USERS' GROUP

WG EMD-SO

Nov 27, 2020

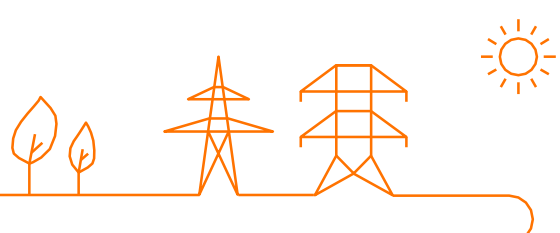
Agenda

European Market Design

1. ALEGrO integration and flow-based plain (Gilles)
   - Updated ramp-up approach in ID and DA and planned outage
   - First operational results
   - Learning of parallel run
   - Relation with flex-in-market concept proposed by Elia Group (Benjamin)
2. CEP70: status on BE level (and EU if relevant info is available) (Steve)
3. Intraday improvements: status and next steps (Jean-Michel)
4. Elia position on Long Term Transmission Right remuneration in case of decoupling (Steve)
5. Outlook 2021 and further (Benjamin)

System Operations

1. Emergency and restoration: status (Peter)
2. Outlook 2021 and further (Peter)



European Market Design

ALEGrO integration and flow-based plain

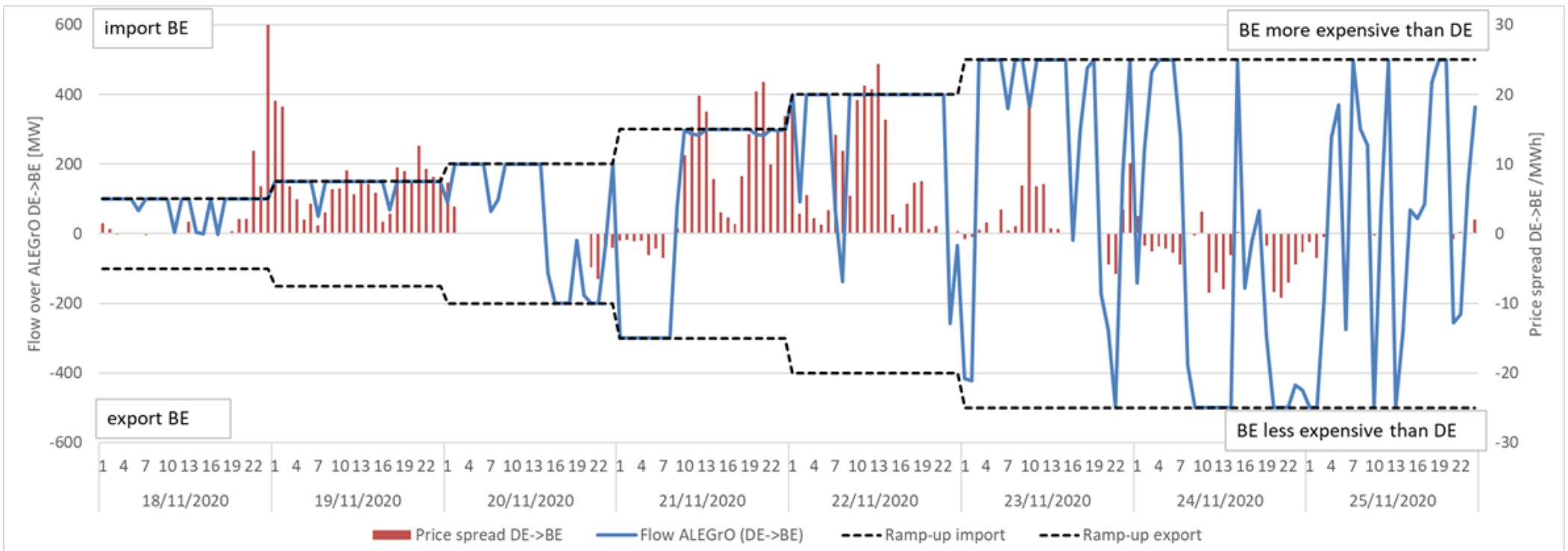
ALEGrO – updated ramp-up approach and planned outage

There will be a scheduled unavailability of ALEGrO from 14/12 to 23/12 (as published on ETP and the Elia website). To accommodate for this planned outage, the ID ramp-up will be sped up.

Business day	04/11-17/11	18.11.2020 – 30.11.2020						01.12.2020 - 05.12.2020					08.12.2020 – 31.12.2020											01.01.2021 – 31.01.2021
[Date]		18	19	20	21	22	23-30	01	02	03	04	05												
DA-Capacity MW	0	100	150	200	300	400	500	600	700	800	900	1000	full (up to 1000 MW)											full (up to 1000 MW)
ID-Capacity	0	0						0					8	9	10	11	12	13	14	15	16	17	18	full ATC leftover (up to 2000 MW)
													200	400	600	800	1000	2000	Ramp up completed					
ID Capacity Increase/Decrease Process	Not applicable	Not applicable						Not applicable					Not applicable											As of 07.01.2021

ALEGrO – feedback from first week of commercial operation

- Successful commercial go-live, capacities in DA be released according to the announced ramp-up approach.
- First effects of the Evolved Flow Based implementation already visible, in about 10% of the time non-intuitive flows were observed.

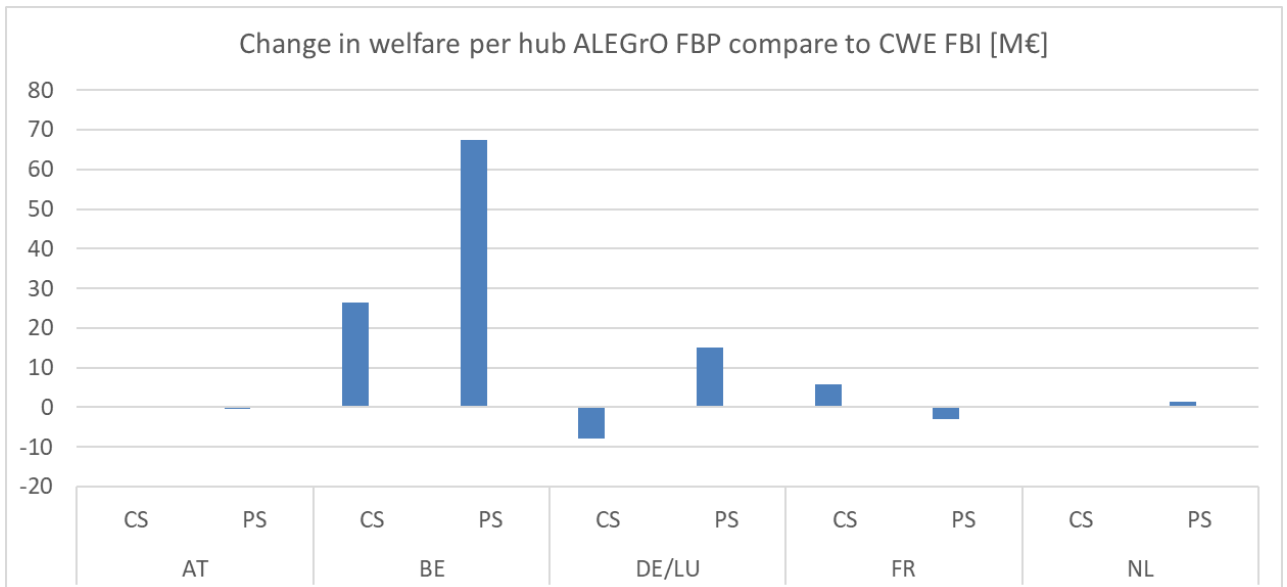


ALEGrO feedback on parallel run

The external parallel run of ALEGrO is almost done.

- The last FB domain of the parallel run was published on 17/11. Some FB domains have been republished to address issues with the input data.
- The final market results will be published in the coming weeks.

During the period of the ALEGrO parallel run, over 100 M€ welfare was generated. Both Belgian consumers and producers benefited.



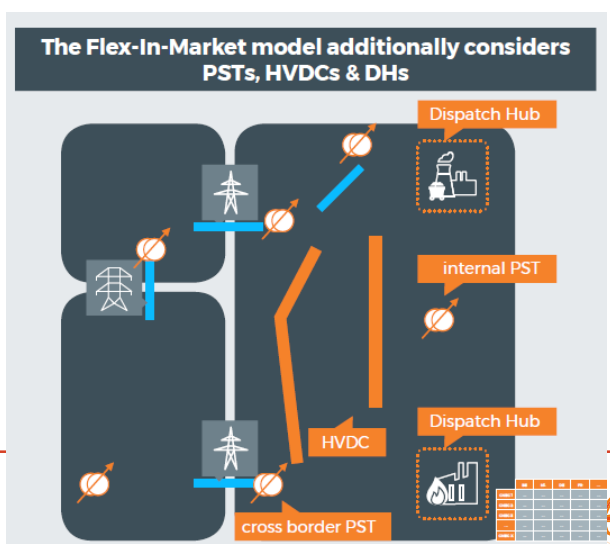
Data until 24/10

ALEGrO as first step of our flex-in-market proposal

- With ALEGrO, for the first time a HVDC link is optimised within the market
  - Flows can be “steered”, maximising the utilisation of the grid and hence maximising the welfare creation
  - The parallel run hints towards welfare gains of up to 250 MEUR/year

- **We have the ambition to extend this approach further, by creating consensus about our flex-in-market design in 2021**

- Further insights are planned to be shared in the coming months, based on the stakeholders’ feedback collected during 2020

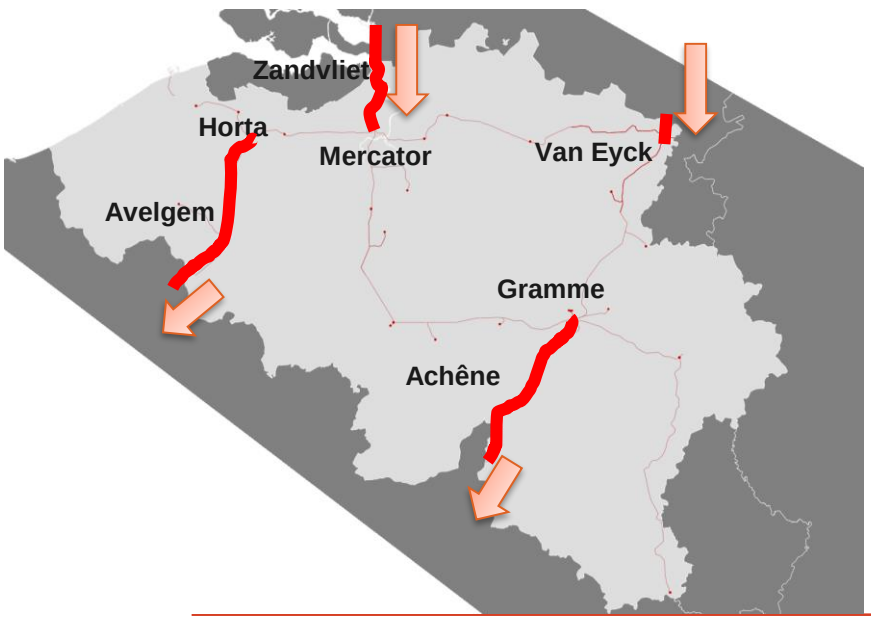


CEP70: status on BE level

CEP70: impact of derogation for excessive loopflows

Derogation on LF is triggered in ~10% of cases[1]. Big variation throughout the grid as expected

- PSTs Zandvliet, Zandvliet > Doel, Horta > Avelgem, Achene > Lonny: 40-75% of cases
- Doel > Merca, Avelgem > FR, Maasbracht > VanEyck: ~20% of cases
- Other lines: less than 10% of cases, almost never in south to north direction



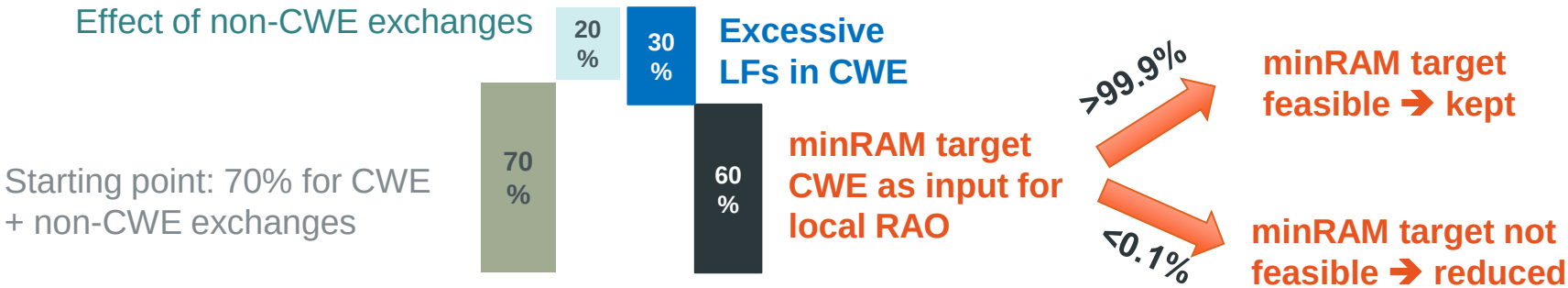
Average reduction in capacity (MACZT target) due to excessive LFs for top 10 CNE most impacted by LFs

CNE	% cases LF derogation active	AVG_LF_Excessive_Perc	AVG_MACZT_Given_Perc
BHORTA1 BAVLGM1 DI 380 101	62%	11.92	58.05
BZANDV1 BDOEL 1 DI 380 25	75%	11.92	58.10
BZANDV1 BDOEL 1 DI 380 26	70%	9.83	60.18
BACHEN1 XAC_LO1 DI 380 19	48%	5.08	64.89
BZANDV17 BZANDV15 ZANDV380 D 1	49%	4.16	65.85
BZANDV18 BZANDV16 ZANDV380 D 2	47%	3.73	66.27
BGRAMM1 BACHEN1 DI 380 10	40%	3.48	66.47
BAVLGM1 XAV_AV1 DI 380 80	26%	2.44	67.53
BVANYK18 BVANYK16 VANYK380 D 2	14%	1.10	68.61
XKR_ZA1 BZANDV1 DI 380 29	23%	1.21	68.79

1) Cases = for a particular CNE, the aggregation across all CNEC combinations and across all MTUs of the reporting period

Period: Apr 1 – Sep 9

CEP70: performance of local CEP tooling



When the local tooling runs smooth we have excellent results i.e. meeting targets > 99.9% of time. Only in very few occasions the minRAM for CWE has to be reduced

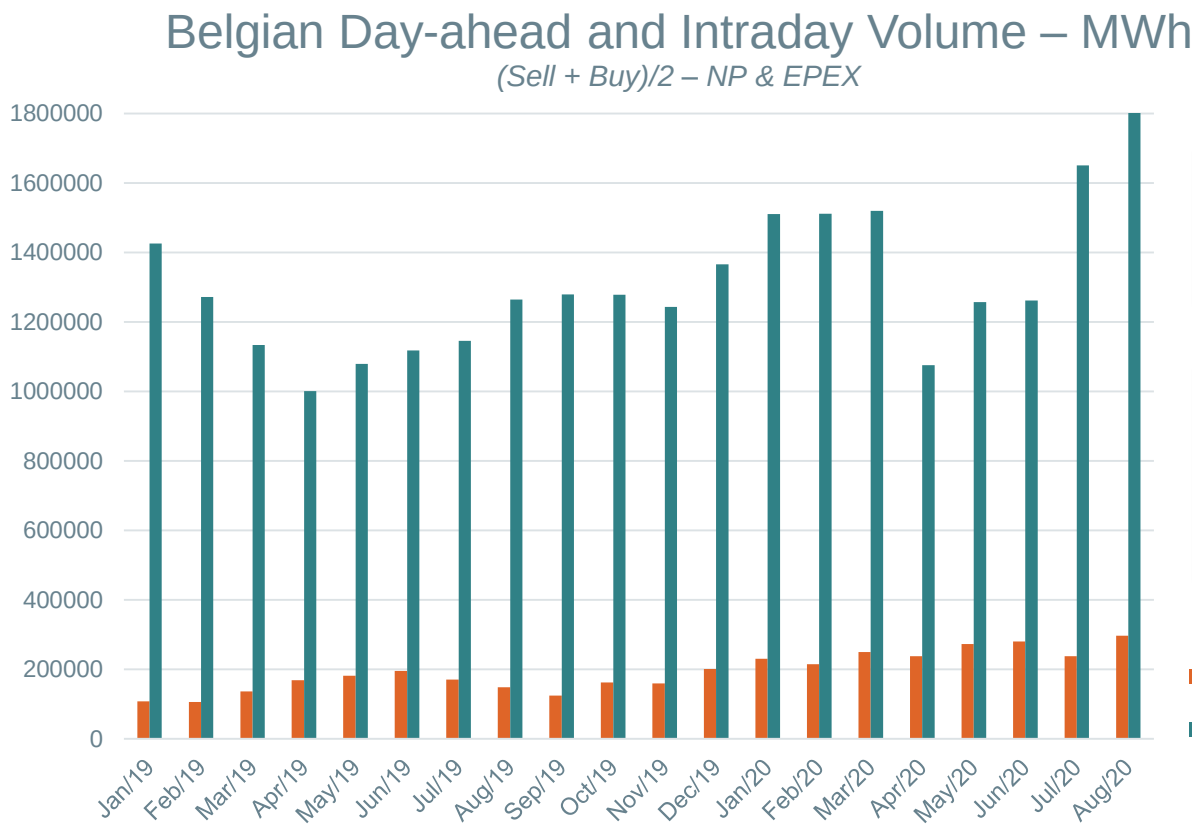
- This happened on Avelgem-Horta and Doel-Mercator corridors, which Elia is upgrading and hence were influenced by outages cf. https://www.elia.be/en/grid-data/transmission/unavailability-of-grid-components-380-220-kv
- On average the reduction was ~5% on Avelgem-Horta and ~2% on Doel-Mercator

Fallback: yet our local tooling is a non-industrialized solution (is being industrialized in the light of Core), leading sometimes to a failure and the application of 20% minRAM

- Sometimes for a few CNECs and/or few MTUs, sometimes for all CNECs on all MTUs
- This happened for ~20 BDs between Apr 1st and Nov 25

Intraday improvements: status and next steps

Intraday improvements - volume



Intraday: 01/2019 - 08/2020:
→ **176%** volume increase

01/2019 - 12/2019:
→ ID = 11% DA = 89%
01/2020 - 08/2020:
→ ID = **15%** DA = 85%

Intraday improvements - MTU

8 December 2020:

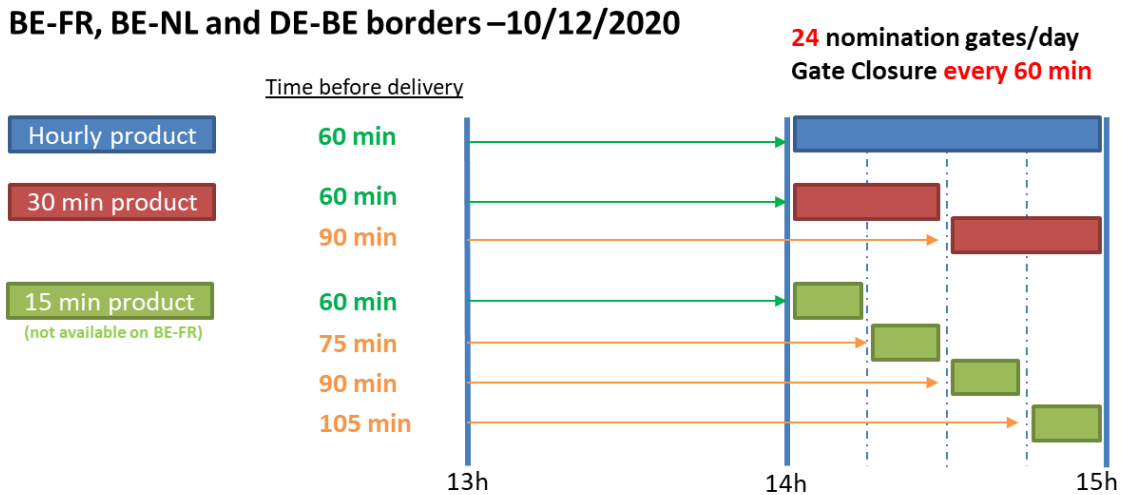
- BE-DE in XBID (60 min)

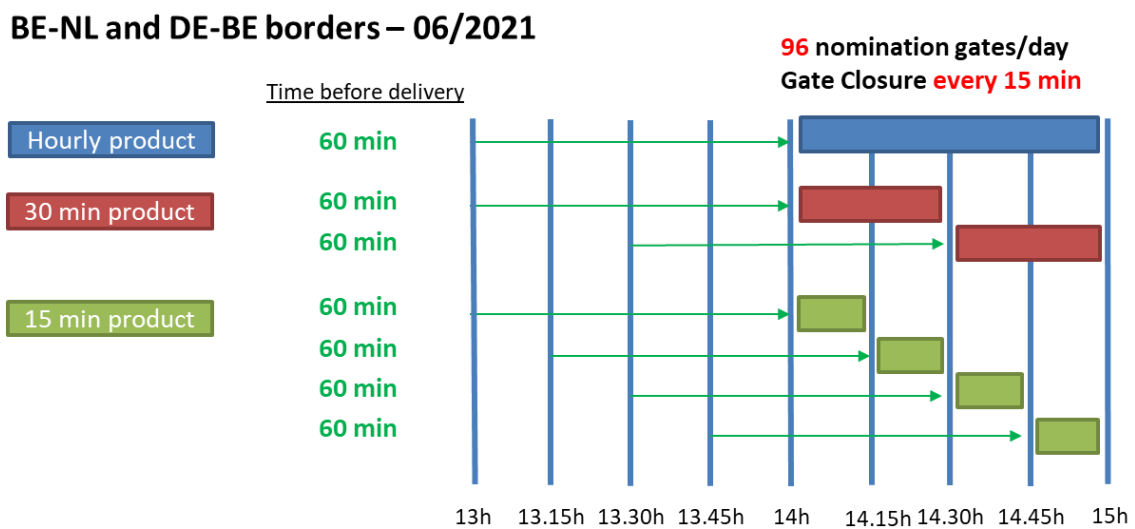
10 December 2020:

- Activation 15’ and 30’ XB products
- BE-NL, BE-DE, NL-DE 15 min
- BE-FR 30 min

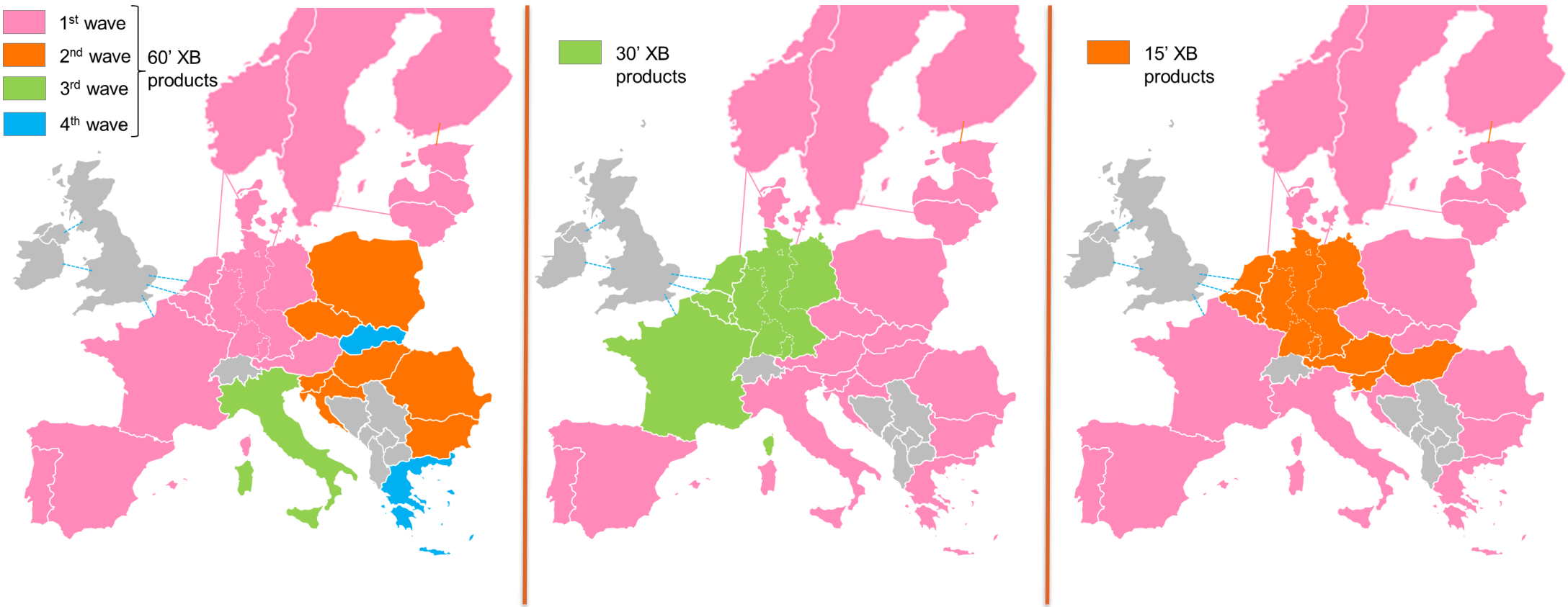
2021

- 48/96 gates (closer to RT)

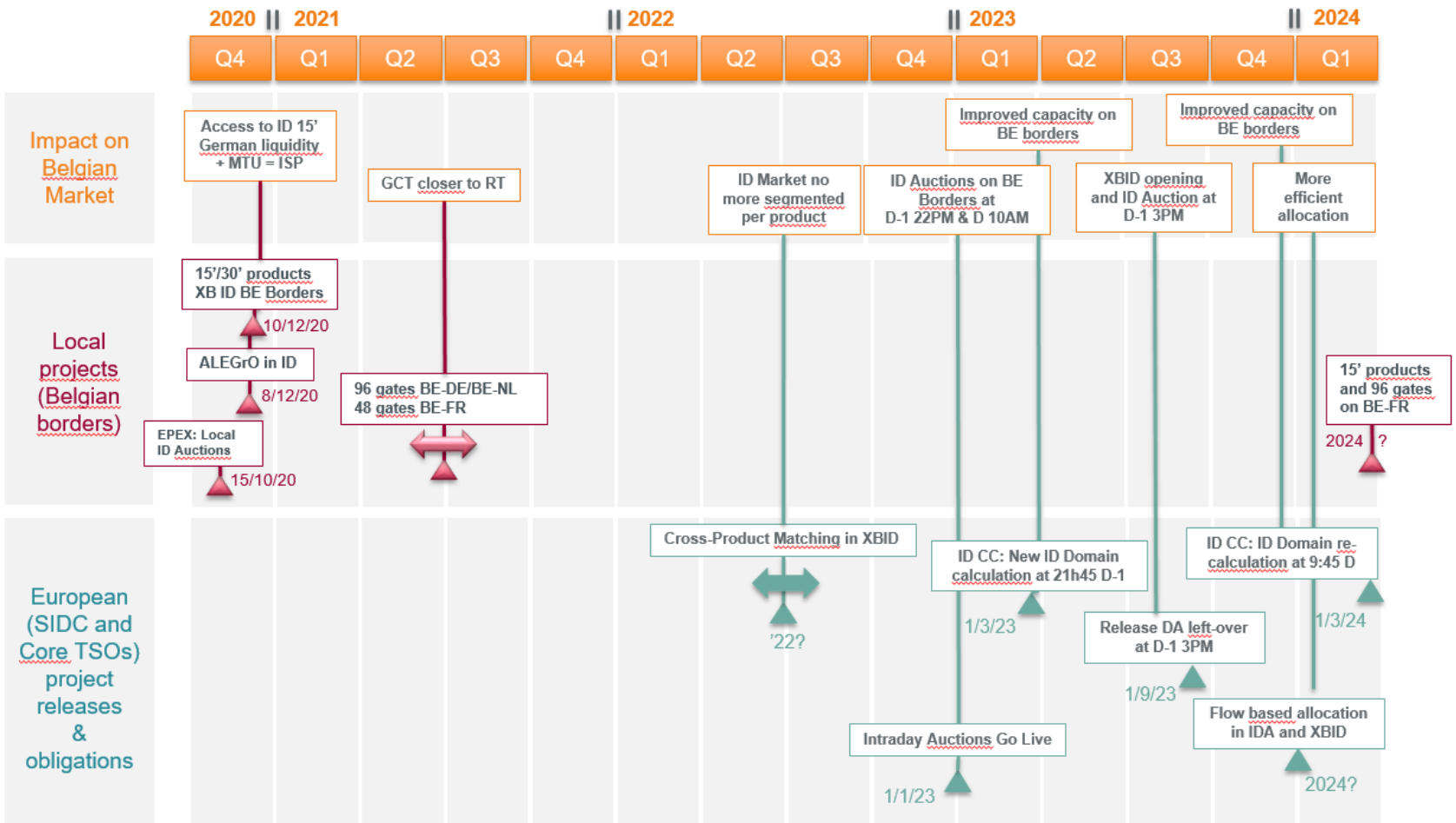




Intraday improvements – Waves and markets



Intraday improvements – High level planning



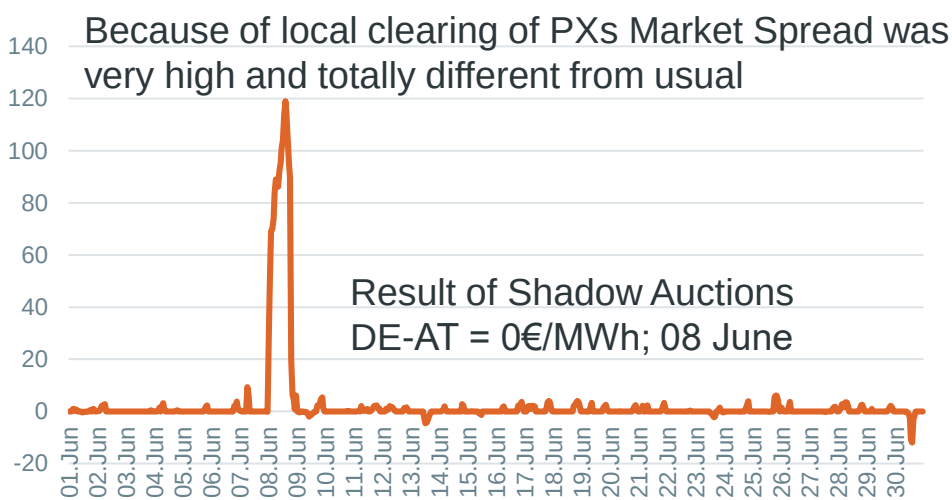
Elia position on Long Term Transmission Right remuneration in case of decoupling

Elia's position on LTTR remuneration in case of decoupling

Decoupling incident June 2019 created a deficit. On CWE borders it was 15 M€[1]

- Current FCA regulation: LTTRs are to be remunerated based on "DA market spread"
- LTTR remuneration was 30x higher than shadow auction income: 15.4 M€ vs. 0.5 M€

Market Spread DE>AT for June 2019



Worst-case such fallback event would cost society hundreds of millions of €!

Example for DE-AT border			
Process	**Alloc. Cap./h**	**Avg. Price**	**Cost**
LT DE>AT (Total)	4.900 MWh	70,98 €	~8.4 M€
Shadow Auctions	1000 MW	0 €	0

Bad case day	4.900 MWh	300 €	~35 M€
Worst case day	4.900 MWh	3.000 €	~350 M€

1) ~2.5 M€ on BE borders

Elia's position on LTTR remuneration in case of decoupling

Current regulation contains a market design flaw

- Hedging products aim to reduce the exposure to the fluctuation of the day-ahead transmission capacity price, namely market spread (i.e. congestion rent) in case of market coupling
- Current LTTRs remuneration mechanism **in case of decoupling** is not in line with the principle of "hedging" as **market spread is no longer representing the value of DA cross-border capacity**
- This leads to **windfall profits for LTTR holders at expense of society** whilst TSOs will be incentivized to **lower the amount of LTTRs** they put on the market

All TSOs proposal: compensate LTTR holders with the shadow auction price

- **Based on the market conditions** that apply in this situation for capacity
- Incentivises market participants to fully participate in the shadow auctions
- The market participant **hedges in a physical way** e.g. buy and nominate transmission capacity allowing the market participant to procure energy in the "cheaper" bidding zone and transfer this to the more expensive bidding zone
- **Solves the aberration of undue money transfers** from tariff payers to market parties

Outlook 2021 and further

Outlook 2021 and further

Long-term

- 2021: decision process LT capacity calculation methodology & consultation block bids

Core day-ahead flow-based market coupling

- ~Q1 2021: stable external // run (7BDs/week)
- February 2022: go-live

Coordinated redispatching

- Mid 2023: minimum coordinated solution to solve congestions after day-ahead

CEP 70%

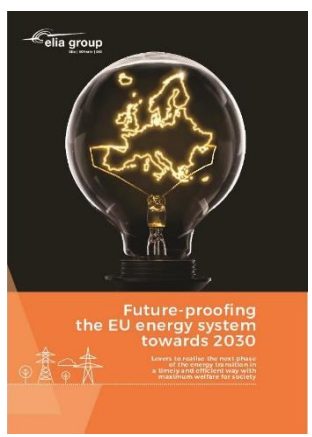
- 2021: Improved robustness of our process
- 2022: Decreased impact thanks to Core go-live
- Mid-2023: no derogation expected

Intraday

- 2021: 48/96 gates on BE borders
- 2022: cross-matching
- 2023: Intraday auctions
- February 2023: ID capacity calculation
- 2024: flow-based allocation

Flex-in-Market

- 2021: enhance our insights and create wide consensus around the way forward



System Operation

Emergency and restoration: status

Emergency and restoration: netcode implementation status

NCER document	To Approve by	Status	Next steps
Terms & Conditions for Restoration Service Providers (black start)	Creg	V 1.01 Approved	V 2.0 to be submitted by 01/03/2021
Rules for suspension and restoration of market activities and rules imbalance settlement during market suspension	Creg	V 1.0 Not approved	V 1.01 to be submitted
Test Plan	Minister	V 1.0 Partially approved	V 1.01 submitted 30/10/2020.
System Defense Plan (SDP = reviewed reddingscode)	Minister	V1.01 approved (under certain conditions) for a period of 2 years	V 2.0 to be submitted by 19/12/2021
Restoration Plan (RP = reviewed reconstruction code)			
List of SGUs identified for defense and restoration plan			
List of High priority SGUs for defense and restoration plan	Minister	V 1.01 partially approved	V 2.0 was submitted 19/06/2020

Emergency and restoration: Testplan

Apparatuur en geschiktheden die moeten worden getest	SBP,het HP of NC ER	Periodiciteit van de tests
Black-Startdienst	HP	3 jaar
Bestaande installaties	SBP + HP	Eenmalig tijdens het aansluitingsproces
Communicatiesystemen van ELIA, RSP's, publieke DSB's, CDSO en SNGs HP	NC ER art. 48.1	1 jaar
Reservestroomvoorziening van communicatiesystemen van ELIA, RSP's, publieke DSB's, CDSO en SNGs HP	NC ER art. 48.2	5 jaar
Notificatiesysteem voor systeemtoestanden	SBP en HP	1 jaar
De gelimiteerde frequentiegevoelige modus voor onderfrequentie en overfrequentie van productie installaties van type C en D	SBP	Minstens om de 10 jaar of na ingrijpende wijzigingen

Voor installaties die op vraag van ELIA beschermings- of herstelmaatregelen moeten activeren zonder contractuele basis werden de geschiktheden getest tijdens het aansluitingsproces. ELIA zal geen beschermings- of herstel maatregelen opleggen die de capaciteit van de installatie(s) gespecifieerd in het aansluitingscontract overstijgen.

Emergency and restoration: System state notifications

Objective

In line with art 40 of NCER, inform stakeholders about the system state to make them ready to execute further instructions from Elia without undue delay if required.
Do not panic if you receive an emergency state notification !

Three **signals** will be implemented

- **Emergency Elia** — **Inform stakeholders** that the Elia grid is in the **Emergency state**
- **Blackout Elia** — **Inform stakeholders** that the Elia grid is in the **Blackout state**
- **Grid Restoration Elia** — **Inform stakeholders** that the Elia grid is in the **Restoration state**

Stakeholders **should avoid calling Elia** to ask for more information. Additional information will be communicated in due time

Signals will be sent by **multiple communication channels**

- Publication on the **website Elia.be**
- Communication by **mail (*)** to the address provided by the stakeholder
- Communication by **SMS** to the phone number provided by the stakeholder
- Communication by **SCADA-to-SCADA** protocol

- Preferred communication channels should be communicated by stakeholders
- For SCADA-to-SCADA, adaptations in the stakeholder's system are required

Timeline for stakeholders

- **19/11:** letter to stakeholders
- **15/12**: stakeholders are invited to indicate their preferred communication channels and provide necessary contact detail
- **19/12**: Go-live of the system
- **29/12**: Test announcement by mail
- **05/01**: 1st SCADA-to-SCADA test
- **02/02**: 1st SMS & Mail test

(*) emergencynotifications@elia.be

Emergency and restoration: System state notifications test dates

Past alert and emergency states:

	Alert	Emergency
Q3 2020	2	0
Q2 2020	2	1
Q1 2020	0	0
Q4 2019	4	1
Q3 2019	0	0
Q2 2019	2	0
Q1 2019	1	1

Fist Tuesday of Month 14:30 h	Signal to test	SCADA	Mail/ SMS	Fist Tuesday of Month 14:30 h	Signal to test	SCADA	Mail/ SMS
Jan-21	Emergency Elia	X		Jul-22	Emergency Elia	X	
Feb-21	Blackout Elia	X	X	Aug-22	Blackout Elia	X	
Mar-21	Grid Restoration Elia	X		Sep-22	Grid Restoration Elia	X	
Apr-21	Emergency Elia	X		Oct-22	Emergency Elia	X	
May-21	Blackout Elia	X		Nov-22	Blackout Elia	X	
Jun-21	Grid Restoration Elia	X		Dec-22	Grid Restoration Elia	X	
Jul-21	Emergency Elia	X		Jan-23	Emergency Elia	X	
Aug-21	Blackout Elia	X		Feb-23	Blackout Elia	X	
Sep-21	Grid Restoration Elia	X		Mar-23	Grid Restoration Elia	X	
Oct-21	Emergency Elia	X		Apr-23	Emergency Elia	X	X
Nov-21	Blackout Elia	X		May-23	Blackout Elia	X	
Dec-21	Grid Restoration Elia	X		Jun-23	Grid Restoration Elia	X	
Jan-22	Emergency Elia	X		Jul-23	Emergency Elia	X	
Feb-22	Blackout Elia	X		Aug-23	Blackout Elia	X	
Mar-22	Grid Restoration Elia	X	X	Sep-23	Grid Restoration Elia	X	
Apr-22	Emergency Elia	X		Oct-23	Emergency Elia	X	
May-22	Blackout Elia	X		Nov-23	Blackout Elia	X	
Jun-22	Grid Restoration Elia	X		Dec-23	Grid Restoration Elia	X	

Emergency and restoration: Blackout proof voice communication

Objective	In line with art 40 of NCER, **facilitate blackout proof phones** at SGU identified in the restoration plan **to improve the restoration process efficiency** through adequate communication

Status

- Ongoing contacts with 8 SGUs
- Project faces **important delays** due to coronavirus situation and other important topics to be dealt with
- Necessary actions are taken to **increase the roll-out pace in 2021**
- **SGU will be contacted by Elia** in order to start the process and prepare as much as possible on their side.
- Data Communication department of Elia currently faces important overload
- Exact **timing for phone installation** will be **agreed with the SGU**

Indicative planning

- **Objective for end 2021**: 24 phones installed
- The planning is regularly updated depending on the project progress

SGU: Significant Grid Users

Outlook 2021

Outlook 2021

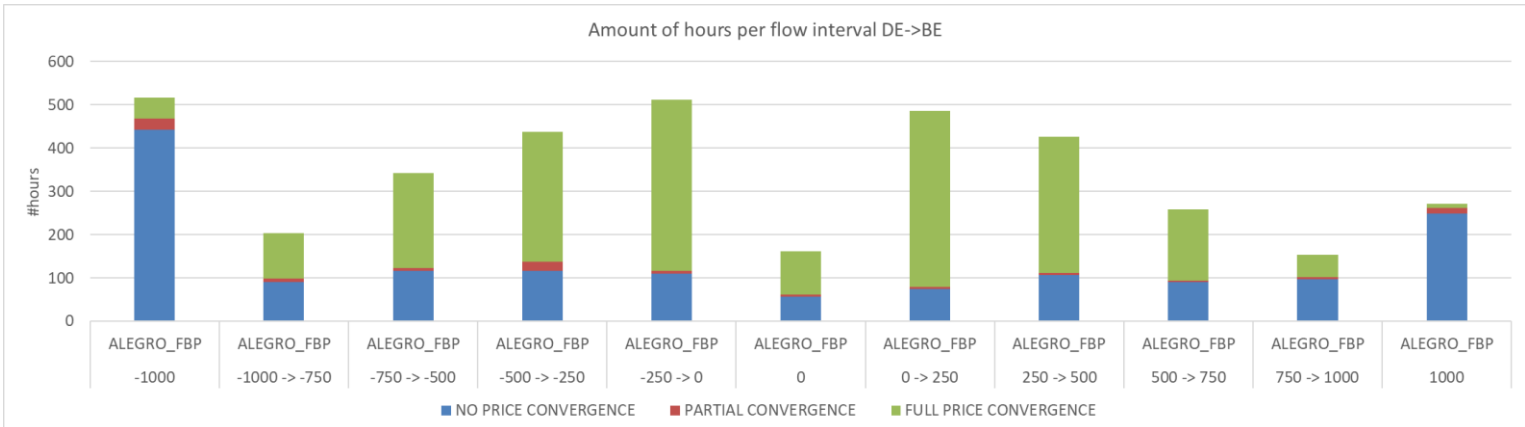
- Update of the system defence plan and restoration plan
- T&C for RSP v2
- Follow up roll out Elia phones
- Follow up of execution of testplan

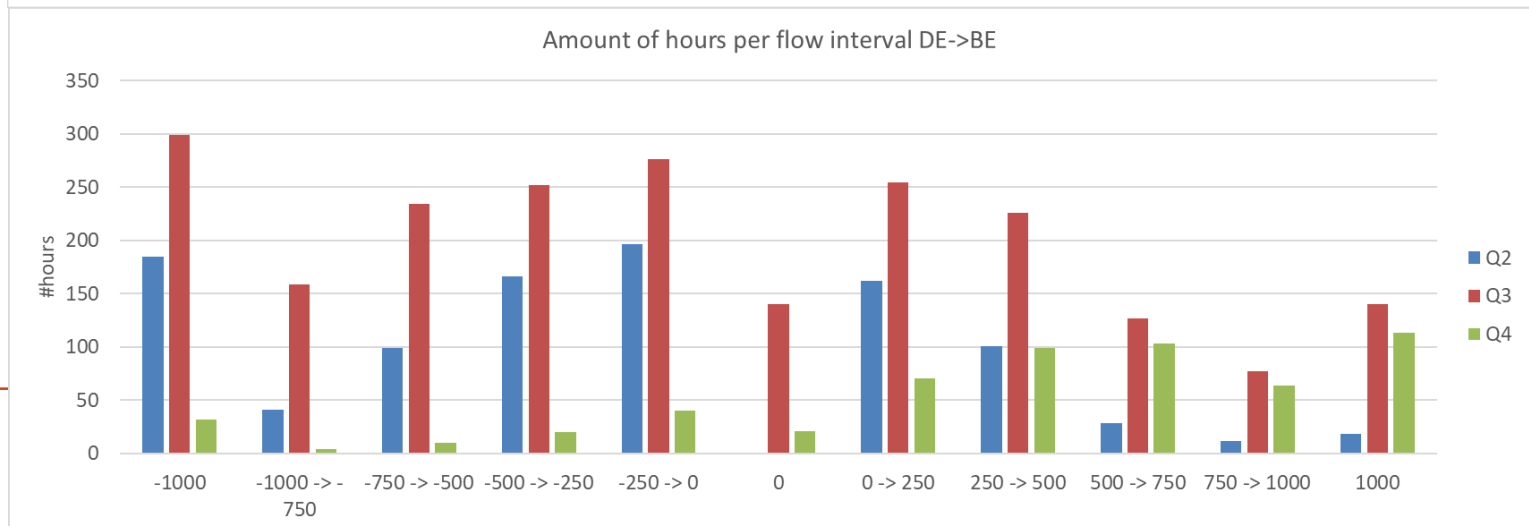
Thank you.

Data until 24/10

Flow over ALEGrO

- Updated indicators are in line with previous communicated values.
- Trend towards import to Belgium becomes more visible when looking at the different quarters





Price indicators of the ALEGrO parallel run