USERS' GROUP

WG EMD-SO

29/02/2024
09:00 – 12:00

Wifi Code

- Go to your Wi-Fi list
- Select *"Elia_guest"*
- Enter the login + password that is given.

Number	Login	Password
1.	wg-emd-so793bsqi	95SsoShf
2.	wg-emd-soxia656k	OnKm24gb
3.	wg-emd-sod3jy63c	1I1qbuzL
4.	wg-emd-sow87mi73	q1zYEqa5
5.	wg-emd-so96wf7e]	xE54Yase
6.	wg-emd-so78cl9ml	78TwhpxM
7.	wg-emd-sof76xe6w	1f2auGNk
8.	wg-emd-so5jjx37=	7PK9info
9.	wg-emd-so52n7qrc	xZ29Rrcq
10.	wg-emd-so7fb5s8j	CG8Onuyv

Agenda

_	Domain	Agenda topic	From - Till	Presenter	Time (min)
1	General	Welcome & intro	9:00 - 9:05	***Chairs***	5
2	General	Approval of MoM & status action points , Roadmap 2024	9:05 9:10	***Secretary***	5
3	SO	NCC Yearly report 2023	9:10 - 9:40	***Kristof Geens***	30
4	SO	Emergency & Restoration: LFDD	9:40 - 10:00	***Peter Van Meirhaeghe***	20
5	SO	Tendering Black Start Q2 2024	10:00 10:30	***Carsten Bakker & Peter Van Meirhaeghe***	30
6	EMD	Core Intraday Capacity Calculation project: status	10:30 - 10:55	***Ruud Bouwhuis & Steve Van Campenhout***	25
7	EMD	IDA Go live planning + attention points from BE perspective	10:55 11:20	***Thomas Van Den Broucke & Bregt Vanderveken***	25
8	EMD	Long Term evolutions: insights on the LT FB implementation & Elia's view	11:20 - 11:45	***Cyriac De Villenfagne***	25
9	EMD	SDAC 15 min MTU: update on BE nominations deadlines	11:45 - 11:55	***Elmo Van Tielen***	10
10	General	AOB (SDAC Decoupling training 20/03) & conclusions	11:55 - 12:00	***Chairs/Secretary***	5
				Total	**3:00**

Approval of Minutes & Action points

- Approval of the Minutes of WG EMD-SO 17/10/2023
- Status of Action points

Action	Responsible	Date Raised	Due date	Status
Organize Workshop on CEP70 in Q1/Q2 2024	Elia	17/10/2023	Jan 2024	**Open ➔ end Q2 date to be fixed**
Elia to come back on the status of adjustment of the local nomination deadlines for BRPs due to the go live of 15 min MTU in first WG EMD-SO of 2024	Elia	17/10/2023	First WG EMD-SO in 2024	**Done – session file today**
Elia to LFDD discussion of 17/10/2023 during the LFDD TF meeting of 25.01.2024	Elia (Peter Van Meirhaeghe)	17/10/2023	15/01/2023	**Done**

Roadmap 2024 WG EMD-SO

Overview of topics for meetings in 2024 – (presented in plenary Usersgroup session on

European Market Design	System Operations
1. Core: go-live ID capacity calculation 2. Core & European DA and ID market coupling: follow up of operations + ongoing developments (e.g. IDA, 15' MTU in SDAC) 3. EU market reform & CACM 2.0 4. Follow-up Brexit: capacity calculation & allocation with UK 5. Follow-up CEP70 implementation 6. Evolutions on Long Term Allocation	1. NCC Year report (Q1) 2. Summer outlook, winter review (Q2) 3. Winter outlook, summer review (Q3/Q4) 4. Implementation status of Low Frequency Demand Disconnection Plan (LFDD)

System Operations

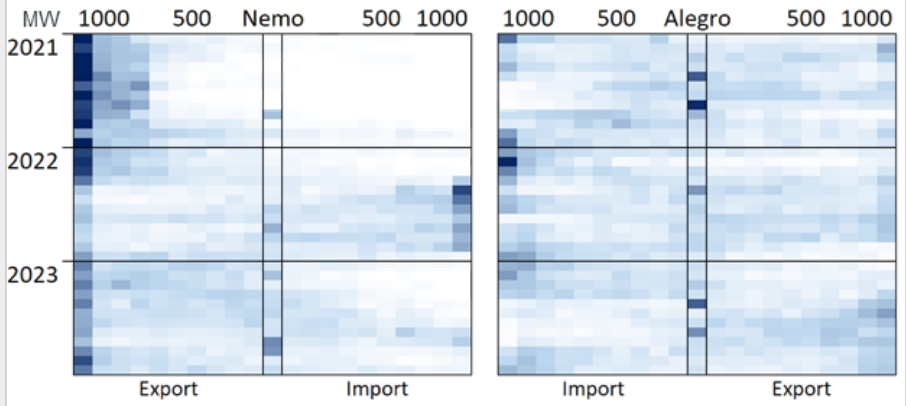
NCC Yearly report 2023

Kristof Geens


elia group
NCC Report
2023
Grid
Market
Planning
49.99 Hz

NCC Dashboard | 2023 | Grid | Market | Planning

Nemo & Alegro flows



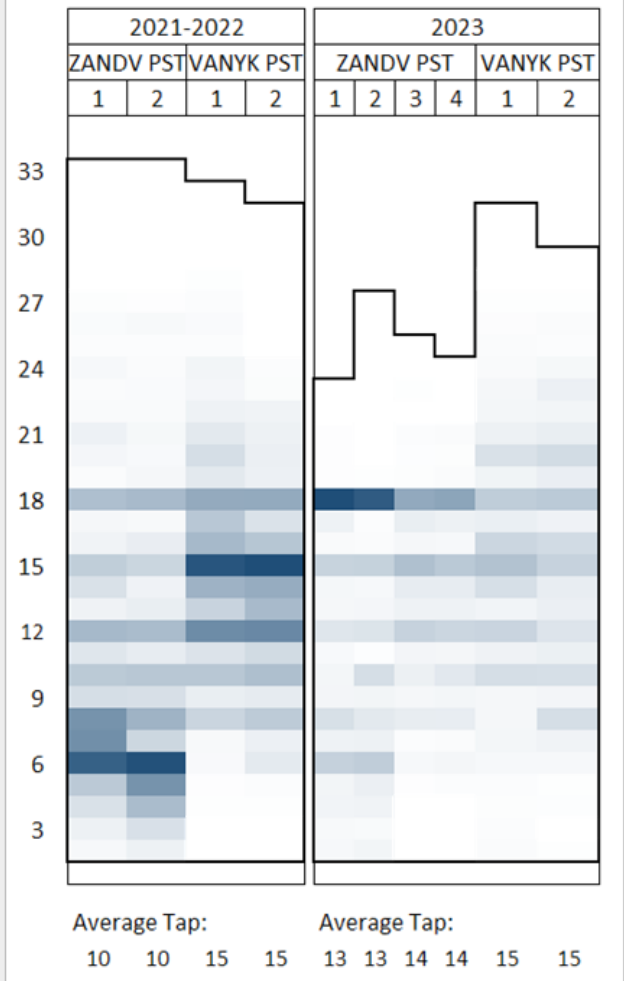
Special events

EAS/Elia Emergency: 0

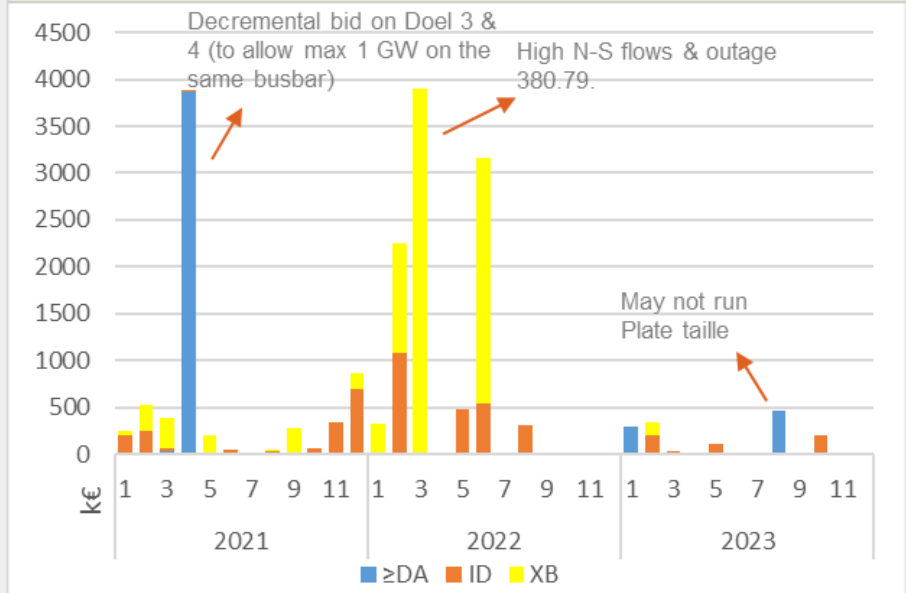
EAS Alert: 7

21/12: EMS Security analysis unavailable between 4 and 5 pm
15/12: MSI new line 380.22. Merca – Vanyk axis now fully redundant
26/10: Tripping of 380.104 leaving only the 380.103 on the Stevin axis
15/08: Tripping of Alegro leading to N-state voltage violation on the grid
29/05: First time in history, Elia recorded a negative residual load.
23/05: Constraints on NL-BE border leads both TSO to be in EAS alert state (N-1)
23/04: Voltage reaches 424kV in Brueg during the night. (Double outage 380.35 & 36 making it impossible to solve)
09/04: High solar and low wind production leading to incompressibility and imbalance state for several hours.
27/02: EMS State estimator blocked. N-1 supervision unavailable >1h.
07/02: High N-S flow &outage 380.73 resulted in 2900MW on 380.74
01/02: Tihange 2 definitively stopped

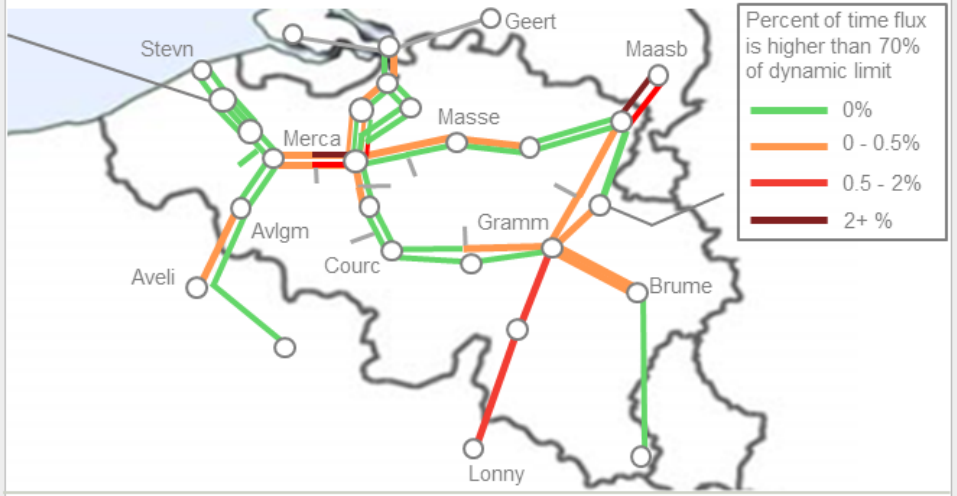
PSTs tap usage



Congestion management: 1.43 M€ (2023)



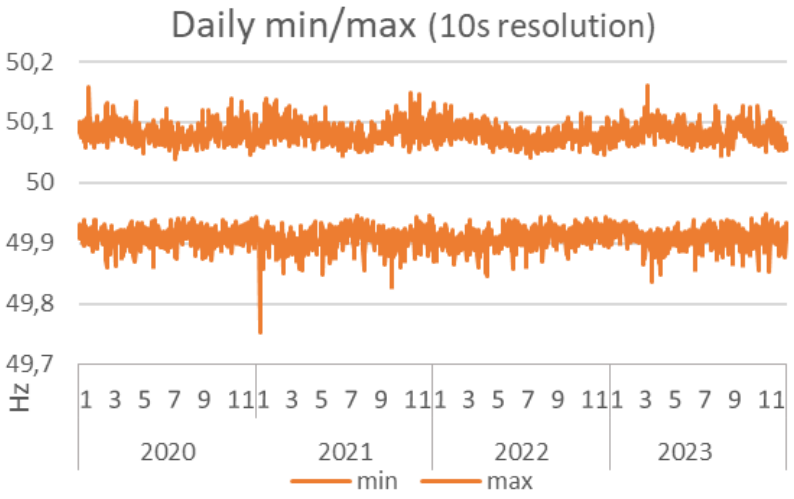
Flux (2023)



Maximal (relative) hourly loading:
28/02 11h: 380.74 Merca-Horta @ 2563 MW / 93% $Lim_{seasonal}$

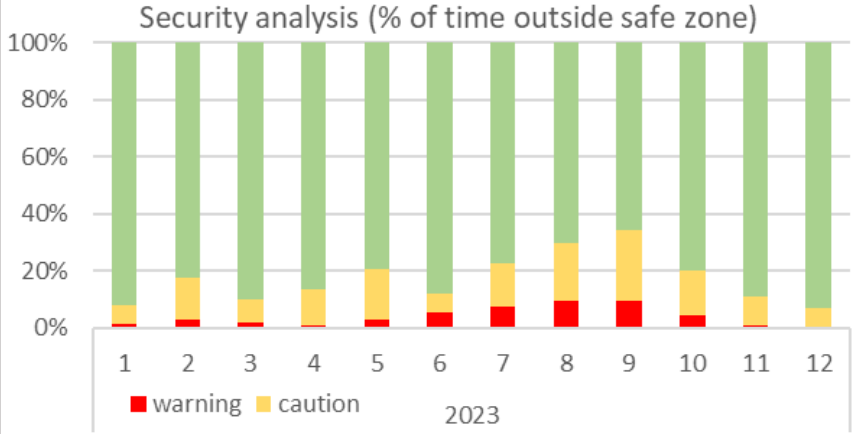
NCC Dashboard | 2023 | Grid | Market | Planning

Frequency



8 Jan 2021: A grid split Balkan & Romania caused the frequency in our part of Europe to drop to 49.75 Hz
17 May 2021: Frequency dropped to 49.85 Hz due to a trip of 3300 MW generation in Poland
24 July 2021: Iberian grid split. no significant impact on frequency since the flow over that border was not huge
Oct-Dec 2021: High electricity prices cause market players to be short more often. But mainly KOST (Kosovo TSO) is structurally short again in fall/winter 2021. and an accumulated grid time deviation of -87s is reached on December 24th (normal time deviation is +/- 20s)
28 Mar 2023: Program change in France and Italy with high renewable impact led to a frequency drop to 49.84Hz

Security analysis



Most frequent Critical Branches

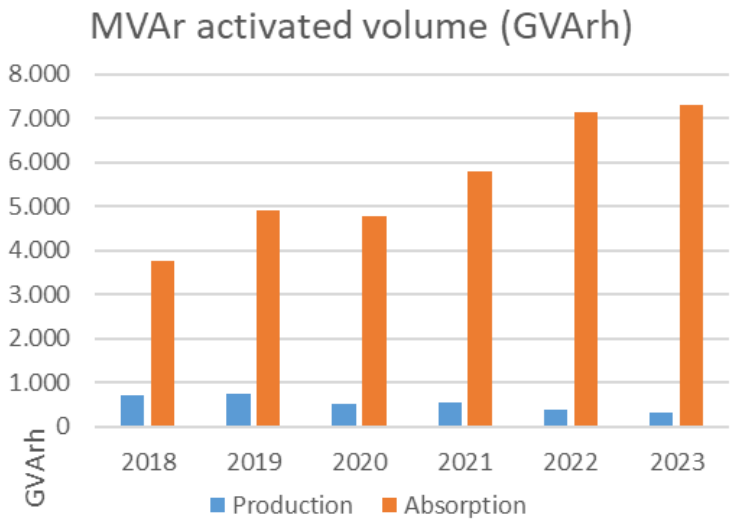
(as % of time CB's appear in caution or warning zones in 2023)

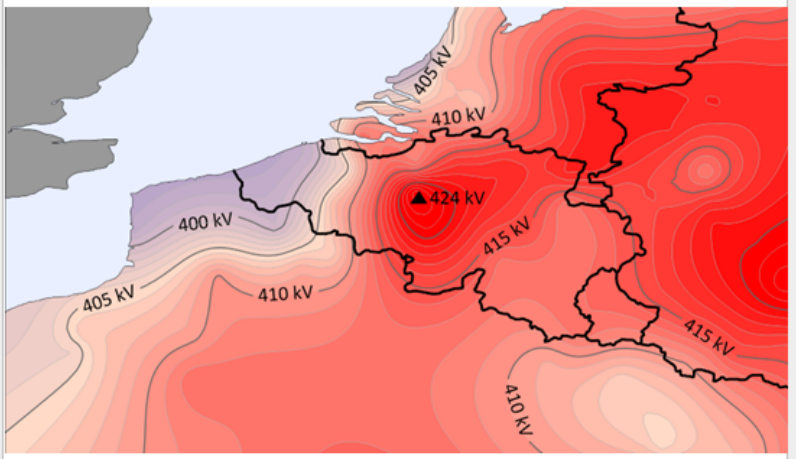
1.	MEERH380 T2 380/150	2.2%
2.	RIMIE380 T9 380/150	1.7%
3.	DI 150 319 LINT SIDAL	1.0%
4.	DI 220.512 AUBAN SCHIFF	0.9%
5.	ANDUM380 T2 380/150	0.6%

Highest N-1 overloads

CO	CB	N-1 loading
HORTA380 R2	150 43 RUIENWATT	154%
@13/02/2023 09:37 (outage 380.73)		
380.53 + 380.54	380 52 DOEL LIEF	140%
@ 24/01/2023 10:17		
VIGY380 R2B	220 512 AUBANBIFF	138%
@20/08/2023 18:09		

Voltages





Highest voltages reached 23/04/2023 (Sun) 02:00
Highest node: Bruegel @ 424 kV

ACE

Max qh deviation

859 MW

@ Thu 25/03/2023 14:00

System Imbalance

Max qh deviation

-1393 MW

@ Sun 10/11/2023 16:15

Automatic Balancing

aFRR + iGCC

994 GWh/year

+7% (vs. 2018-2022)

Manual Balancing

mFRR + inter-TSO

389 GWh/year

+44% (vs. 2018-2022)

Prices

Average Belgian price:

97 €/MWh

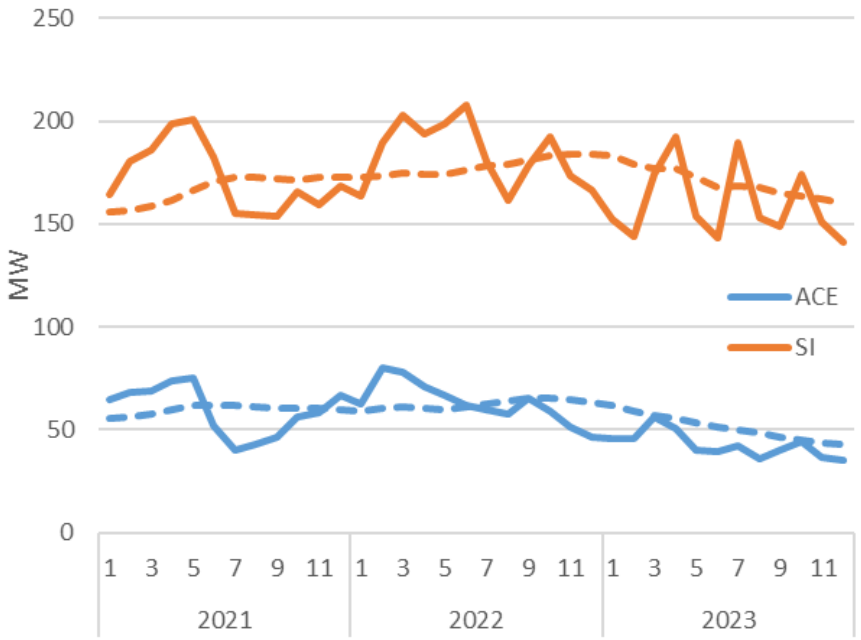
Imbalance price spike:

3455 €/MWh

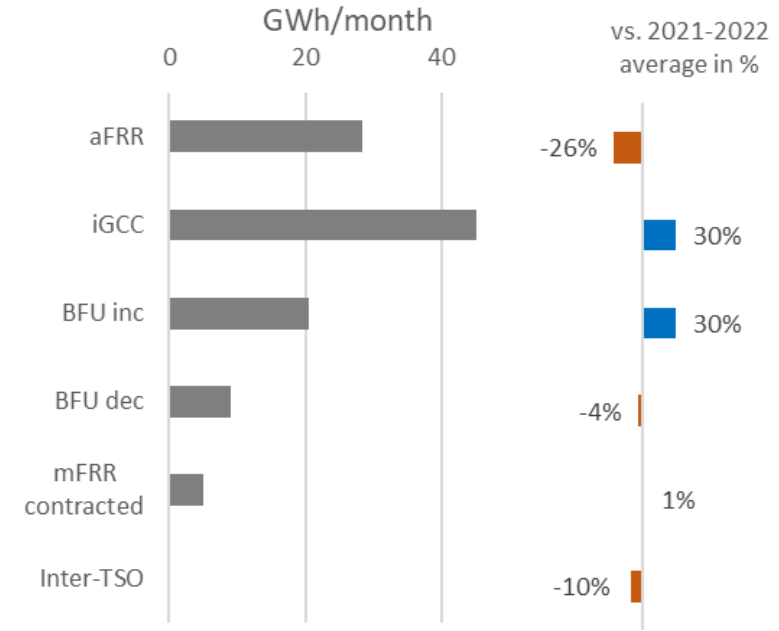
@ Thu 20/03/2023

St.dev of ACE and SI

(monthly values & 12m-rolling averages)



Balancing Activations



Belgian Day-Ahead price (€/MWh)

	2021-2022	2023
Max (h)	871	330
Average	170	97
Min (h)	-100	-120

Imbalance (€/MWh)

	2021-2022	2023
Max (qh)	3199	3455
Average	167	97
Min (qh)	-589	-692

Total load

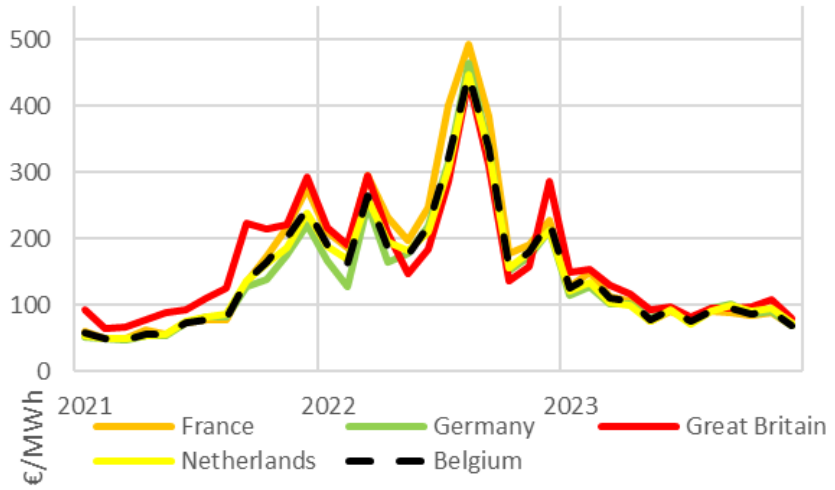
Average Total load (2023):

9012 MW

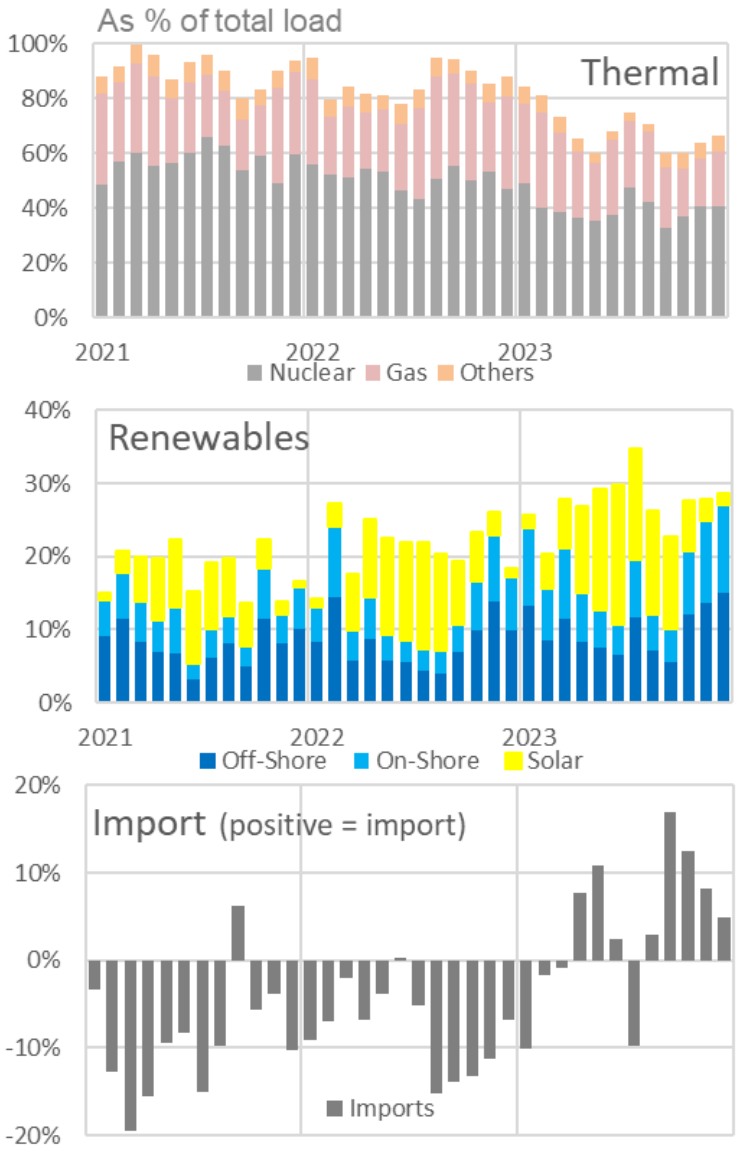
-5.8% (vs 2018-2022)

	2022	2023	% change
Max:	13234 MW	12680 MW	(-4.2%)
Avg:	9336 MW	9012 MW	(-3.5%)
Min:	6226 MW	5779 MW	(-7.2%)

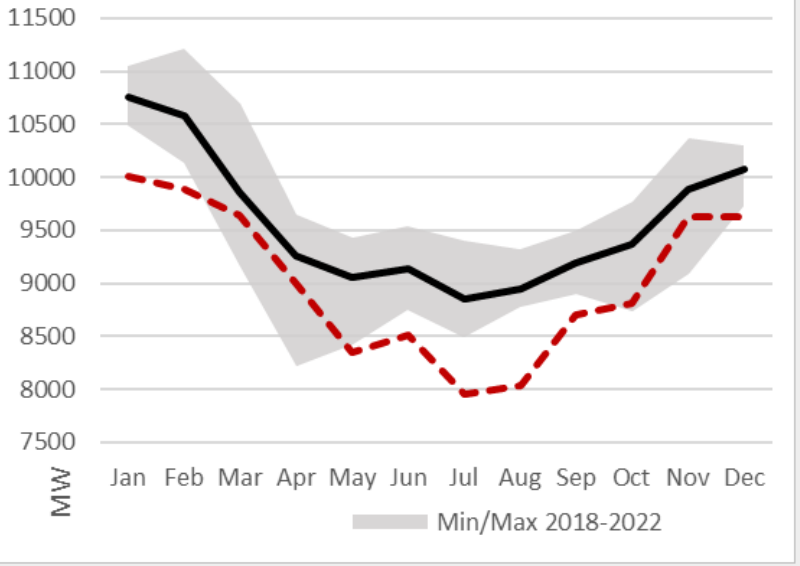
NWE Prices (baseload)



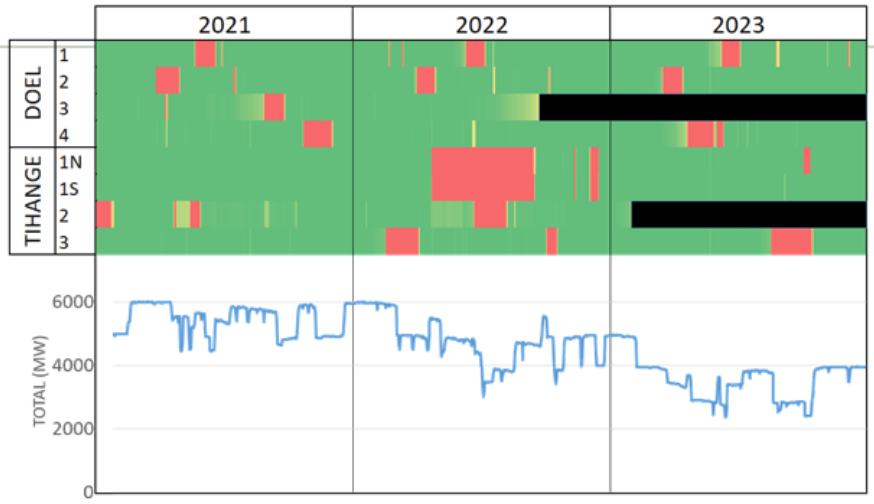
Generation Mix



Total load

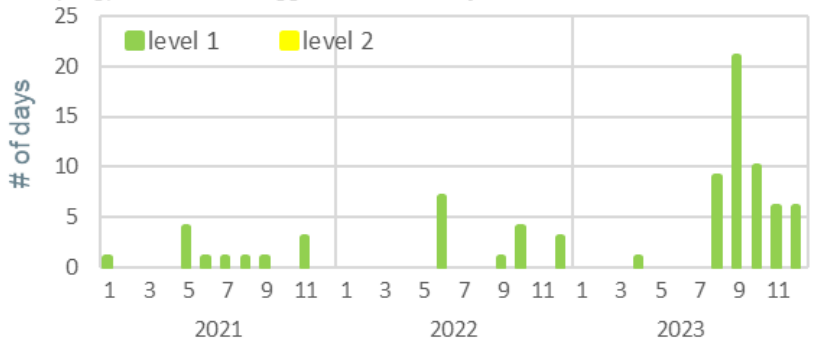


Nuclear availability & total production

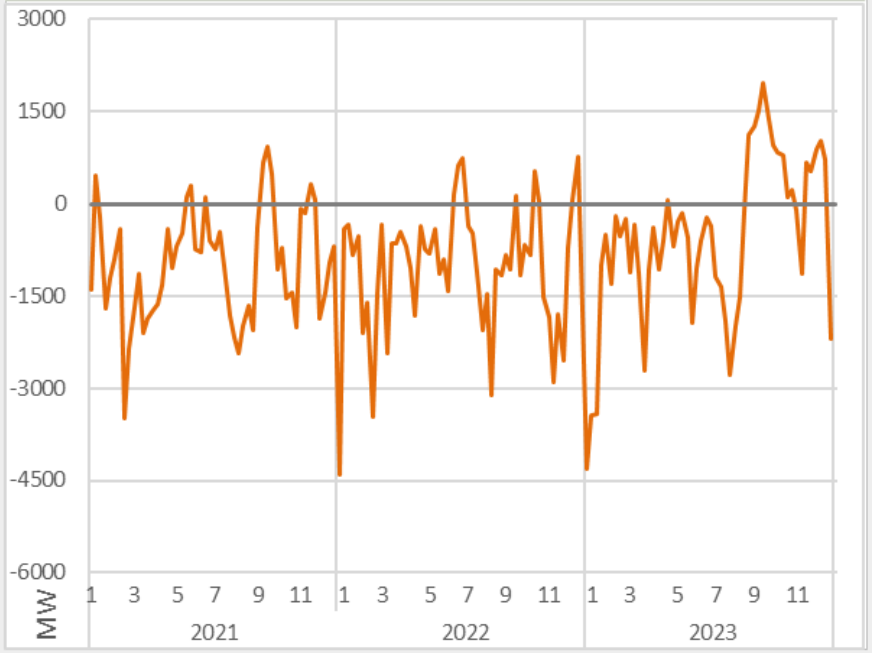


Scarcity levels triggered

Scarcity level 2 (Belgium depending on foreign energy & high market coupling) hasn't been triggered for over 3 years

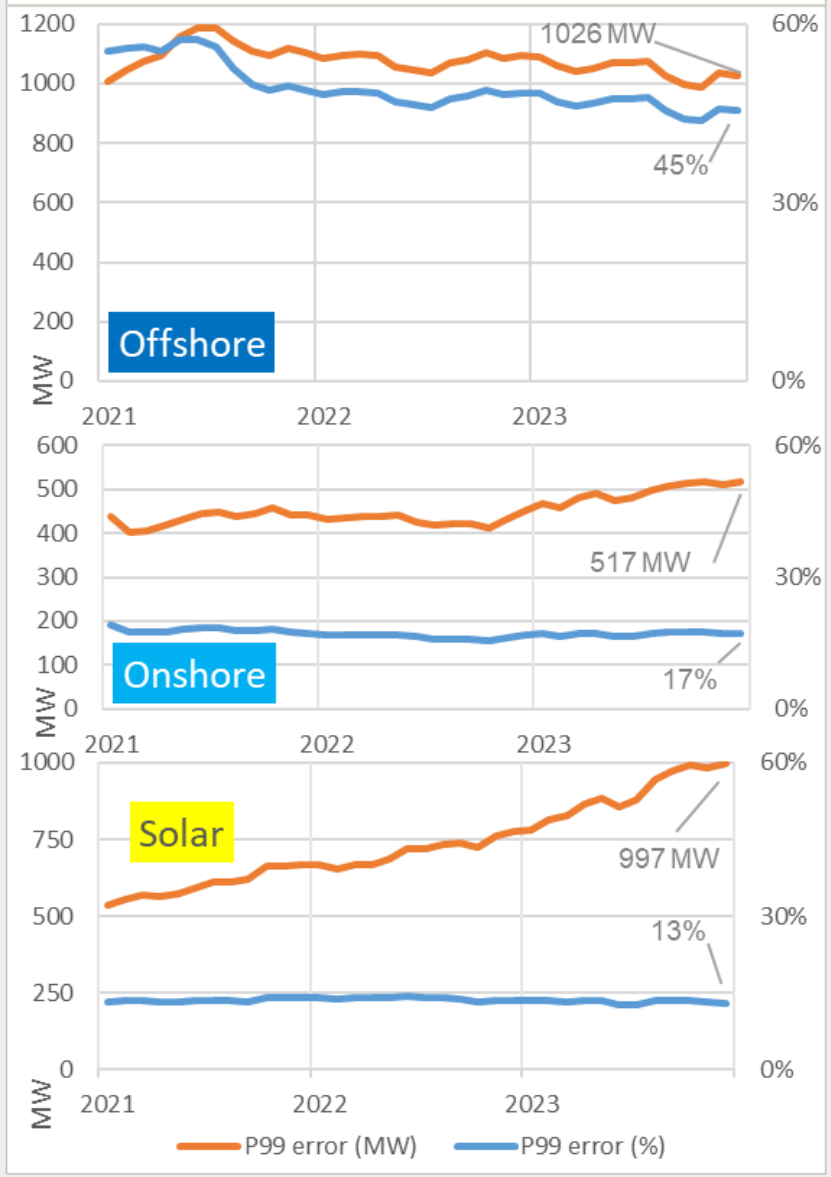


Import needed to be adequate

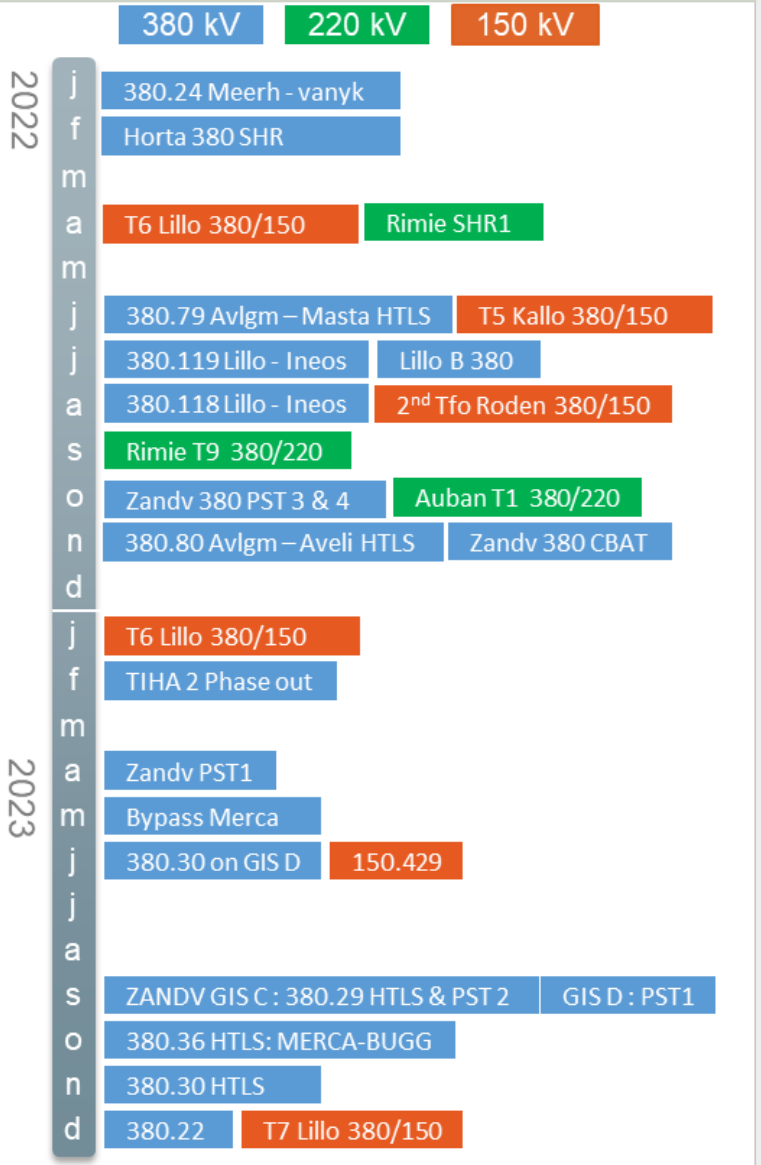


Renewable day-ahead forecasting errors

12-month moving averages

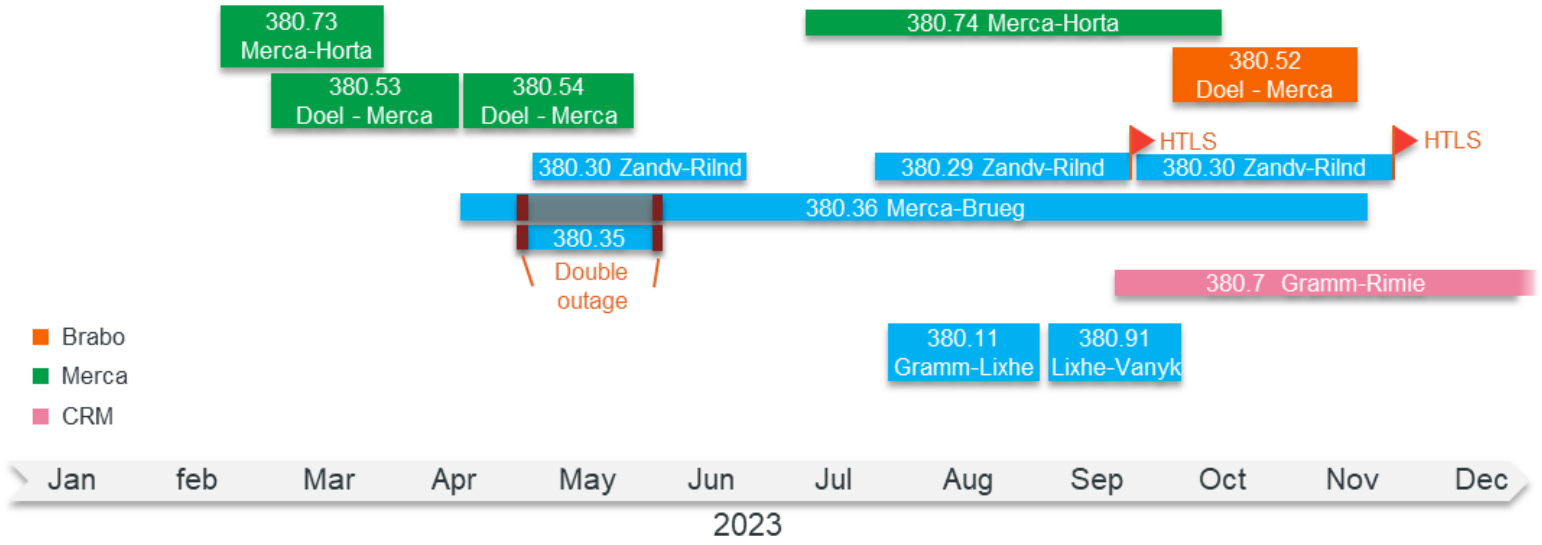


Infra Projects



FB market limiting branches

380 kV Long-duration Outages



Flow-based Market Coupling: Top 10 limiting axis

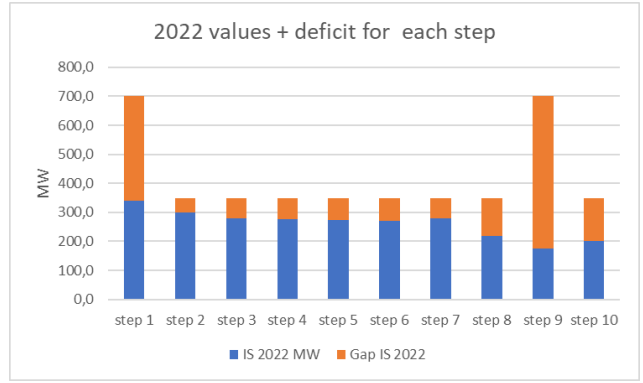
	Current (2023)			Reference (2022)	
1	[FR-D7] Vigy – Ensdorf	23,74%	1	[NL-D2] Meeden - Diele	21.6%
2	[NL-D2] Meeden – Diele	14,33%	2	[BE-FR] Avelgem - Avelin/Mastaing	16.9%
3	[BE-FR] Gramme – Lonny	13,23%	3	[D7-D7] Beurs-Lambstein	15.6%
4	[NL-BE] Zandvliet – Rilland	10,02%	4	[BE-FR] Gramme - Lonny	15.2%
5	[NL-D7] Maasb – Siers/Obzie	7,29%	5	[NL-BE] ZANDV - Rilland	10.5%
6	[NL-NL] Lelystad – Diemen	4,44%	6	[NL-BE] Maasb - Vanyk	7.9%
7	[D7-D7] Beurs – Lambstein	3,41%	7	[NL-NL] Lely-Dieme	5.3%
8	[NL-BE] Maasb – Vanyk	3,31%	8	[NL-D7] Maasb - Siers/Obzie	4.3%
9	[D7-D7] Paffendorf – Sechtem	3,00%	9	[FR-D7] Vigy - Ensdorf	3.8%
10	[BE-BE] Doel - Zandvliet	2,75%	10	[D7-D7] Gronau PST	2.7%

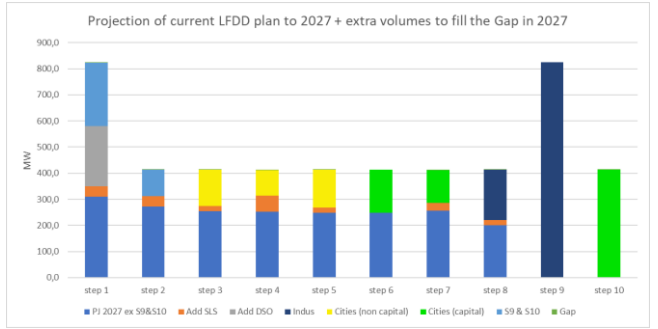
Emergency & restoration

Peter Van Meirhaeghe

Update Defense and Restoration Plans

- Minister approved System Defense Plan and Restoration Plan on 25/1/2024
- LFDD implementation in 2024:
  - Selective load shedding will be implemented in 15 DSO substations
  - Adjust frequency threshold of 31 substations now in step 9 & 10
  - Re-activation of 4 existing frequency relays
  - De-activate frequency relays in 5 substations with too much reverse power flows
  - End 2024: start roll-out campaign over several years of additional substations: first **focus on step 1** (rural areas)
- LFDD: inclusion of transmission connected demand facilities
  - Information sessions were organized on 25/1/2024: slides + faq on website
  - Choices (LFDD grouping, 1 or 2 thresholds) to be fixed in connection agreement by 30/6/2024
  - Set up detailed roll-out planning for 2026-2029 → two years in advance notice by letter





Test plan : retro planning

- Ministerial decree of 29 April 2021 for approval of the Test plan foresees a submission of an updated Test plan to the Minister within the 6 months of approval of the System defence plan and Restoration plan.

- Testplan submission: beginning of July (officially before 25th July 2024)
- Public consultation: 14/05/2024 → 14/06/2024
- Preliminary meetings between AD Energie / Creg / Industry → April 2024 → Dates to be agreed soon
- First Draft by Elia: end of March

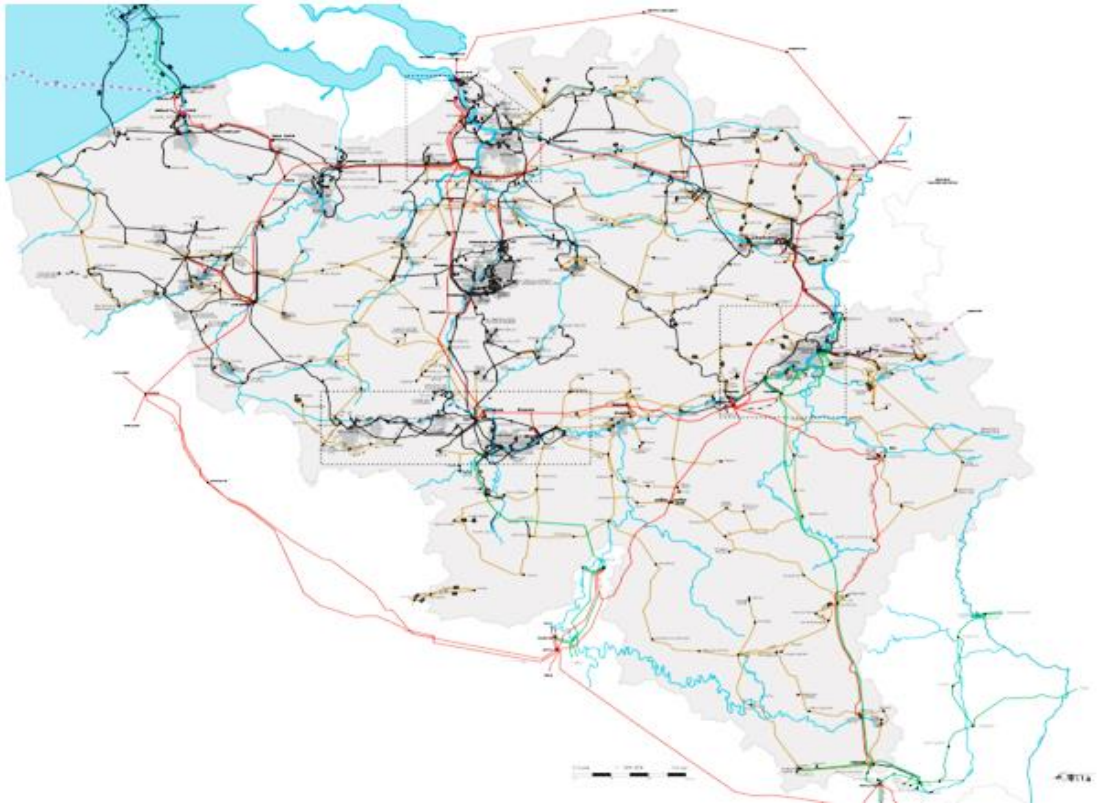
- New: LFDD test for transmission connected demand facilities

Tendering Black Start

Carten Bakker & Peter Van Meirhaeghe

Agenda for today

- Introduction
- Current Black Start service
- Evolutions of the Black Start Service
- Public consultation
- Tender planning



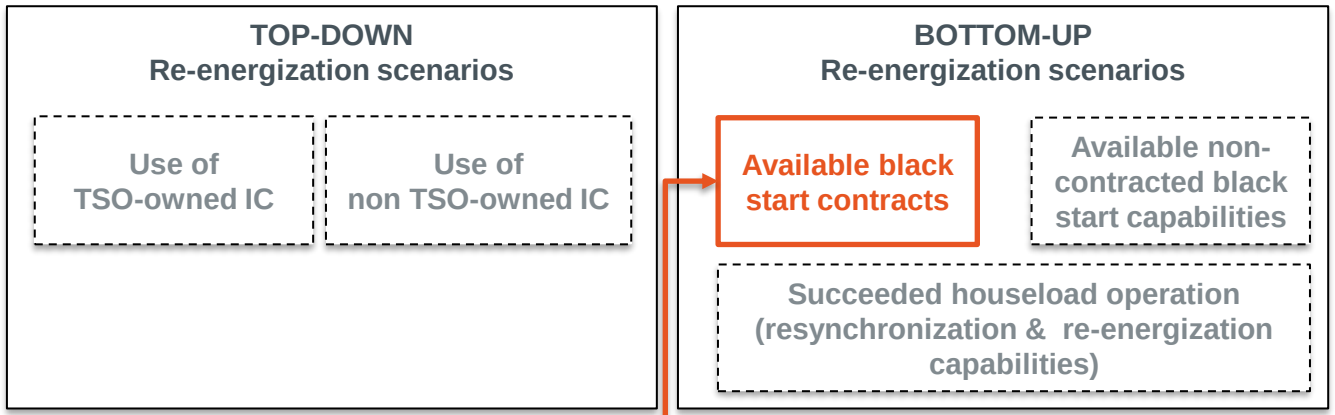
Current Black Start Service

Purpose of the service

- Belgium's economy must be able to rely on **swift restoration of the power supply** from the grid when a **blackout** occurs.

- As a Transmission System Operator (TSO), Elia has set up a **Restoration Plan**, which it will execute at the time needed in coordination with crisis teams, neighbouring TSOs, Belgian DSOs (distribution system operators) and relevant grid users.

- Depending on the situation, Elia restores the system :
  - Using energy supplied by neighbouring TSO's (top-down approach)
  - If this is not available, by relying **on services supplied by market parties within the Belgian system** (bottom-up approach).



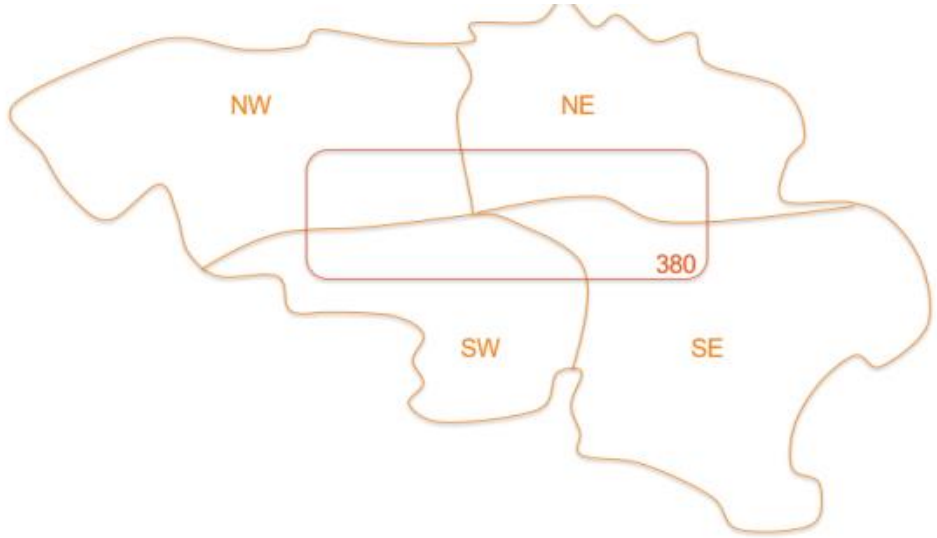
- ELIA procures a minimum amount of services for bottom-up re-energization using **black start capabilities**
- Elia procures Black-start service from the **Restoration Service Providers** (RSP)

Black-start service – Geographical distribution

- Elia contracts **5 units** able to provide the Black-start service in each of the following **zones** in Belgium:
  - 380kV
  - North-West (NW)
  - North-East (NE)
  - South-West (SW)
  - South East (SE)

- If Elia cannot contract a unit providing Black-start service for one of the 4 regional zones (NW, NE, SW or SE), Elia can contract an additional black-start unit in a adjacent zone or in the 380 kV zone if it is compatible with the Restoration Plan

- If Elia cannot contract a unit providing Black-start service for the 380 kV zone, Elia can contract an additional black-start unit in a regional zone if it is compatible with the Restoration Plan

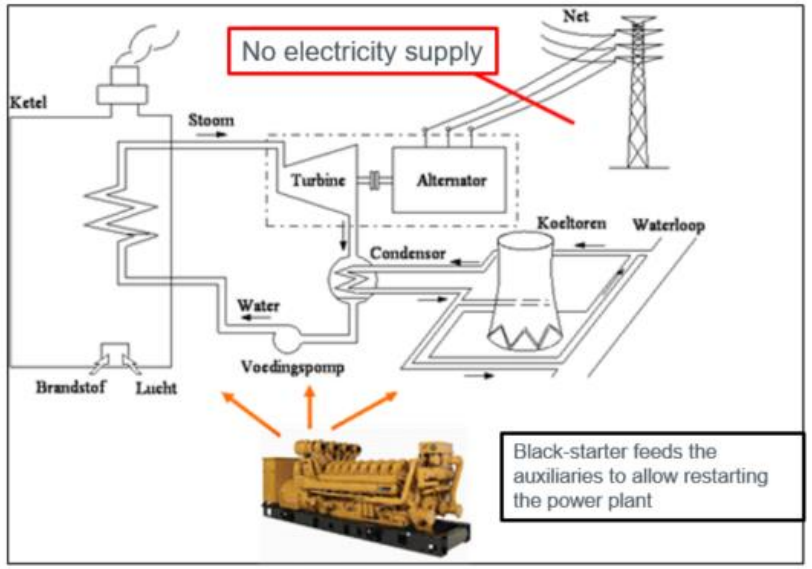


Black-start service – Technical requirements

A power generating module providing Black-start service needs to be able of **starting up without an external electricity** supply and re-energising the grid

Requirements to perform a black-start:

- ✓ Connection with a ‘self-starter’ (diesel generator, battery)
- ✓ Start-up time of the whole service (Restore power to sections of the transmission system)
  - ‘Hot’ state: within maximum 1,5h
  - ‘Cold’ state: within maximum 3h
- ✓ At least 3 consecutively black-start tentatives to cover a potential collapse of the island during the grid restoration phase
- ✓ Technically able to continue operation in black start mode for at least 24 h



Active power/energy and reactive power requirements

- ✓ Reactive Power absorption of at least 30 MVAr
- ✓ Instantly accepting an offtake of at least 10 MW (cos phi=0.8 inductive), while remaining within frequency range (49-51 Hz) and within specified voltage range at the connection point
- ✓ Sufficient energy to supply auxiliaries of other production units (power & minimum energy requirement)

Equipment

- ✓ Speed regulator
- ✓ Synchronoscope
- ✓ Single interface with Elia

Participation to the service

Who can participate to the service?

- ✓ The Grid User of technical units connected to the Elia grid or CDSO grid
- ✓ An aggregation of technical units is possible if they are connected to the same connection point

Who can become a Restoration Service Provider?

- ✓ The Grid User himself
- ✓ A third party designated by the Grid User

How to participate?

- ✓ Participation to black-start service starts with submitting an offer in the **multi-yearly tender** organized for the procurement of the service
- ✓ Relevant documents are published on the Elia website
- ✓ Submitted offers are subject to a **reasonability analysis of the price** by the regulator
- ✓ Selection of black-start units per restoration zone is made according to the bidding instructions available on the Elia website

Evolutions of the Black Start Service

T&C RSP – Design evolutions in T&C RSP

Objectives of the new design

- Extending the participation possibilities to the Black-start service
- Opening the participation to the service to more potential candidates
- Future proof solution considering the evolution of the market

Main changes introduced in the next version of the T&C RSP

1. **Extending the participation** to the Black-start service to more units (e.g. combination of small CHP with large thermal unit) via extended **aggregation possibilities**

2. Proposing a **new public procurement process (competitive dialogue)** for the Black-start service that will allow innovative solutions to be proposed by RSPs to deliver the service

3. Changing the **settlement** of the Black-start service via the introduction of a **capital cost component** for the remuneration of the service
    - Including relevant modalities related to the availability check and the settlement of Black-start tests

4. Updating the **procurement procedures** and **awarding criteria**

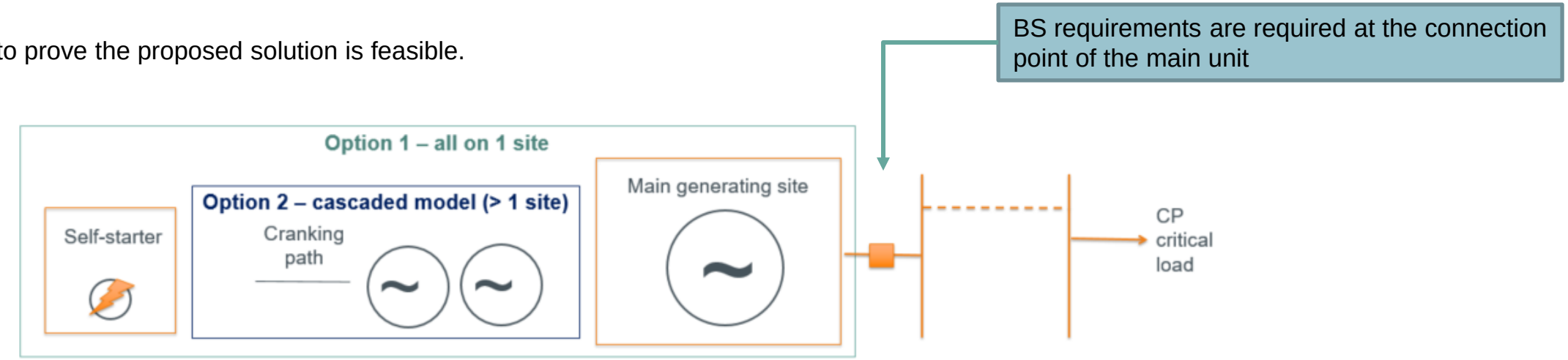
5. Updating the **structure of the contract** in line with the other contracts related to ancillary services

1. Extension of aggregation possibilities

The restoration service based on black start capability consists of **3 components** (“Black-start providing group”) **that should not necessary be located behind the same connection point** :

1. the black-starter (e.g. diesel generator or battery), given the lack of supply from the grid
2. the cranking path between the black-starter and the main generating unit(s) (direct, or via start-up of smaller units along the path)
3. The main generating site (with capabilities concerning block load and MVAr absorption to counter the high amount of MVArs produced during re-energization of a dead grid): this could be 1 PGM/storage or a combination of multiple PGM, storage, shunt reactors

A feasibility study to prove the proposed solution is feasible.

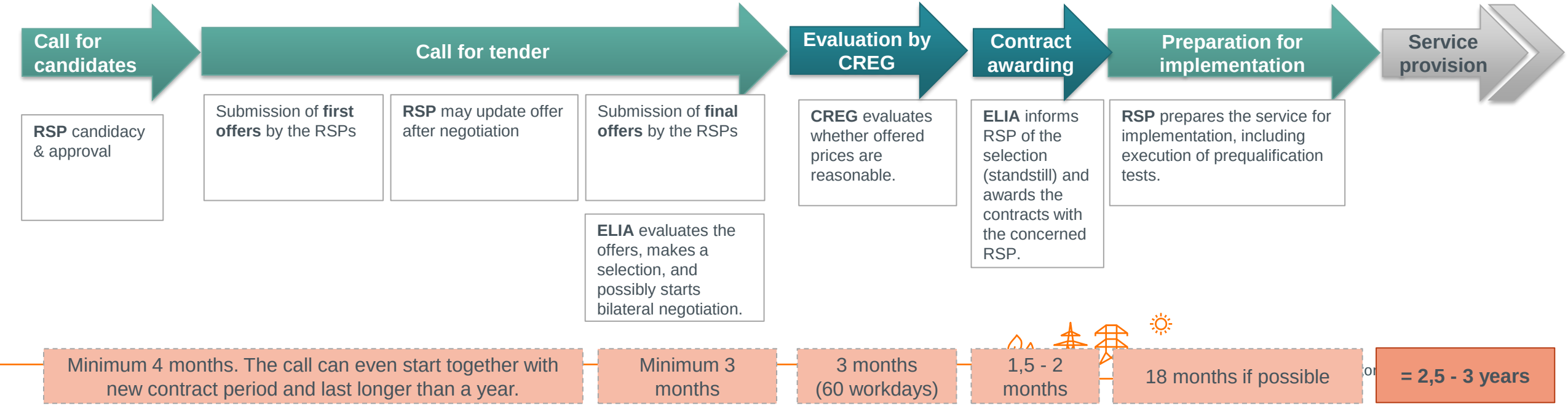


- Aggregated elements must operate similarly to a single technical unit providing the BS service (“BS providing group”)
- Configurations using part of the ELIA grid or (C)DSO grid are to be analyzed by the relevant RSO

2. Public procurement process (competitive dialogue)

- **Competitive dialogue procedure** will replace the current open qualification procedure
- Competitive dialogue allows more flexibility for the RSP to **submit possible innovative solutions to provide the BS service** (e.g. via aggregation)
- Possible solutions will be discussed and analyzed between Elia and the RSP during the **call for tender**
  - Some technical criteria to deliver the service could be refined during this phase (cfr next slide)
  - Studies could be necessary to assess the proposed solution
  - Once the solution is suitable for both RSP and Elia, the RSP can submit a final offer
- During the selection phase, Elia will compare the different received offers and make a selection based on selection criteria that need to be clearly defined in the contract

➔ In terms of operational process, the competitive dialogue procedure is quite similar to the open qualification procedure except that more interaction are necessary between Elia and the RSP during the call for tender phase to assess the proposed solution(s)



2. Competitive dialogue – Parameters to be refined during dialogue phase

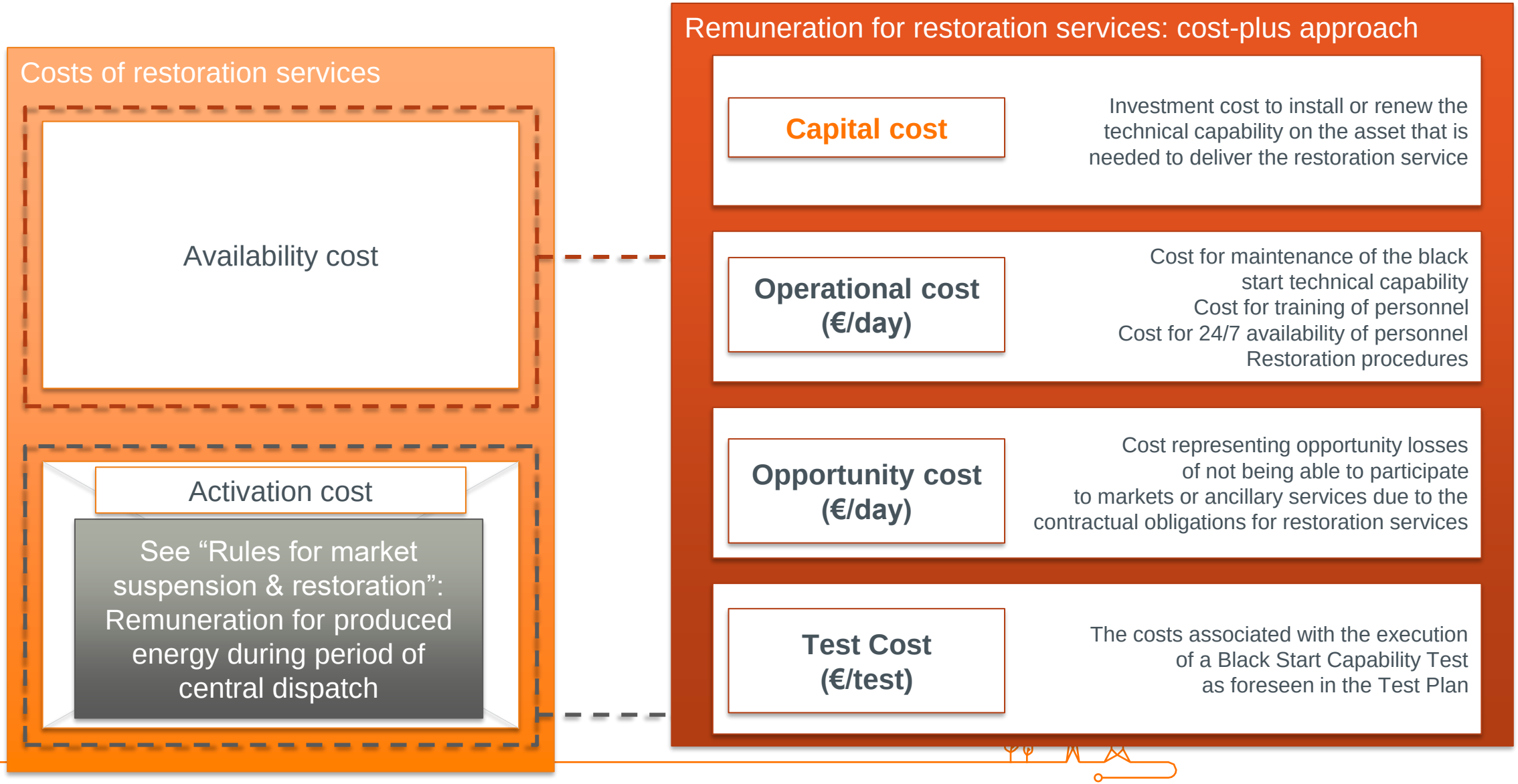
Requirements to be fixed in the call for participation

1. The **energy to supply auxiliaries of other production units** (active power): minimum installed capacity of the main generator, to be confirmed/modified in call for tender
2. The **minimum absorption of reactive power:** minimum 20 Mvar, but to be confirmed/modified in call for tender
3. The **energy requirement**: requirement of minimum energy content or minimum fuel stock to be available at all times and to be used to operate during a Blackout and restoration state

These requirements will be **defined in the call for tender** according to the role of the BS Restoration Facility in the Restoration Plan and the specific technical characteristics of the BS Restoration Facility, such as, but not limited to:

- The **distance between the BS Restoration Facility and the power plant** that needs to be re-energized in the restoration plan considering
  - The necessary power to re-energize the auxiliaries of the target power plant
  - The losses on the network elements
  - The minimum time necessary for the start-up of the power plant that needs to be re-energized
  - The obligation to be able to start three times during the application of the restoration plan
- The **type of restoration** (zonal, 380 kV backbone or for an adjacent zone)

3. Settlement of the BS service



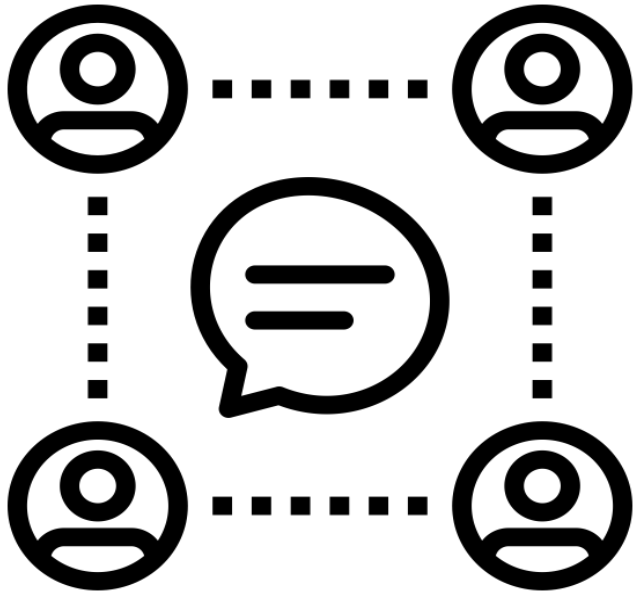
4. Selection criteria

- The **minimum technical requirements** to deliver the service are defined in the RSP contract
- The **comparison and selection of offers will be made per zone** according to BS needs determination (or between adjacent zones in case no offer is received for given zone)
- Selection of offers will be based on techno-economic criteria:
  - Price of the received offer using the price components
  - Technical criteria

n°	Criteria	Weight
1	Lowest total cost (capital, operational, opportunity and test costs) [€/year]	50%
2	Highest additional active power that can be injected [MW] on top of the active power injection required after the technical specifications assessment of ELIA	10%
3	Highest additional reactive power that can be absorbed [MVAr] on top of the reactive absorption required after the technical specifications assessment of ELIA	10%
4	Highest kinetic energy of the inertia [J];	5%
5	Highest instantaneous load acceptance [MW];	10%
6	Lowest Start-up Time while in operation (injecting power at the moment of the Black-Out) [min];	5%
7	Lowest Start-up Time when shut-down (not injecting power at the moment of the Black-Out) [min];	5%
8	Highest operational simplicity to provide Black Start Service in accordance with the Restoration Plan [Scale of 1-4];	5%

Public Consultation

Public consultation

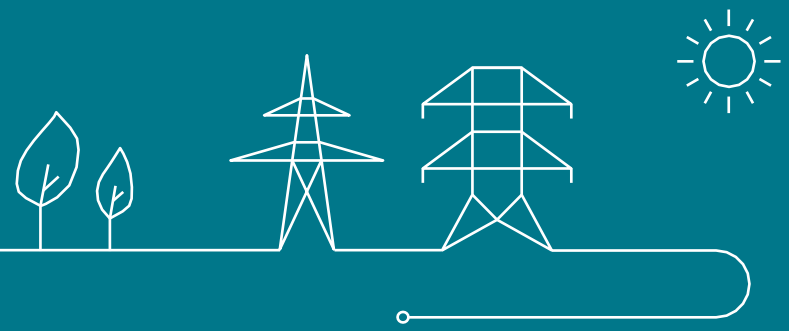


The public consultation for the new T&C RSP and procurement procedures is currently ongoing.

The consultation will **end on the 25th of March**.

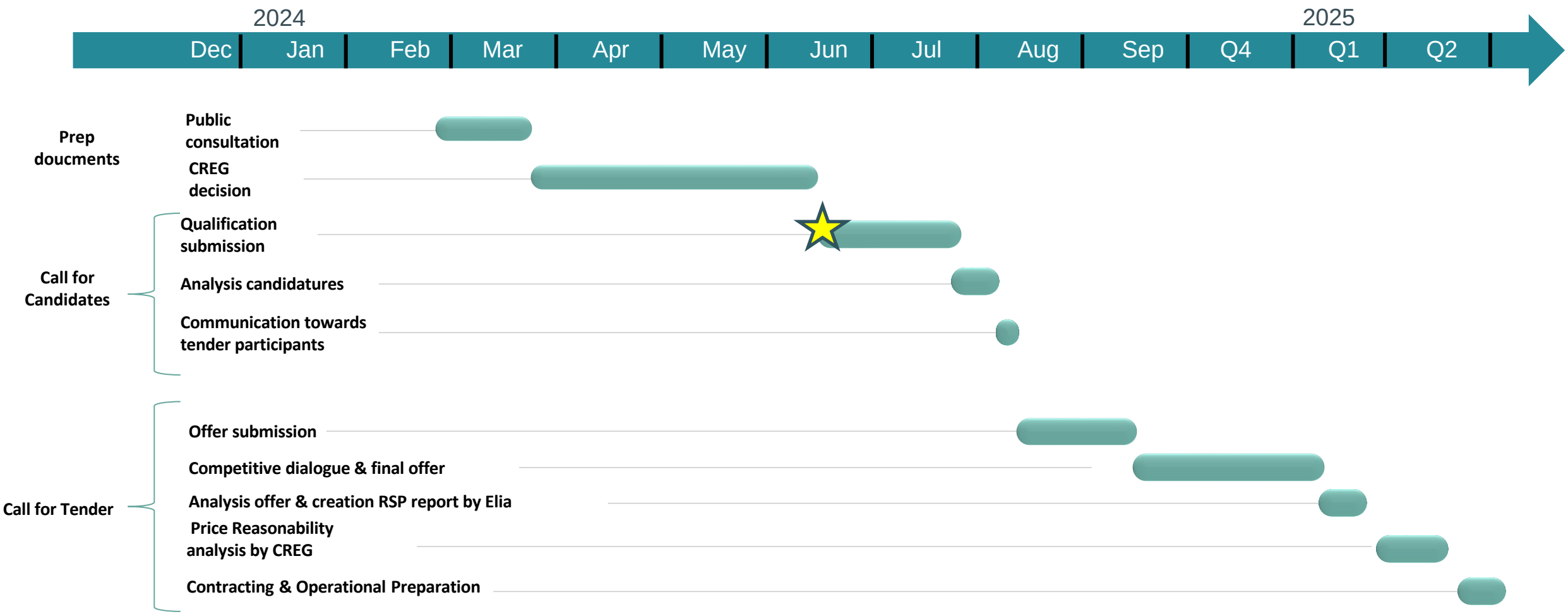
Please provide all feedback on the new documents via the Public consultation

Tender planning



Indicative tender timing

Indicative timeline



European Market Design

Core Intraday Capacity Calculation

Ruud Bouwhuis

Latest status Core ID CCM escalation process

Approaching the finish line (?)

- In 2023, the 2nd & 3rd Core ID CCM amendments could not be approved commonly by Core NRAs, leading to an escalation towards ACER. Most controversial topics were are the applicability of the 70% rule in ID and XNEC to CNEC conversion.
- After 3 rounds of hearing, ACER provided the draft methodology and decision to During the AEWG, aiming for a decision by the Board of Regulators on Mar 6. A compromise seems to be found:
  - The 70% in ID topic is not enforced through the use of virtual capacity. Instead, there is would be a study requirement (Apr 2025) how to increase capacities in general and reach 70% over time, followed by a request for amendment (Oct 2025)
  - The XNEC to CNEC conversion: remains an exceptional measure. Is allowed without PTDF threshold for 1-year testing period after ROSC Go-live. Then TSOs may propose a PTDF threshold together with rules to avoid undue discrimination between internal and cross-border exchanges.

Now expected implementation timings for Core IDCC(s)

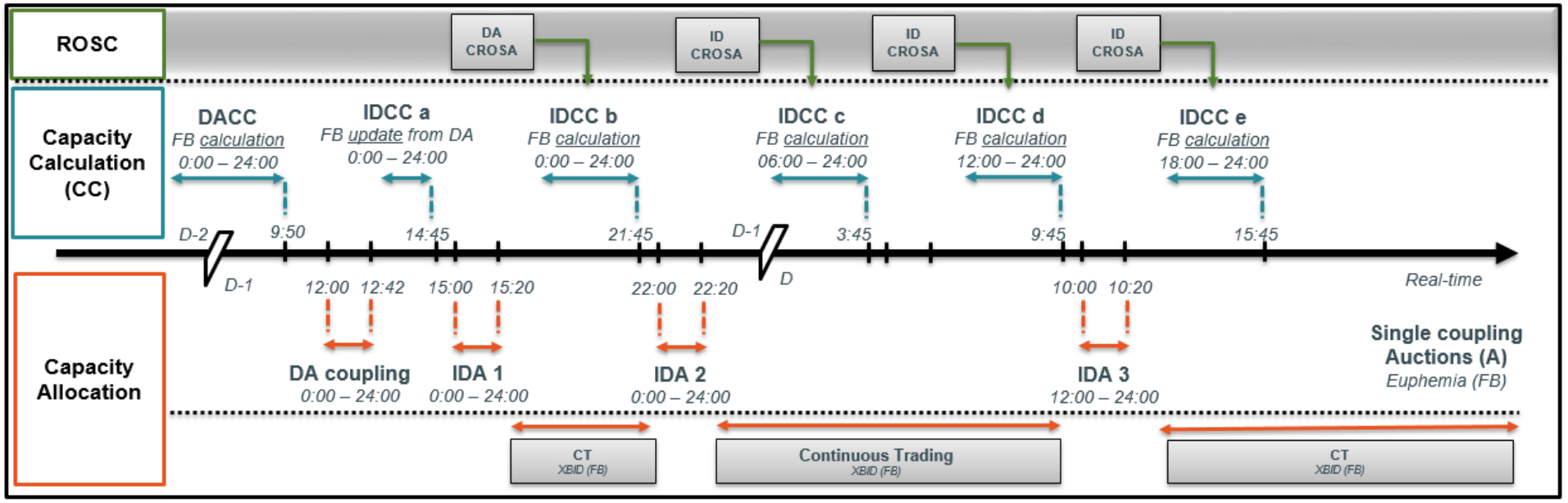
Decision: early March 2024

Phase:	Preceding CROSA ends:	ID capacity allocation:	For MTUs:	Implementation:	
IDCC(a)	/ (DA, leftovers)	15h D-1	00-24h		with IDA1: Jun'24
IDCC(b)	22h (⇒intermediate results)	22h D-1	00-24h	by 4M after the Decision	expected May'24
IDCC(c)	02h	04h D	06-24h	by 9M after IDCC(b)	exp. Feb'25
IDCC(d)	08h	10h D	12-24h	by 22M after IDCC(b)	exp. Mar'26
IDCC(e)	14h	16h D	18-24h	by 3M after the corresp. CROSA	exp. 1st half'26

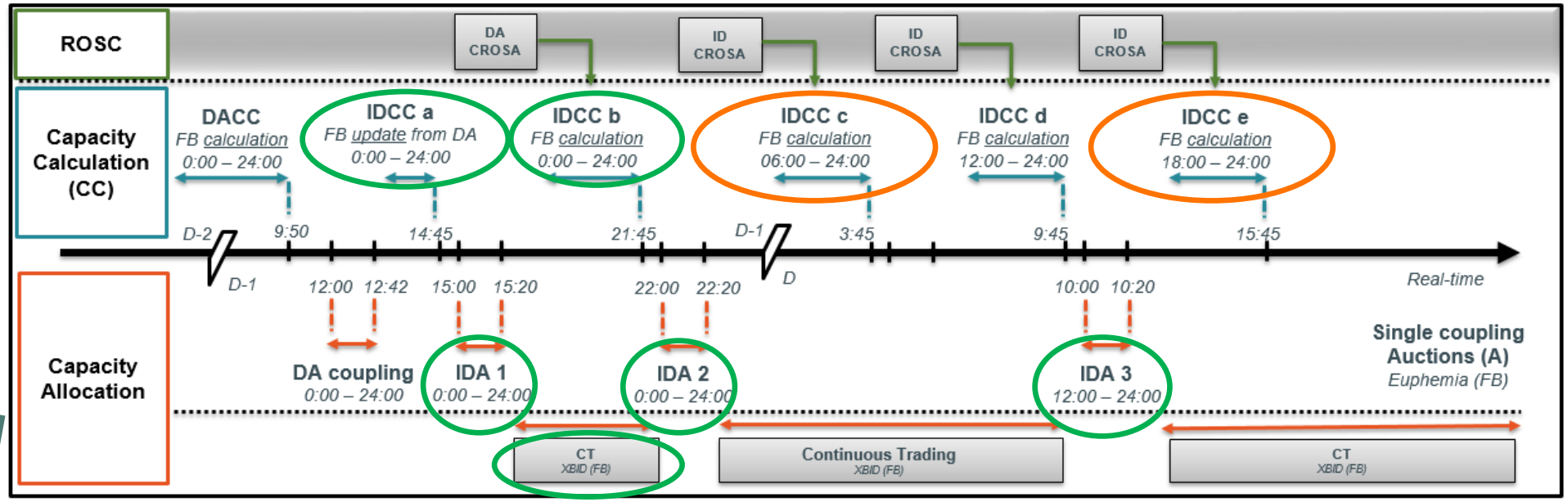
Newly introduced IDCCs via ID CCM escalation process

Acer will provide further insight towards MPs on the status of the Core ID CCM during the Core Consultatative Group meeting on 12 March 2024

Impact of ID CCM change on (Core) Congestion Management Target model



Impact of ID CCM change on (Core) Congestion Management Target model



ID allocation for Core borders ATC/NTC based first, expected to move to FB allocation ~2026/2027

Core IDCC A:

- DA leftovers, based on DA FB domain provided to ID market at D-1 14:45 instead of D-1 21:45.

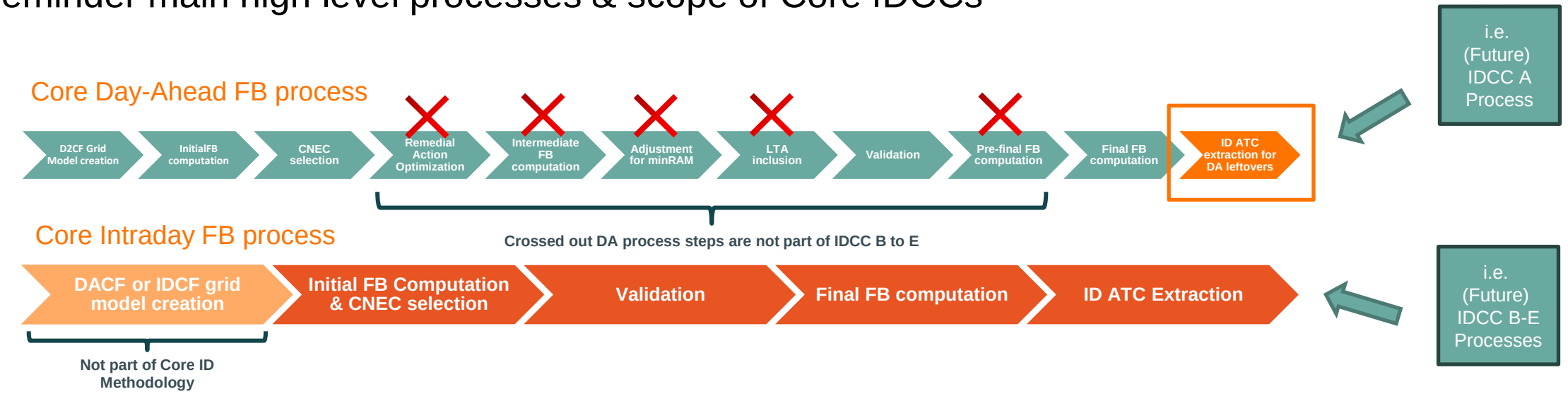
Core IDCC B to E:

- Full new ID FB (re)computations, based on latest grid models (DA Congestion Forecasts / ID Congestion Forecasts)

= Planned ID market model changes in 2023

= Newly added IDCCs

Reminder main high level processes & scope of Core IDCCs



Main challenge of the Intraday project is to produce accurate results, taking into consideration the security of the grid, in a limited amount of time

In order to do so, several differences are in place, compared to todays Core DA FB process :

- No virtual capacity (minRAM nor LTA inclusion)
- An as late as possible process to take into consideration as much as possible the application of remedial actions from the regional security analysis processes, to solve congestions via the DACF / IDCF grid models.
  - In the future the Core IDCC(s) B to E will be connected to the Core ROSC process
- Giving up of the Non costly Remedial Action Optimization (NRAO) – To allow for waiting on more mature grid models
- Merge of the Initial and Intermediate computation, Merge Pre-final with Final computation
- No coordinated validation (now nor in the future)

Update on Core IDCC A (i.e. new DA leftovers) & IDCC B (a.k.a. IDCC1) parallel runs

Reminder

– The Core IDCC1 (now called IDCC B) External // run started on **Dec 5th 2022**. The Core IDCC A External parallel run started on **Dec 8th 2023.** Both processes are foreseen (and required) to Go-live at ID auctions go-live at the latest.

Main assumptions & configurations taken in both parallel runs

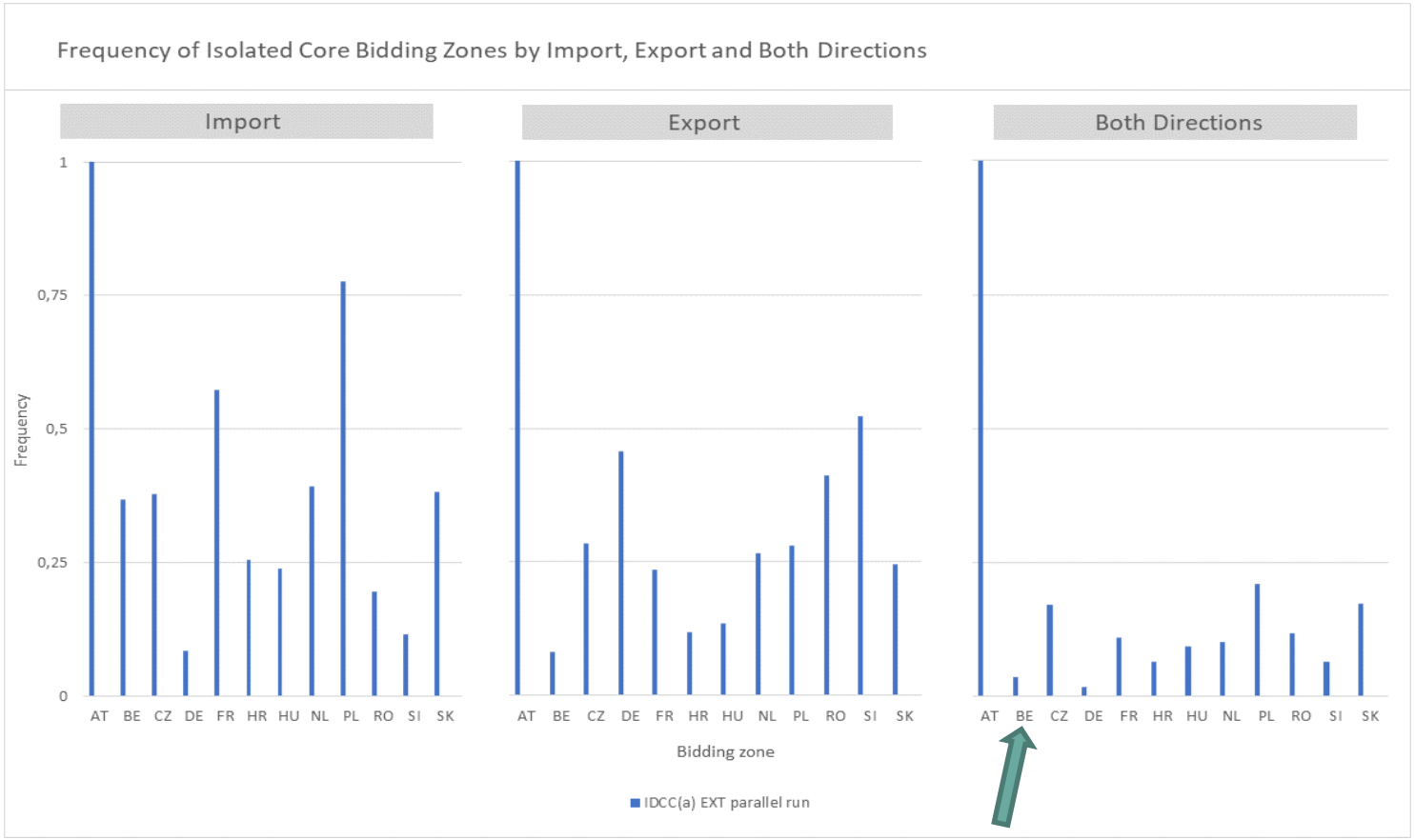
Topic	15:00 D-1	22:00 D-1	
	IDCC A	Today in operation: operational DA leftovers + increase/decrease	IDCC B
FB Domain (Input)	DA Leftover FB domain – Shifted to DA MCP point + Updated TSO preferences for virtual capacity (Based on D-2 grid model) LTA capped to 1500 MW	DA Leftover FB domain – Shifted to DA MCP point + Updated TSO preferences for virtual capacity (Based on D-2 grid model) LTA capped to 1500 MW	New ID FB domain (Based on D-1 grid model)
FRM	10%	10%	5%
ATC Extraction Algorithm	Iterative approach PTDF threshold: 0.5% RAM_ID threshold: 10 MW[1]	Optimized approach PTDF threshold: 0.5% RAM_ID threshold: 10 MW	Iterative approach PTDF threshold: 3% RAM_ID threshold: 50 MW
Other	Decrease with justification possible via ATC validation as discretionary action of a TSO	+ 300 MW increases possible if both TSOs confirm Decrease with justification possible as discretionary action of a TSO	Decrease with justification possible via ATC validation as discretionary action of a TSO

1) Measure to increase capacities by avoiding that ~pre-congested elements far away from the border limit the capacity on the border. Concretely, CNECs with RAM below the RAM_ID threshold are ignored during the ID ATC extraction for border X if the PTDF impact of an exchange through border X is below the PTDF threshold.

Update on Core IDCC A parallel run

Core IDCC A External // run (08/12/23 – 28/01/24)

UPDATE



When the ID market opens at 15:00 D-1, the available capacity will depend on how much capacity was taken by the DA market.

BZ isolation occurs throughout Core although full BZ isolation in Belgium is fairly limited.

Biggest impact on BZ isolation is when TSOs decide to keep their borders closed (meaning: 0 capacity until 22:00 D-1)

- Driver: operational security analysis process is to be adapted to include the ID trades between 15:00 and 16:00 D-1. The implementation of this adaptation is ongoing (involving RCCs, TSOs & ENTSO-E) yet uncertain to be completed by June
- In the EXT//run APG has made this explicit.
- It is not excluded other Core TSOs will do it too. Elia will not do this, and continuous to monitor how this impacts the capacities on the Belgian borders

Update on Core IDCC B parallel run

Core IDCC B External // run (06/09/22 – 28/01/24)

UPDATE

From BE perspective, the IDCC_B parallel run performs worse compared to the operational DA leftover + increase/decrease process.

Root cause: remaining precongestions in the grid models used for FB calculation, which impact in first order the Netherlands and in second order Belgium.

To put things in perspective: with IDCC_B the BZ isolation for BE is signficantly better compared to the period before Core go-live. Statistics from CWE period 2021 – mid 2022:

- **Import closed: ~25%**
- **Export closed: 25 – 35%**
- **Full BZ isolation: 10 – 15%**

Mitigation measures to improve capacities

As mentioned earlier, it is expected that there be a study requirement (Apr 2025) on how to increase ID capacities via the IDCC processes. In advance of the outcomes of this study, Core TSOs are investigating possibilities to improve IDCC A & IDCC B capacities.

For IDCC A

1. Adapt parameterization of ATC extraction algorithm. **Expectation:** this can bring some improvements and is possible to adapt by go-live
2. Adapt the settings for virtual capacity inclusion? **Expectation:** Core ID CCM gives the discretionary right to every TSO to define these parameters. In general TSOs have set these parameters in line with current operational process. For Elia this implies full inclusion of LTAs and 20% minRAM (rAMR), whereas further increasing the minRAM on Elia CNECs has no impact as the congestion is located elsewhere.

Parameter setting EXT//run	50 Hertz	Amprion	APG	CEPS	ELES	ELIA	HOPS	MAVIR	PSE	RTE	SEPS	TTG	TTN	TEL	TNG
rLTAincl	0,2	0,2	0	1	1	1	1	0,2	0	1	0,2	0,2	0,2	0,2	0,2
rAMRid	0,2	0,2	0	0,7	0,7	0,2	0,2	0,2	0,2	0,2	0,5	0,2	0,2	0,2	0,2

Mitigation measures to improve capacities

As mentioned earlier, it is expected that there be a study requirement (Apr 2025) on how to increase ID capacities via the IDCC processes. In advance of the outcomes of this study, Core TSOs are investigating possibilities to improve IDCC A & IDCC B capacities.

For IDCC B

1. Continue investigations in improvements in IGM creation by individual TSOs

1. **Assumption:** less congested grid situations in IDCC
2. **Status:** Elia has implemented improvements during summer 2023, no concrete plan from other TSOs

2. Adapt losses compensation in FB calculation from „full Continental Europe“ approach to „ bidding zone per bidding zone“

1. Losses compensation is required seen Grid models are balanced via a AC loadflow, while FB capacity calculation uses a DC loadflow (i.e. excluding losses).
2. **Assumption:** increased accuracy for loadflow results and less congested grid situations in IDCC
3. **Status:** ~~POC stage, question mark on possibility to have it implemented by go-live IDCC B~~ **==>> Update 29/02: Implemented in IDCC_B // run.**

3. Implementation of additional IDCC computations – IDCC(c), IDCC(d) and IDCC(e)

1. **Assumption:** Update of capacities based on improved forecasts for congestion management including additional agreed remedial actions
2. **Status:** expected as part of ACER decision, implementation in 2025/2026

Intraday Auctions planning and Status

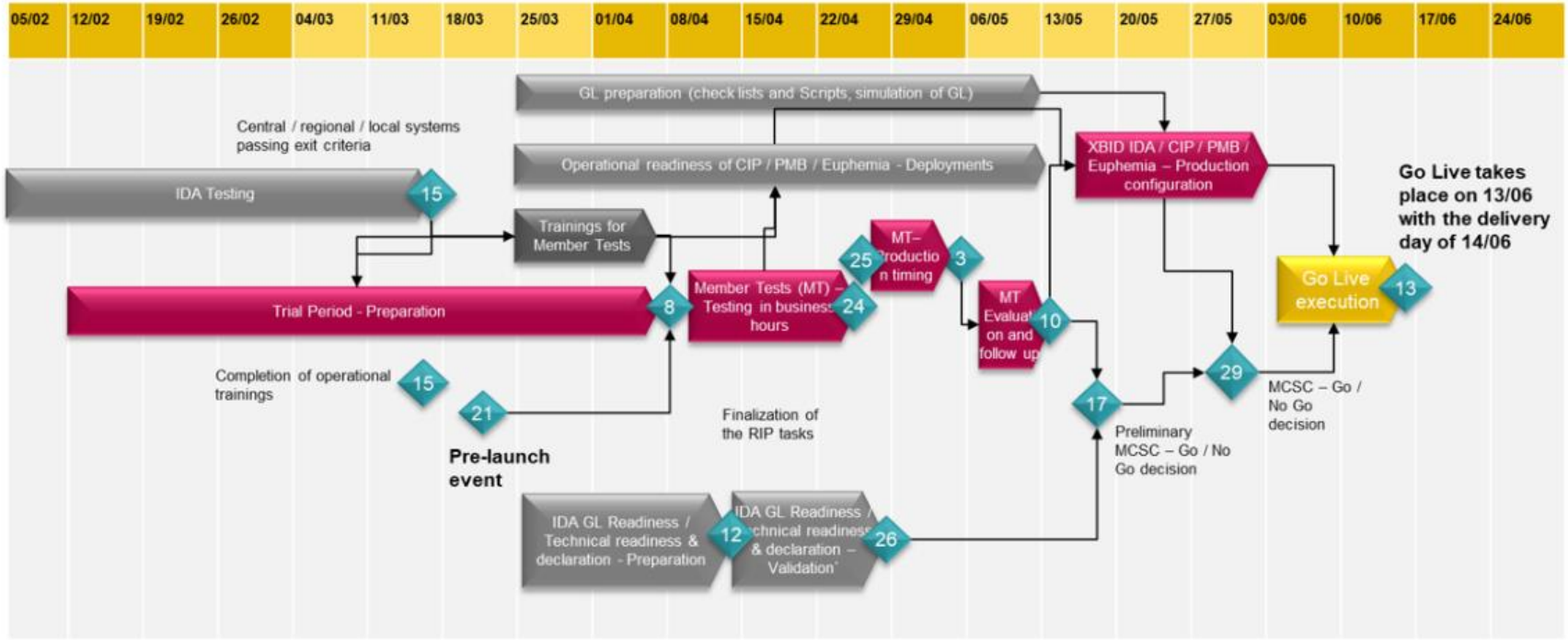
Jean-Michel Reghem - Thomas Van den Broucke

Testing: Current Status 19/2/2024

- XBID 4.0 version (supporting IDA-IDCT transitions and IDA initialization/validation) testing close to be completed
- PMB 12.2 (incl. Euphemia) supporting IDA allocation: final tests ongoing
- IDA Functional Integration Tests (FITs) completed (July 23-January 24)
- IDA Simulation Integration Tests (SITs) ongoing (December 23 – March 24)
- Post-coupling testing on Belgian borders finalized at 80% (Waiting TenneT NL systems finalization in March)
- Member tests organised by NEMOs: from 8/4 to 3/5 (under condition that SIT is finalized with expected quality)
- Go Live planned for 13/6/2024 (Delivery Day 14/6/2024) with the 3 IDAs

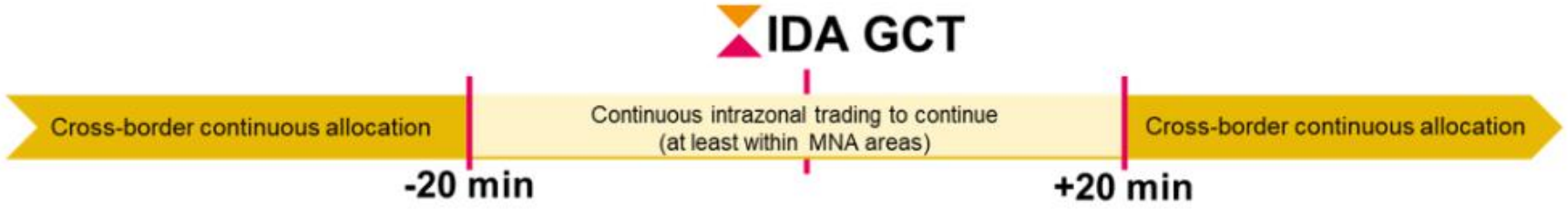
More info during SIDC IDA Go Live pre-launch event on 21/3/2024

Members testing planning (in case SIT exit criteria met)



- **Member tests** are expected to take place for **4 weeks starting on April the 8th** with **two different timing arrangements**:
  - **Office hour timing: 08-12/04, 15-19/04 and 22-24/04**
    - IDA3: 09:00
    - IDA1: 14:00
    - IDA2: 16:00
  - **Production like timing: 25-26/04 and 29/4-03/05**
    - IDA3: 10:00
    - IDA1: 15:00
    - IDA2: 22:00

Summary of IDA operational timings – regular process



More info on unregular process (partial decoupling/Process extension/IDA cancellations) and MPs information in case of fallback

→ IDA Go Live pre-launch event on 21/3/2024

Summary of impact for Belgian market parties

- At IDA Go live: Same **border granularities** as in continuous trading: BE-DE / BE-NL: 15min BE-FR: 30min
- **Offered products by NEMOs in Belgium**: 15min and simple blocks (no multiple time resulolution of 60min products).
  - Reason: simplification to allow allocation process in 7min max
  - Cross-product matching implemented in Euphemia to manage coupling with France and 60min BZs
- IDA: Even if IDCC in flow based, coupling in **ATC** (difference with DA) as IDCT → ATC extraction
- **Allocation in flowbased:** once ID continuous trading could support this allocation mode (R&D – init planning: Q4 26)
- At IDA go live: Capacity is expected to be available on Belgian borders to SIDC IDA from **15:00** and SIDC IDCT from 15:20 **compared to 22:00 currently.** Discretionary actions of **other Core TSOs** to **reduce the capacity to their borders temporarily to 0** cannot be excluded at this moment. Elia will continue to monitor how these discretionary actions impact the capacities on the Belgian borders.

Long Term FB implementation: insights on recent simulations and & Elia's view on way forward

Steve Van Campenhout, Cyriac de Villenfagne

Since 2021 a flow-based implementation trajectory is ongoing for the 2025 yearly and monthly allocation of LTTRs on Core borders

Regulatory ambition: Nov 2024 for yearly 2025 auctions

Flow-Based Allocation
All TSOs + JAO

Regulatory ambition: Nov 2024 for yearly 2025 auctions

Flow-Based Capacity Calculation CCR Core

Flow-Based Capacity Calculation CCR Nordic

Regulatory ambition: by 1 year after DA & ID delivery

Recent simulations confirm the concern raised before by market parties re. a reduction of hedging possibilities

All TSOs have planned a workshop with market parties on Mar 22nd to present the results of these simulations. We share today the key insights and our view on the way forward.

Multiple simulations for the yearly timeframe have been performed

- Capacity input: 2023 Core Flow-Based domains as per Core LT CCM covering 12 timestamps, hereby taking minRAM as a variable parameter by making the calculations with 20%, 30% and 40% of minRAM
- Order book input: 2022 and 2023 data, including variants with normalized bid prices

Key insights

- Overall capacity allocated in FB is lower than in NTC
- **Low/zero volume of LTTRs allocated, even in both direction on some borders**. This effect is also present on the BE borders, with volume of LTTRs below 100 MW on BE>DE, BE>NL and NL>BE.
- Increasing the **minRAM** increases the overall volume of allocated LTTRs but **DOES NOT mitigate the low/zero effect.**
- This low/zero allocated volume effect **is a direct consequence of the design of the allocation algorithm**. Its objective function is to maximize welfare, whereby welfare is defined as congestion revenue (bid price * accepted volume) and borders are put in competition.

Elia’s view on the way forward (1/2)

1) Avoid a step back (reducing hedging possibilities) before going to the to-be-defined LT market model ➔ **put LT FBA implementation on hold**

2) Start a **conceptual discussion on the LT market model** as per the timeline set out in the **EMDR**

- The formal adoption of the EMDR is expected between Apr 2024 and June 2024
- The EMDR includes an assessment of possible improvements of the forward market design. This includes changes to the frequency of allocation / maturity / changes to the nature of LTTRs (options vs. obligations), ways to strengthen secondary market, and possible introduction of virtual power hubs.
- The EC is tasked to perform this impact assessment and adopt an implementing act by 18 respectively 24 months after entry into force of the EMDR ➔ FCA 2.0 would include these improvements by summer 2026.

Elia's view on the way forward (2/2)

3) We anticipate discussion & pressure to evolve meanwhile to a coordinated capacity calculation approach, inspired by the current Core LT CCM scenario-based FB capacity calculation as basis and adding a NTC extraction step. Our view is to **continue the coming years with the uncoordinated NTC approach** as we believe stability and foresight is more important than moving from one suboptimal model to another suboptimal model:

- The long-term market model can take a completely different direction: flow-based, NTC, or something else
- A scenario-based approach does not fit with longer maturities (Y+2, Y+3). A statistical approach is needed.
- Designing an NTC extraction is not a quick win: there is some arbitrariness involved, and arbitrariness does not match well with providing efficient hedging possibilities and defining rules for congestion income distribution

4) Whilst the LT market model is being shaped and enshrined in regulation, we are open to **move forward in the coming years with no-regret – yet impactful! – evolutions**. When we think today about no-regret evolutions, we think about:

- Longer maturities (Y+2 / Y+3 products) hereby developing the foundation of a statistical approach ➔ this is possible to do on bilateral / border basis, without having to adapt the existing regulatory framework. Yet it requires some regulatory comfort
- Transition to a firm product not impacting the operation of short-term markets. This is about removing LTA inclusion from the DA timeframe, and about finding the right balance in volume of LTTRs to offer (hedging benefits ⇔ socialization of the LTTR's firmness) ➔ this requires adaptations of regulatory frameworks in Core (link with DA+ID CCM) and on pan-EU level (firmness - CID methodologies)

SDAC 15 min MTU

Change in nomination deadline for Belgium

Elmo Van Tielen

Shift to 15 minute Market Time Units (MTU) in SDAC requires changes in the operational process

- In October 2023, MCSC proposed an increase in runtime of the market coupling algorithm (Euphemia) from 17 to 30 minutes
- The consequence is a delayed publication of the final SDAC results:

	Current timings	2025. timings	
Coupling	12:00	12:00	NEMO Order book Gate Closure Time
	12:10	12:10	PMB GCT // Reception of all Order Data files in PMBs à Start of Calculation
	12:40	12:27	Deadline to send the message for Risk of Partial Decoupling
	12:27	12:40	End of Calculation
	13:05	12:52	Deadline to declare Partial Decoupling
	12:45	12:58	Publication of Preliminary Results and sending to the TSOs
	12:58	13:11	Publication of Final Results à Start of Notification Process
	13:50	13:50	Deadline to send the message for Risk of Full Decoupling
	14:20	14:20	Deadline to declare the SDAC Full Decoupling or Publication of coupled Results

Source: MCSC - MCCG #4 20/10/2023

→ Reduced time between SDAC results publication and nomination deadline

Note: During MCCG on 26/02 MPs were informed by MCSC that it is assessing possible shortening of confirmation steps by which the Final results would be published sooner then 13h11. Elia will continue the foreseen changes presented on the next slides irrespective if the outcome of the MCSC assessment.

The later publication of SDAC results puts pressure on the nomination process

The current SDAC timing is already tight: numerous operations must be performed between market results publication and nominations

1. **Fetch** the SDAC results data and **book** them in the local IT systems
2. **Rerun** the optimization models used to calculate the final DA production plans for every asset in every country/bidding zone based on the clearing prices
3. **Validate** the new production plans and **check/act** on any imbalances
4. **Export** the results of these runs into the local IT systems, in order to generate the files required for the generation nomination
5. **Book** all day-ahead transactions in the Deal Capture System
6. **Nominate** the production plans to the TSOs (and circulate them to the plants)

Scenario	Nomination type	Nomination deadlines depending on the Core bidding areas related to EPEX SPOT				
		BE	FR	DE/LU and AT	NL	PL
Normal day → Market Results published between 12:45 and 13:05	Hub	14:00 (hub 1) 14:30 (hub 2)	14:30	14:30	14:00	14:30
	Cross-border	14:30	14:30	14:30	14:00	14:30
	Generation	15:00	16:30	14:30	15:15	15:00 14:30*
Market Results published between 13:05 and 13:50	Hub	14:45 (hub 1) 15:00 (hub 2)	15:00	15:00	15:00	15:00
	Cross-border	15:00	15:00	15:00	15:00	NA
	Generation	15:30	17:15	15:00	15:45	15:00 14:30*
Market Results published between 14:20 and 14:50	Hub	15:15 (hub 1) 15:30 (hub 2)	15:30	15:30	15:30	15:30
	Cross-border	15:30	15:30	15:30	15:30	15:30
	Generation	15:30	17:15	15:45	16:15	15:30

Source : Epexspot

Source: MCSC

→ Nomination deadline of 14:30 cannot be delayed as it impacts the start of the DA TSO security analysis

→ **Proposed BE solution:** Remove hub 1 nomination deadline to allow more time to BE market parties

Elia proposes to remove the hub 1 nomination deadline and maintain a single nomination deadline for Belgian market parties

Current nomination deadline:

HUB 1	HUB 2
14:00	14:30
Ultimate deadline for new nominations	Only modification of existing nominations

Nomination deadline with 15 min MTU:

~~HUB 1~~	SINGLE HUB
~~14:00~~	14:30
~~Ultimate deadline for new nominations~~	Single deadline for all nominations

→ Elia intends to implement notification system to MPs in case of missing nominations

HUB 1 will also be removed for the procedure under delayed market results publication; i.e. a single hub at 15:00 or 15:30 depending on the delay (cf. previous slide)

→ **TIMING:** entry into force when SDAC switches to 15 min MTU

AOB & Conclusions

AOB

- **SDAC Decoupling training session with Market Participants 20/03/2024**
  - **OBJECTIVE**
    The training session is organized to give all parties involved the opportunity to validate that they are properly prepared to handle such a day-ahead Full Decoupling incident in real operations and real-life conditions following simulation timings.
  - For the registration of Market Participants please contact your NEMO and/or send an email to Joint Allocation Office (JAO) to the following email address: helpdesk@jao.eu.
- **Change secretary**:
  - Guillaume Valentin will take over the secretary role of Thomas Van Den Broucke as from Q1 2024

Conclusions & next steps

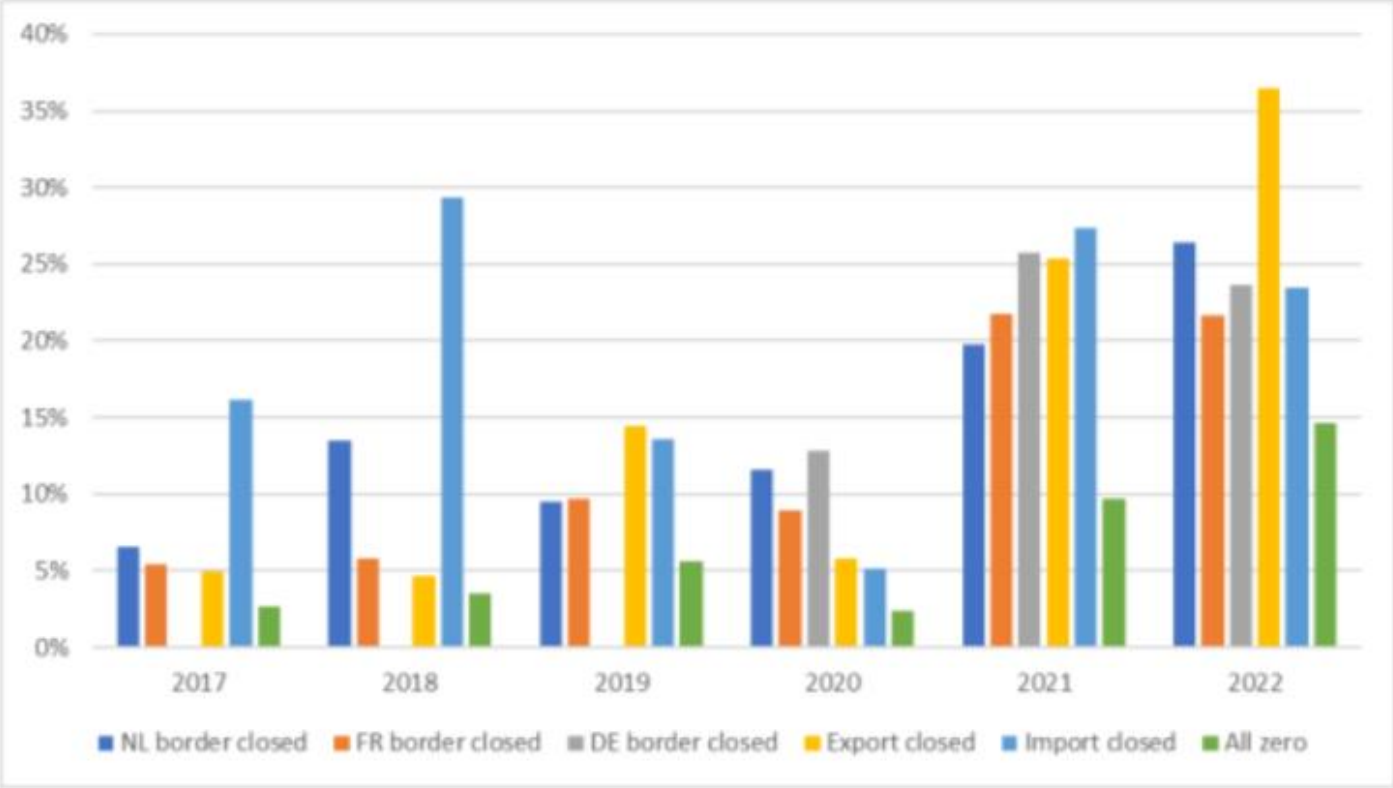
Recap of main conclusions, actions & defined next steps after todays WG EMD-SO

- (based on discussion of meeting)

ANNEX

IDCC: historical statistics on BZ isolation

Figuur 8: Percentage van de uren waarin de waarde ID ATC gelijk is aan nul (< 1MW) per grens en per richting



Figuur 9: Percentage van de uren waarin de ID ATC waarde tegelijk gelijk is aan nul (<1MW) in beide richtingen van de grens met Nederland (NL *border*), de grens met Frankrijk (FR *border*) en op ALEGrO (DE *border*) en alle grenzen samen ("*All zero*"); alsook het percentage van de uren waarin de uitvoer- of invoercapaciteit gelijk is aan nul