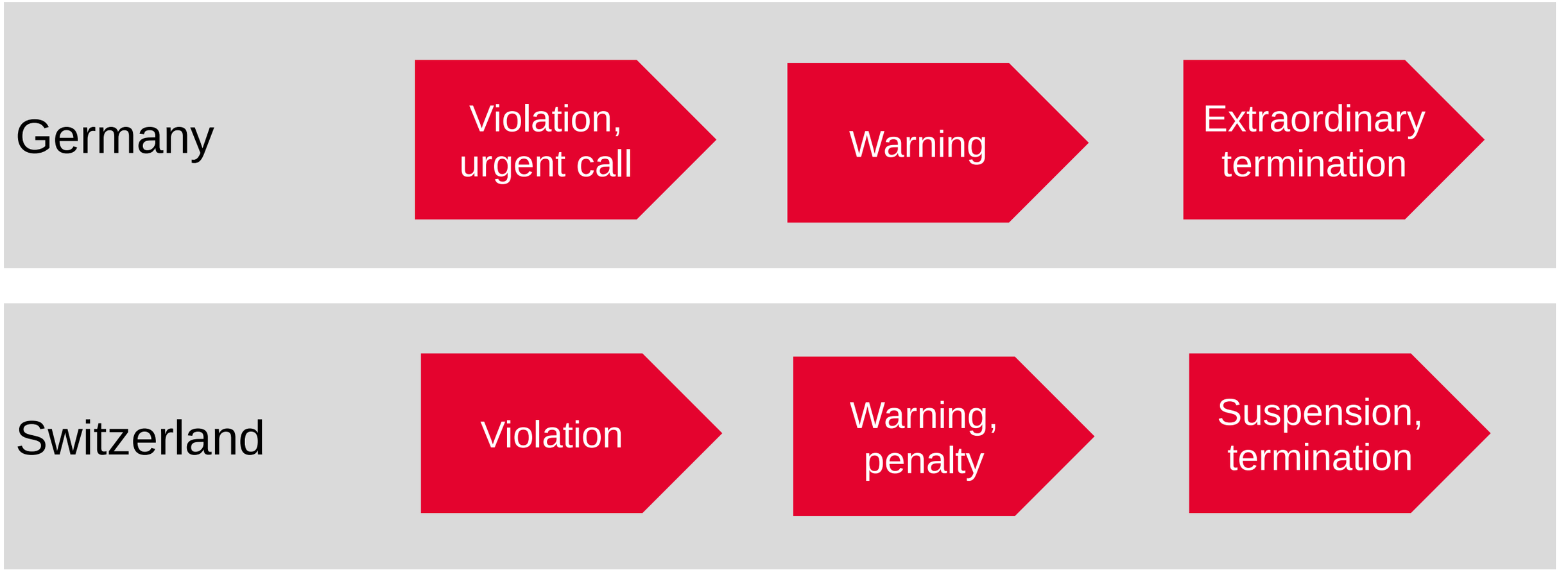
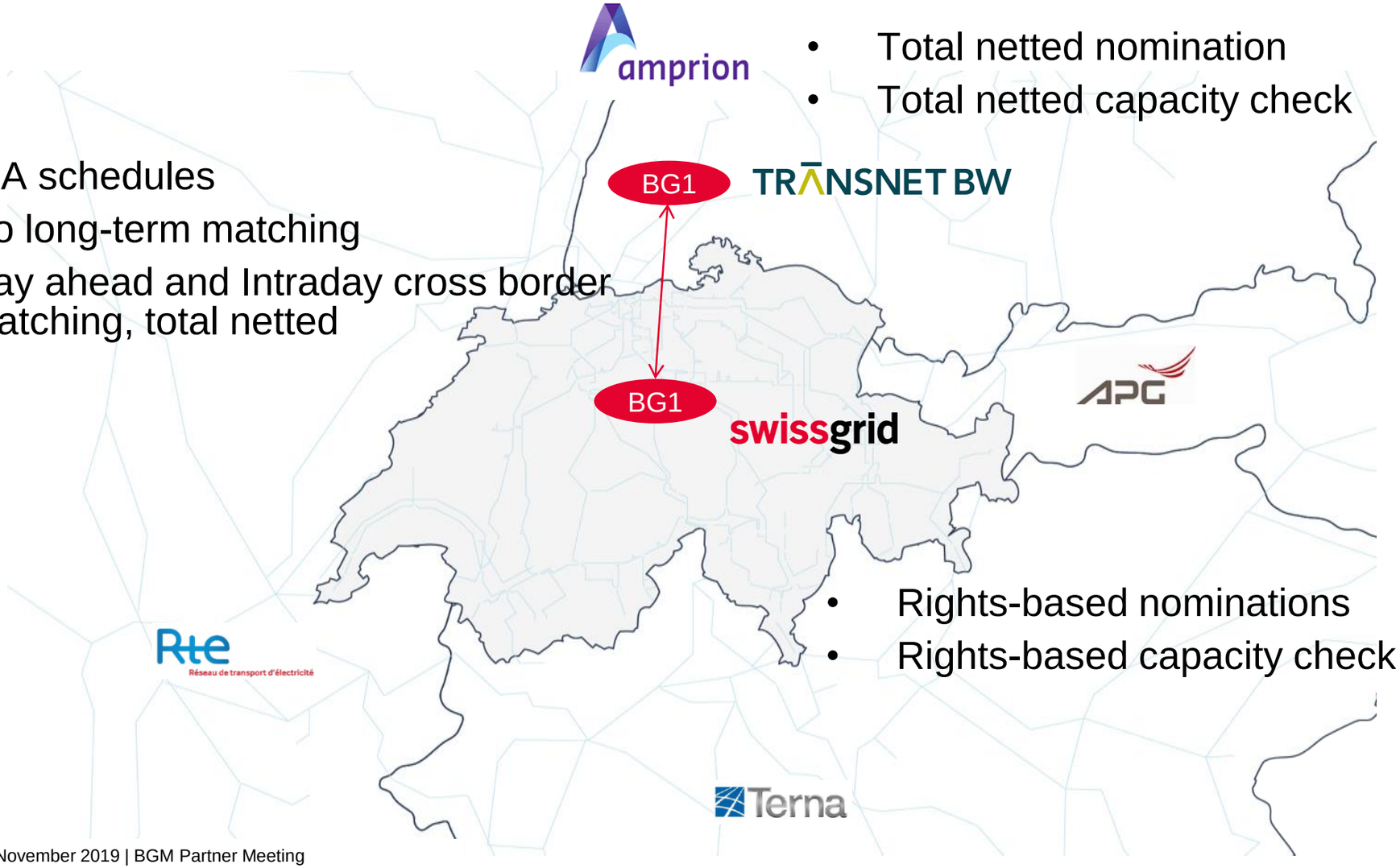
Escalation levels in Germany vs Switzerland



Rights based nominations in CH vs total netted nomination in DE
Experiences, improvements?

- A:A schedules
- No long-term matching
- Day ahead and Intraday cross border matching, total netted



- Total netted nomination
- Total netted capacity check

- Rights-based nominations
- Rights-based capacity check

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Secure communication
Experiences, improvements, preferences?

Today

- E-Mail/FTP in Switzerland vs signed email in Germany

In the future:

- ECP (Energy Communication Platform) in Switzerland vs signed encrypted email in Germany

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Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Bundesamt für Energie BFE
Office fédéral de l'énergie OFEN
Ufficio federale dell'energia UFE
Swiss Federal Office of Energy SFOE

CURRENT REGULATION OF THE SWISS ELECTRICITY MARKET

CONTENTS

ELECTRICITY SUPPLY ACT / ENERGY ACT
SOME HISTORY

- Electricity Supply Act dates from July 15th 2007 → New elements in Energy Act
- 2011: Start of work on revision of Electricity Supply Act
- Mid 2011: Energy Strategy ES2050 → revision Electricity Supply Act on hold
- 2013: Federal Council submits ES2050 to parliament (Energy Act)
- 2014: Revision El'Supply Act taken up again / Consultation on second step market opening
- 2017: KELS failed in Parliament / new Energy Act approved after referendum
- October 17th 2018 – January 31st 2019: Public consultation of Revision of El'Supply Act

ELECTRICITY SUPPLY ACT: CONSULTATION; MAIN OBJECTIVES AND MEASURES

Market

- **Full market opening** treats all end consumers equally and guarantees freedom of choice. This creates a more flexible pricing process and product innovation.
- Swiss electricity as **default for basic supply**, each provider can offer other products in addition (proof by guarantees of origin).
- **Storage reserve** (focus on energy) in addition to the energy-only market: ensures availability of electricity in unforeseeable situations.

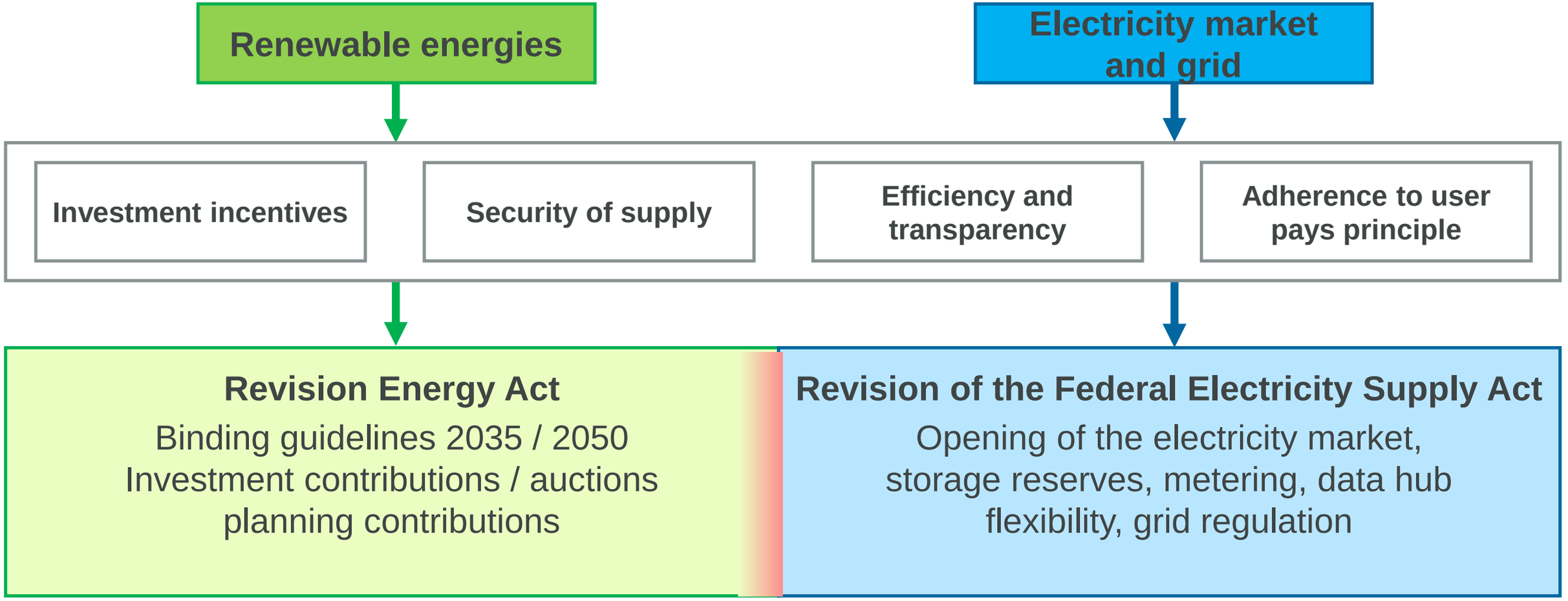
Grid

- **Sunshine regulation** improves transparency and serves as a possible starting point for incentive regulation.
- **Power component** in grid tariffs will get more weight, according to the user pays principle.
- **Flexibility**: use of rights for owner of installations, condition for developing a new market.
- Free choice of the provider for **measuring electricity consumption and feed-in** to improve competition and quality of the service.

DECISION OF FEDERAL COUNCIL SEPT. 27th 2019
HOW TO PROCEED…

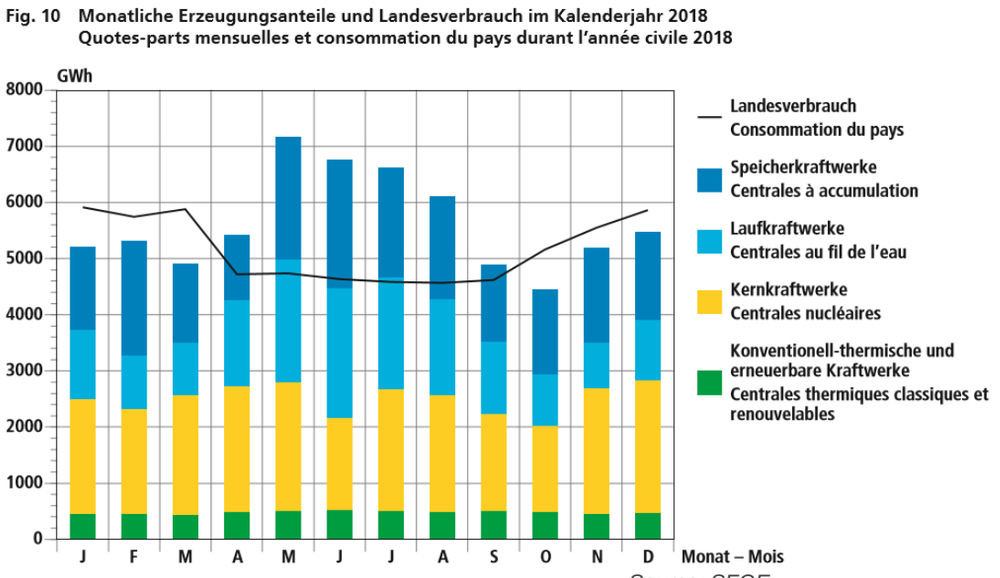
- Results of consultation on Electricity Supply Act published (report).
- Federal Council remains committed to full opening of electricity market, but it must be accompanied by additional measures to support and strengthen domestic renewable production.
- By the first quarter of 2020, DETEC has to submit the parameters for the opening of the electricity market to the Federal Council.
- At the same time, the Federal Council will decide on how to proceed with all other measures contained in Revision of Electricity Supply Law (in particular regulations for metering and for a data hub)
- Similarly, by the first quarter of 2020, DETEC has to submit a draft bill for the revision of the Energy Act (public consultation).

OVERVIEW ENERGY AND EL. SUPPLY ACT
TARGETS AND MAIN MEASURES

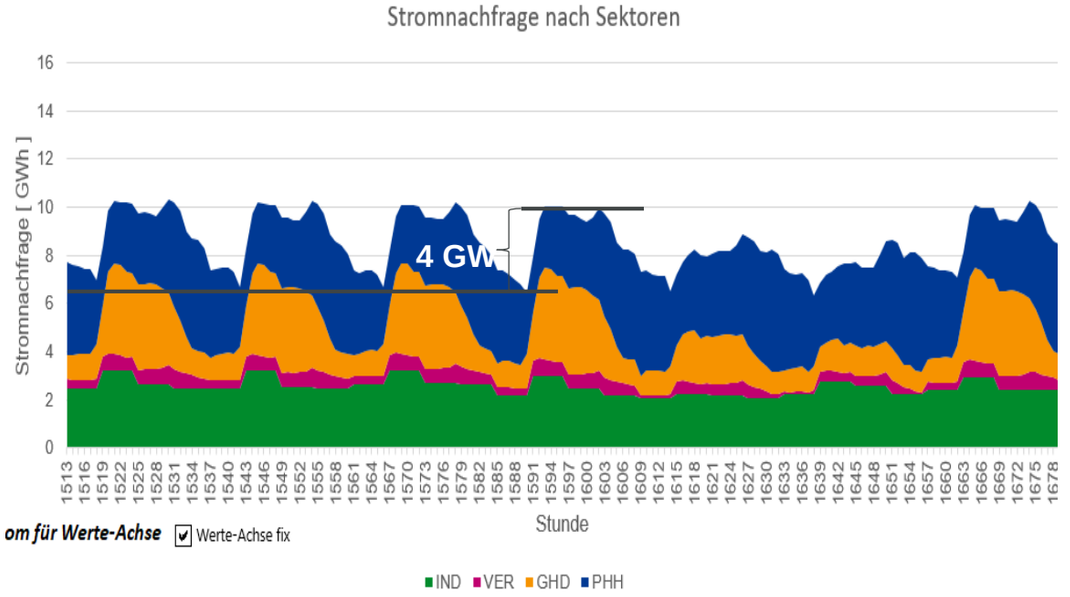


CONTENTS

SECURITY OF SUPPLY
WHY A SYSTEM ADEQUACY APPROACH…



Source: SFOE



Source:: Prognos (WWB, 2022, Standard)

- Seasonal energy balance
- Volatility of production from renewables not taken into consideration
- Electricity grid not taken into consideration

- Integrated viewpoint of generation, grid, consumption
- Analysis of **hourly output** necessary

UPDATE OF SYSTEM ADEQUACY ANALYSIS 2019
FINDINGS FOR EUROPE

- No significant long-term security of supply problems in Europe if expansion takes place as planned in both Switzerland and the EU
- Main driver for security of supply problems in later years will be timely coordination of consumption and generation
- However, scope of problems in the reference and phasing out scenarios (Germany, France) minimal, although this is chiefly a **power** problem and not an energy problem

UPDATE OF SYSTEM ADEQUACY ANALYSIS 2019
FINDINGS FOR SWITZERLAND

Scenarios/variants	2025	2030	2035	2040
Reference scenarios	✓	✓	✓	✓
Reference scenarios with susceptible points	✓	✓	✓	✓
Quick RE (renewable energy) expansion (PV) in CH	✓	✓	✓	✓
Phasing out of coal in DE (partly compensated)	✓	✓	✓	✓
Early reduction of NPP in FR (from 2030, partly compensated)	✓	✓	✓	✓
Phasing out of coal in DE **and** early NPP reduction in FR	✓	✓	✓	✓
Increased electrification **(by way of example)**	✓	✓	?	?
Combination of variants (early NPP reduction in FR, phasing out of coal in DE and greater electrification, with susceptible points) **(by way of example)**	✓	✓	?	?

Thank you for your attention!

Contact:
Florian Kämpfer, PhD
Project Lead Rev. StromVG/EnG
Swiss Federal Office of Energy SFOE
florian.kaempfer@bfe.admin.ch

Updated version of VSE document «Balancing Concept Switzerland»

Theodoros Sevdas
Senior Specialist Capacity and Congestion Management Market

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The Balancing Concept CH describes the main aspects and functioning of the Swiss electricity market with a focus on balancing management

The document addresses all national and international market participants active in the production, trade or supply of electricity in Switzerland

The Balancing Concept CH was first published in 2006 and since then only been modified slightly (in 2012)

The Balancing Concept describes the basic principles of three important aspects:

- Balance group model in Switzerland
- Schedule management
- Metering data management

As the document describes the basic functioning of the Swiss electricity market

…it can be very useful as a first source of information for new market participants or staff entering the sector
…the focus should be on compact and unambiguous delivery of information

It was necessary to review and adapt the document!

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Swissgrid and the Swiss Electricity Association (VSE) have thoroughly reviewed the Balancing Concept CH and consulted with balance groups

- The descriptions of the relevant roles and their specific functions have been clarified
- The necessary amendments and updates have been made to Swiss legislation and other «Branchendokumente»
- Content overlaps with the Transmission Code CH have been eliminated in order to focus on balancing topics
- All aspects of ancillary services aspects not related to balancing or scheduling have been moved to the Transmission Code CH
- The document that was proposed for consultation is significantly shorter, better structured and more comprehensible

The Balancing Code CH was consulted from 15 July – 13 September 2019

- It was the first time that the newly implemented Swissgrid consultation platform was used
- 15 companies and associations registered to the consultation platform
- Seven companies actually commented or proposed amendments:

  - These were mainly proposals to improve and further detail the graphical overviews
  - Some asked for clarification regarding balance groups «best effort» obligation to be balanced at all times
  - Some parties asked for clarification on the «legal significance» of the S-DAT CH

- Swissgrid has evaluated the input internally and with experts of the dedicated VSE working group
- Submission to Board of Directors of Swissgrid and VSE

→ Final approval expected **in May 2020**

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Thank you for your participation

Presentations are available on Swissgrid website:
https://www.swissgrid.ch/en/home/customers/topics/bgm.html#operational-documents

Please participate in our online survey by 1 December 2019
https://de.surveymonkey.com/r/BGM-2019
Password: meeting2019

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