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2. **Energy View Point**
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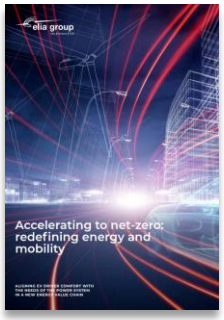
elia group
Viewpoint 2023
Put flexibility to work

What is the Viewpoint?

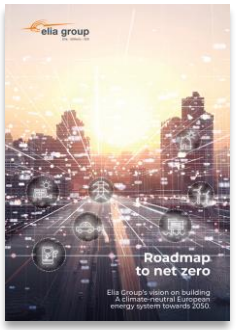
Each year, Elia Group publishes a study on a topic of great relevance to society

2018: Consumer-centricity

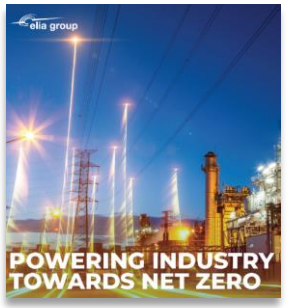
2019: Preparing the power system 2030



2020: E-mobility



2021: Climate neutral European energy system



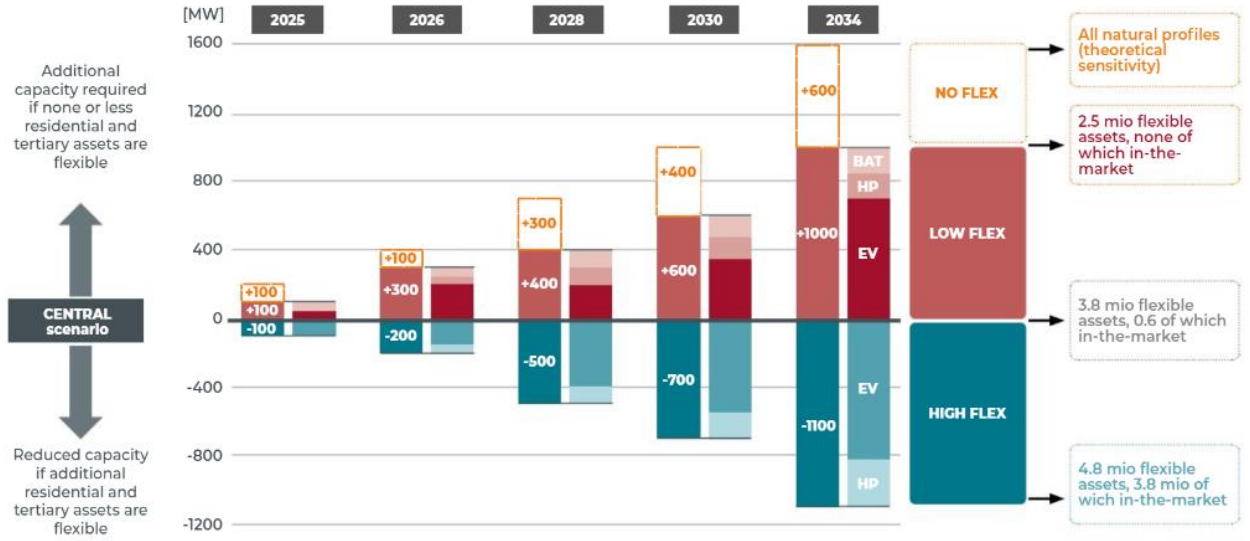
2022: Powering industry towards net zero

2023: Put flexibility to work

Why Flexibility? Why now?

Flexibility is needed to avoid the installation of additional capacity in the Belgian system

FIGURE 4-25 — IMPACT OF END USER FLEXIBILITY IN BELGIUM ON THE GAP VOLUME IN THE EU-BASE SCENARIO

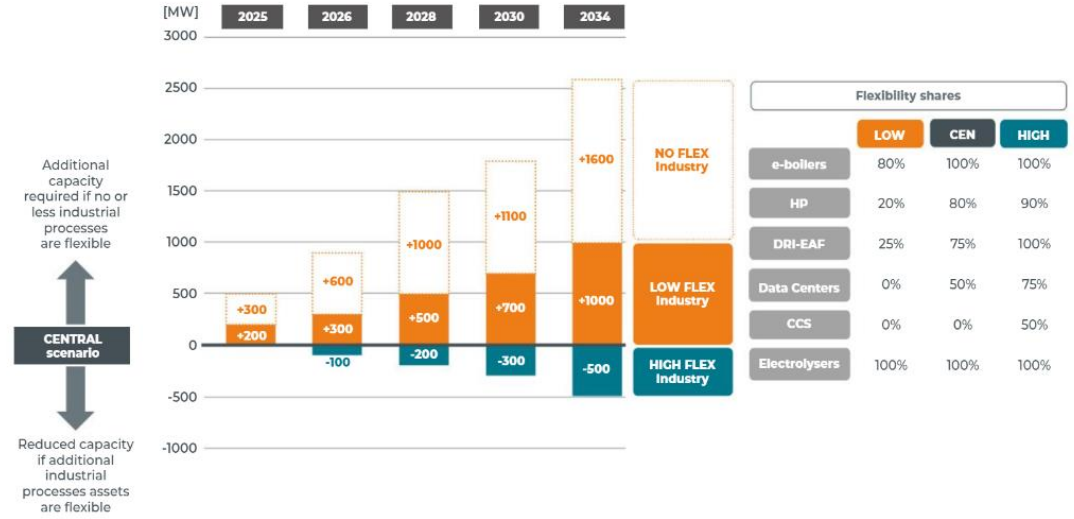


Unlocking end user flexibility (most importantly smart consumption = implicit flexibility) can allow to reduce the required Belgian capacity by 1000 MW by 2034 (approximately 2 CCGT)

Adequacy and flexibility study for Belgium 2023

New electrified processes (electrolysers, industrial e-boilers/heat pumps, data centers…) behaving flexibly also contribute to reduce by 500 MW the required capacity by 2034

FIGURE 4-26 — IMPACT OF FLEXIBILITY FROM ADDITIONAL INDUSTRIAL PROCESSES IN BELGIUM ON THE GAP VOLUME IN THE EU-BASE SCENARIO



[Adequacy studies (elia.be)]

Why Flexibility? Why now?

A flexible demand is foreseen in all scenarios of the German Network Development Plan to integrate RES in the system

Tabelle 11: Überschüssige EE-Erzeugung je Szenario

	A 2037	B 2037	*C 2037*	A 2045	B 2045	C 2045
EE-Stromerzeugung in TWh	*888*	911	*932*	1.042	1.028	1.128
Überschüssige EE-Stromerzeugung in TWh	*47,6*	56,0	*42,4*	26,5	41,2	35,2
Anteil der überschüssigen EE-Stromerzeugung am Potenzial in %	*5,3*	5,8	*4,5*	2,5	3,9	3,0

Netzentwicklungsplan Strom 2037 mit Ausblick 2045, Version 2023

Central scenario (B) considers that in order to integrate 1.000 TWh of RES in the system, a total of 80 GW of household flexibility will be needed

Table 2: Share of market-oriented units in private households

in %	Scenario A	Scenario B	Scenario C
2037	50	100	75
2045	75	100	100

Source: Transmission system operator

[Netzentwicklungsplan 2037/2045 (2023)]

So, how do we “put flexibility to work”?

PROBLEM STATEMENT

We want to give the consumer more control over the value they get out of small assets.

We want to lower the barriers for new energy players to enable more competition and have more and better services behind the meter.

We want existing market parties to adapt their services so the consumers can access the offerings of these new entrants.

OUR APPROACH

Flexibility is a topic well known at Elia group, so in order to be less biased we opted for an outside-in approach

Identification of barriers through interview of energy entrepreneurs, established players and end users

Ideation and follow the path of a start up through the student challenge

Proposal of solutions for the barriers through action plans

What is flexibility in the viewpoint?

What we have highlighted in the study

In scope | **Out of scope**

- Active power only
- Focus on the services with the biggest potential: **Trade** > **Local optimization** > Balancing & capacity > Grid

Sources

Where does flex come from?

Generation

Decentralised RES only

Load

Focus on newly electrified usages (ev, hp)?

Storage

Advanced grid assets

Segment

Who owns the flex assets ?

Households

SMEs

Industries

SO owned

Solutions

How is flex being acquired?

Market - based

Rule - based

Technical

Services

What is flex being used for?

Trade

Balancing & adequacy

Grid

Local optimization

Barriers identification

A total of 48 stakeholders were interviewed to gather barriers on flexibility

	Existing market actors	New entrants/start ups	End-users	Associations	OEMs
	Sachsen Energie, VATTENFALL TBC, RWE TBC, SOLANDEO TBC, TenneT	1KOMMA5°, Entelios, Lumenaza, ES·FOR·IN Energy Services for Industry, gridX, decarbon1ze, LichtBlick, tibber	ENERTRAG Eine Energie voraus, SIEMENS, BORDERSTEP, Berliner Wasserbetriebe	bund der energie verbraucher	SMA SOLAR TECHNOLOGY, sonnen, Elli, thermondo
	yuso, ORES TBC, fluvius TBC, luminus TBC, ENGIE TBC, TotalEnergies TBC	aug·e, LIFEPOWR, Jabba, octave .energy, B.new.able, JEDLIX, Alliance Network Flexibilitypower, Opteco, FINESCO	ExxonMobil, ArcelorMittal, Pfizer, brussels airport, UNILIN, colruyt, Agristo, Aquafin	febeliec TBC, Febeo TBC, Synergrid TBC, EVB	NIBE, smappee TBC
	Statnett The future is electric, elering TBC	KRAKEN FLEX		BEUC, eurelectric, ecos, FLEXIBLEPOWER ALLIANCE NETWORK, Elaadnl, TRANSPORT & ENVIRONMENT	

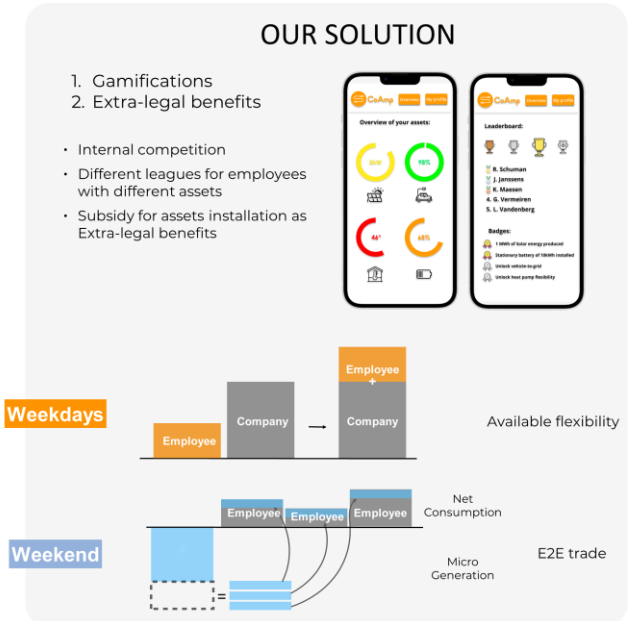
Student challenge

A new approach for Elia to follow the development of a start up and understand its barriers

- 10 week hackathon in Belgium and Germany
- The students had to present their start idea that would unlock more flexibility
- 23 Belgian students from 3 universities
- 20 German students from 2 universities
- The students had to present their start idea that would unlock more flexibility
- The winning ideas (CoAmp and Luniverse) could be further implemented in the company

CoAmp

Cross-voltage sharing of electricity



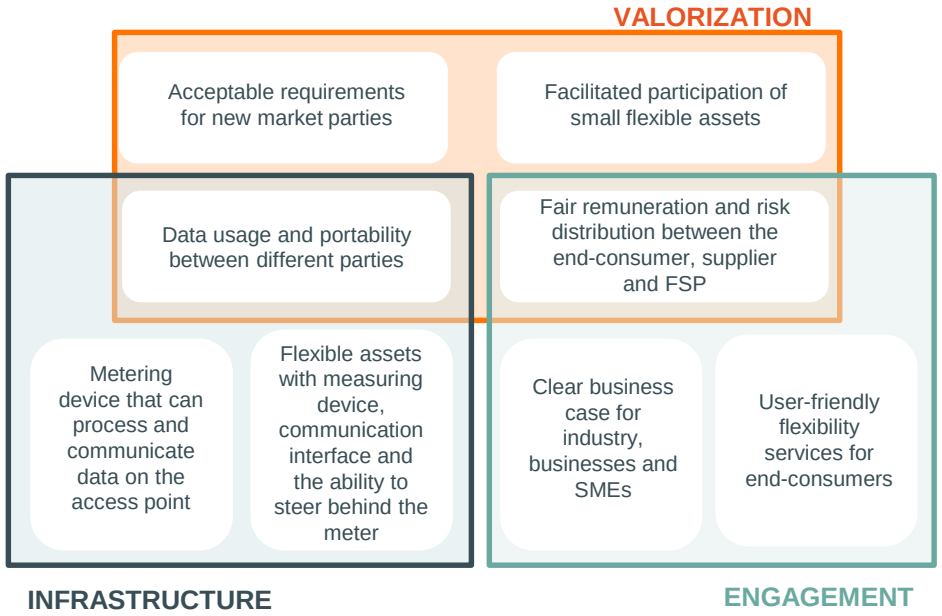
LUNIVERSE

"All-in-one" Application for electricity

- Bundling of interfaces from different devices from different manufacturers
- Bundling of different electricity suppliers
- Marketing of our application as a SaaS solution
- Additional offers & hardware (smart switches, etc.) for our target customer
- Provision of reserve energy
- Controlling the use of energy

Barriers to flexibility

We have grouped the findings from our interviews in 8 main barriers and 3 clusters



Solutions

3 identified areas where we could act and a selected proposal of solutions

Empower residential and industrial consumers

- Easy access to smart meters
- Engage the consumer in the energy transition by giving them the right incentives and tools to optimize their electricity costs reflecting market and system state
- Show the business case of flexibility to potential flexibility holders (industry, SMEs…)

Simplify data access and ensure interoperability

- Advocate for upcoming regulation on data access and portability
- Facilitate market communication processes through centralized data management
- Enforce “flex-ready” requirements and standards to ensure new appliances are future proof

Foster competition and open the energy services market

- Redesign market entry requirements and create new market models for suppliers and BRPs

What is next?

- Alignment on our proposed solutions with market parties and associations (DSOs, suppliers, BRPs, NRAs…)

- **Publication of the study on the 21st of November**

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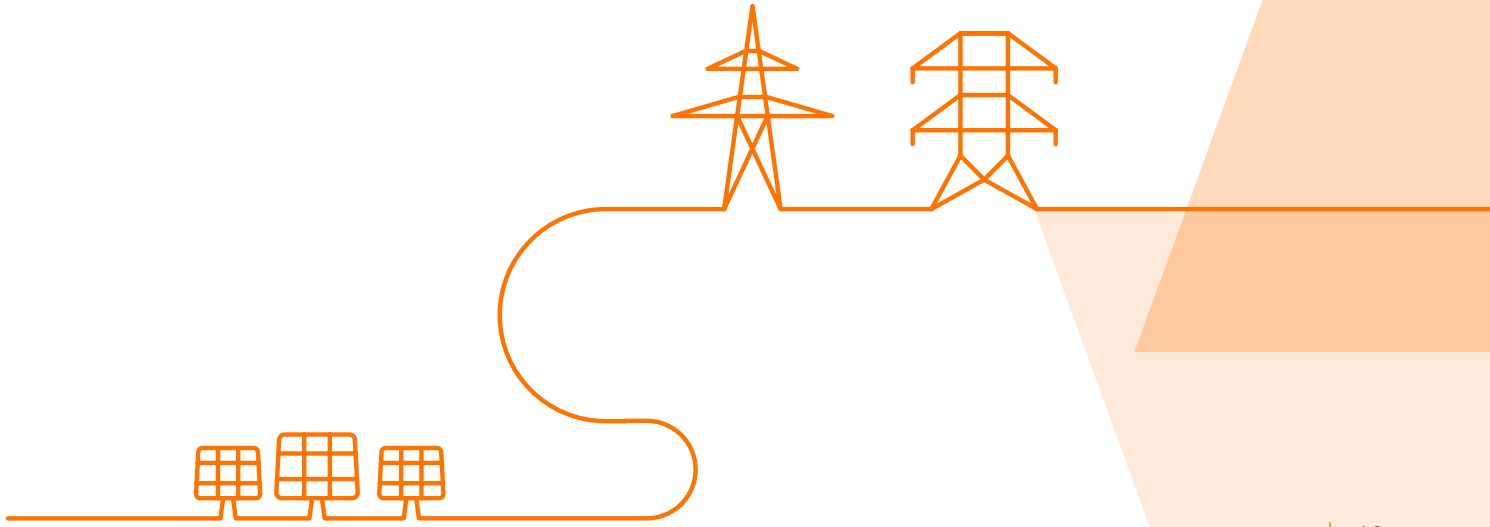
Connections with flexible access to the federal grid: design note

Public consultation 14/07 - 18/09

Sept 2023 | Elia

Agenda

1. Context
2. Current legal framework & operational methodology
3. Short term evolution of the legal framework
4. Future evolution



Context

Need for flexibility to anticipate the grid user's connections

- During the connection study, connection solutions with flexible access can be offered - if necessary, for a temporary period - **to provide rapid access to the grid** for potential future grid users **in situations where the grid's capacity requires reinforcement** for the requested connection. Under this framework, grid capacity is made available to the network user, but cannot be guaranteed in all operating situations. Depending on the state of the network, **this capacity may therefore be limited in order to keep the system secure**.
- The decarbonization of our society through the massive development of renewable energies and the electrification of demand is pacing up, implying an increased number of connection requests. The result is a **significant increase in connection proposals with flexible access**, which can no longer be considered a marginal solution.
- The Code of Conduct currently describes part of the regulatory framework in this area. However, certain elements, such as **the operational conditions** for power limitation instructions, **could eventually still be clarified in the existing regulatory framework**.

Public consultation on the operational methodology to define and operate grid connections with flexible access

- Due to the significant increase of grid connection proposals with flexible access on the federal network, **the CREG asked Elia on May the 15th to launch a public consultation** on her vision of connections with flexible access including following aspects :

1. de criteria die een beperking in de gegarandeerde aansluitingscapaciteit rechtvaardigen, rekening houdende met het proportionaliteitsbeginsel;
2. de methodologie en aannames die door Elia gehanteerd worden bij het inschatten van de potentieel afgeschakelde volumes;
3. de impact, indien bestaande, van de door Elia ingeschatte afgeschakelde volumes op de business case van de kandidaat netgebruiker en/of in de operationele fase;
4. de operationele en financiële modaliteiten van een flexibele toegang voor de netgebruiker, waaronder de praktische en technische modaliteiten om het vermogen in productie of afname door Elia te beperken, eventuele vergoedingsmodaliteiten, eventuele impact op de BRP-perimeter en eventuele impact op de nettarieven;
5. de criteria die een beperking in de toegang in de operationele fase rechtvaardigen, rekening houdende met de doelstelling van het garanderen van de netveiligheid aan de laagste kost op systeemniveau en dus met het principe van doeltreffendheid;
6. de rechten en verplichtingen van de netgebruiker naar Elia toe enerzijds, bijvoorbeeld betreffende het volgen van een afschakelverzoek; en deze van Elia naar de netgebruiker anderzijds, bijvoorbeeld betreffende een rapportering of motivatie, volgend op het gebruik van de mogelijkheid tot beperking van de toegang.

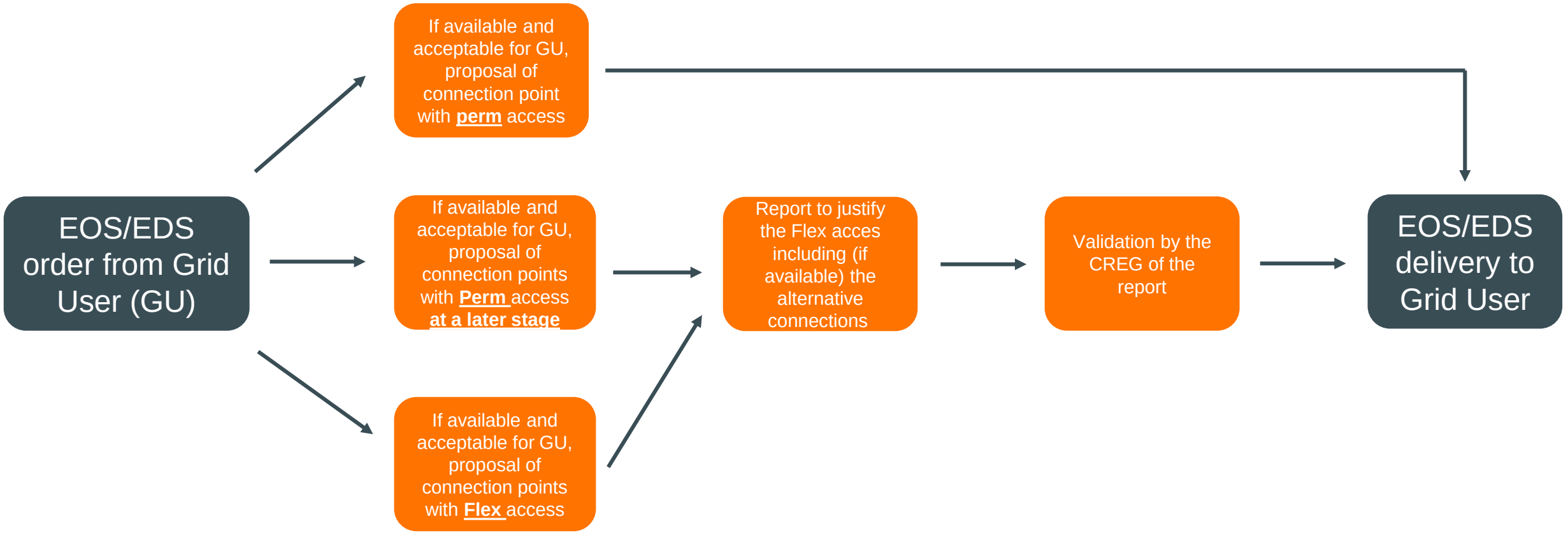
Current legal framework & operational methodology

Legal Framework

Etudes d'orientation et de détail (art. 22 §4 et art. 46 §§2 et 3)	Possibilité de proposer un raccordement avec accès flexible lors de l'étude d'orientation et/ou de détail pour les unités de production, unités de stockage d'énergie et installations de consommation, si la capacité nécessaire n'est pas disponible (refus de raccordement permanent)
Procédure (art. 61 §1)	Elia établit un rapport technique à l'attention du demandeur et de la CREG, pour approbation, pour justifier son choix par des critères objectifs et fondés. Une copie est envoyée à la DG Energie du SPF Economie.
Rapport technique (art. 61 §3)	Le rapport technique précise le moment prévu des renforcements prévus le cas échéant, la puissance permanente et la puissance flexible, et une estimation de la durée moyenne et totale par an de flexibilité
Activation de la flexibilité (art. 61 §4)	En cas de congestion et lorsque la sécurité et fiabilité du réseau sont menacées
Limitation dans le temps (art. 61 §§2 et 3)	Le raccordement flexible est limité dans le temps jusqu'à la réalisation du renforcement nécessaire du réseau. •Si le renforcement n'a pas lieu au moment prévu, Elia demande à la CREG une prolongation de l'accès flexible. •Si le plan de développement ne prévoit pas de renforcement nécessaire du réseau, il n'y a pas de limitation dans le temps.
Réservation de capacité (art. 34 et 57) et contrat-type de raccordement (art. 60)	Lors de la signature du contrat de raccordement, la capacité est réservée, tenant compte du caractère flexible de l'accès. Le contrat-type de raccordement contient les modalités de l'accès flexible, ainsi que les modalités de contrôle de puissance active.

Oriëntatie- en detailstudies (art. 22 §4 en art. 46 §§2 en 3)	Mogelijkheid om een aansluiting met flexibele toegang voor te stellen tijdens de oriëntatie- en/of detailstudie voor productie-eenheden, energieopslageenheden en verbruiksfaciliteiten, als de benodigde capaciteit niet beschikbaar is (weigering van een permanente aansluiting)
Procedure (art. 61 §1)	Elia stelt een technisch rapport op voor de aanvrager en ter goedkeuring voor de CREG, om de oplossing te rechtvaardigen op basis van objectieve en deugedelijke criteria. Er wordt een kopie gestuurd naar het DG Energie van de FOD Economie.
Technisch rapport (art. 61, § 3)	Het technisch rapport specificeert de geplande timing van eventuele netversterkingen, het permanente en flexibele vermogen en een schatting van de gemiddelde en totale duur van de flexibiliteit per jaar.
Activering van flexibiliteit (art. 61, § 4)	In geval van congestie en wanneer de veiligheid en betrouwbaarheid van het netwerk wordt bedreigd
Beperking in de tijd (art. 61 §§2 en 3)	De flexibele aansluiting is beperkt in de tijd totdat de noodzakelijke versterking van het netwerk is uitgevoerd. •Als de versterking niet plaatsvindt op het geplande tijdstip, vraagt Elia bij de CREG een verlenging van de flexibele toegang aan. •Als het ontwikkelingsplan niet voorziet in de noodzakelijke versterking van het netwerk, is er geen tijdslimiet.
Capaciteitsreservering (art. 34 en 57) en standaard aansluitingscontract (art. 60)	Wanneer het aansluitingscontract wordt ondertekend, wordt capaciteit gereserveerd, rekening houdend met de flexibele aard van toegang. Het type-aansluitingscontract bevat de voorwaarden voor flexibele toegang, evenals de voorwaarden voor het regelen van actieve energie.

Studies for connection requests (EOS/EDS)



Methodology for the studies

Detailed in appendix of the consultation

1 Reference context

The study takes into account the evolution of the load and production (prediction and reservation), and their repartition in the Belgian network. The loadflows are based on market studies which are assumed unchanged by the study request.

2 Adaptation of reference context

This reference context is then adapted as follows, depending on the type of asset to connect in the study:

- For a **renewable energy production unit:** the non-reserved capacities of production and storage units that could impact the conclusions of the network study are set to zero.
- For **a non-renewable energy production unit**, the non-reserved capacities of non-renewable energy production and storage units that could impact the conclusions of the network study are set to zero.
- For **a consumption facility**, the non-reserved capacities of consumption and storage facilities that could impact the conclusions of the network study are set to zero.
- For **a storage unit**, the non-reserved capacities of non-renewable energy production and storage units that could impact the conclusions of the network study are set to zero.

3 Technical criteria

The technical criteria for a study are deemed to have been met, for each market situation and network condition (N, N-1, N-1-1), if :

- the requirements set out in the **contingency list** of the "methodology for coordinating operational security analysis in accordance with EU 2017/1485 (SOGL) "1 and the requirements of Regulation (EU) 2019/943 of June 5, 2019 on the internal electricity market are met;
- **voltage** at each network point remains within the specified limits;
- the **currents** in the various elements of the power system do not exceed the specified maximum values; the maximum values of the network elements that must not be exceeded are divided into permanent and temporary maximum values. Temporary maximum values can be used in an unplanned N-1 situation when remedial actions are available to reduce currents below permanent maximum values within 15'.
- **short-circuit currents** do not exceed maximum values;
- **dynamic and transient stability** of production units is ensured;
- **voltage quality** requirements are met.

4 Considered actions to meet technical criteria

During the study, actions are simulated to guarantee the technical criteria, in following sequence:

1. Standard operating topologies and preventive actions:

   Network security is ensured by proposing a network infrastructure and operating topologies that can be adapted for sufficiently identifiable, predictable and stable situations.

2. Curative actions in case of unexpected N-1

   After the loss of an element, certain technical criteria will be between their permanent and temporary limits. Bringing the system back within the permanent limits of these technical criteria will require a limited number of curative actions, which can be carried out in less than 15 minutes.

3. Network user flexibility (in the case of flexible access)

   This study takes into account the assumption that the new connection will always be modulated first in the event of congestion caused or exacerbated by this new demand. Thus, the figures given for flexibilized energy are the maximum expected activations of flexibility with unchanged network parameters and capacity reservations in the same zone.

Operational management of the GU connected with a flexible access

Technical framework

- **Unit's technical capabilities** of active power limitation following a setpoint from the TSOs are defined in the Federal Technical Reglement (art 83 & 97)
  - The flexibility is activated via **setpoints** of maximal injected power and maximal extracted power.
  - For operational purpose, **direct data exchange** are needed with the flexible unit to communicate setpoints, effective power and storage level.
  - **Back-up disconnection** after 5 min if setpoints are not followed.
- **In operation**, among network users connected with flexible access, **the most efficient** action is activated first. If this action is insufficient, the next most efficient action is activated. If, despite the activation, congestion remains**,** these non-structural congestion is managed by activating incremental or decremental offers on a technical unit**.**

Regulatory framework

- **Trimestral reporting** of activation to the CREG

Contractual framework

- The Code of Conduct defines the conditions of flexible access:
  - Permanent power and flexible power
  - Estimation of average and total activation of the flexibility per year
  - Time limitation of the flexible access linked with grid reinforcements
- Elia adds an estimation of the annual energy activated for an average year (see table).
- Flexibility must be activated on request of Elia, if not respected the GU can be disconnected.
- No financial compensation for activation of flexibility of a connection with flexible access.
- Impact of flexibility on participation in ancillary services, flexibility services, congestion management services, or CRM is the responsibility of the GU
- Tariffs for flexible access for load could evolve in next tariff period (in discussion with the CREG)

	Alternative de raccordement 1		**Alternative de raccordement 2**	
	Phase 1	Phase 2	Phase 1	Phase 2
Flex power (MVA)	x MVA	x MVA	x MVA	x MVA
Perm power (MVA)	x MVA	x MVA	x MVA	x MVA
Preventive flex activation (% of time)	X%	X%	X%	X%
Currative flex activation (% of time)	X%	X%	X%	X%
Flex activation (% of energy)	X%	X%	X%	X%

Short term evolution of the legal framework

Clarification on the access conditions

Under the **current regulatory framework**, the connection contract must contain the following information:

- The power for which access to the network is permanent ("permanent power")
- The power for which access to the network is flexible ("flexible power")
- An estimate of the average and total duration per year during which flexible power can be modulated
- Limitation in time to the time scheduled for commissioning the necessary network reinforcements provided for in the relevant development plan (unless the relevant development plan does not provide for the necessary reinforcements).

Elia propose a **clarification of the access conditions,** by reviewing this list as follows:

- Power whose access to the network is permanent ("permanent power")
- Power with flexible grid access ("flexible power")
- An estimate *of the average percentage of time during* which flexible power can be reduced
- *An estimate of the volume of energy not exchanged with the network on an annual basis (annual average on the total duration of the connection with flexible access.)*
- Limitation in time to the time scheduled for commissioning of the necessary network reinforcements provided for in the relevant development plan (unless the relevant development plan does not provide for the necessary reinforcements).

Code of Conduct

1 Elia proposes to amend the code of conduct to allow Elia to **propose a connection with flexible access to a grid user in the general interest as an alternative next to a permanent connection**. To this end, Elia proposes to differentiate between three situations that may arise during orientation or detail studies:

1. Refusal of connection in accordance with article 15 §1, 3rd paragraph of the Electricity Law;
2. Permanent connection proposal when this connection solution brings added value from a technical-economic point of view for the development of the power system and/or the network user.
3. Connection proposal with flexible access when this connection solution brings added value from a technical-economic point of view for the development of the power system and/or the network user.

2 Elia proposes to **modify the procedure** in order to simplify its execution, both for Grid User, the CREG and Elia, so that CREG's approval of each file is no longer necessary and does not delay the answer to the grid user.

3 The code of conduct will also have to be amended to include the following rules:

- Activation linked to the maximum power setpoints of a connection with flexible access is not remunerated.
- The list of conditions for connections with flexible access to be included in the connection contract.
- The list of elements of the "methodology applied to the network study part of the connection study" and the "reference context" that are expected in appendices 3 and 4 of a scoping study and a detailed study. Elia proposes that this list should consist of :
  - Description of the reference context taken into account in the study
  - Descriptions of the technical characteristics expected of the object of the request
  - List of technical criteria considered in the study

Timing

Changes to the standard connection contract will be incorporated into the current revision of this regulated document. A public consultation is scheduled for Q4 2023 or Q1 2024.

Changes to the Code of Conduct will be incorporated into a broader revision of the Code of Conduct. This work will start in Q4 2023.

Future evolutions

Grid User Flex for Congestion Management & balancing incentive 2024

Elia believes it would be useful to develop a more comprehensive **vision of the flexibility** needed to manage the power grid smoothly in the face of rapid and **massive growth in renewable energies, electrification and storage**. This vision is not the subject of this document but will be developed in the medium term in consultation with the players concerned.

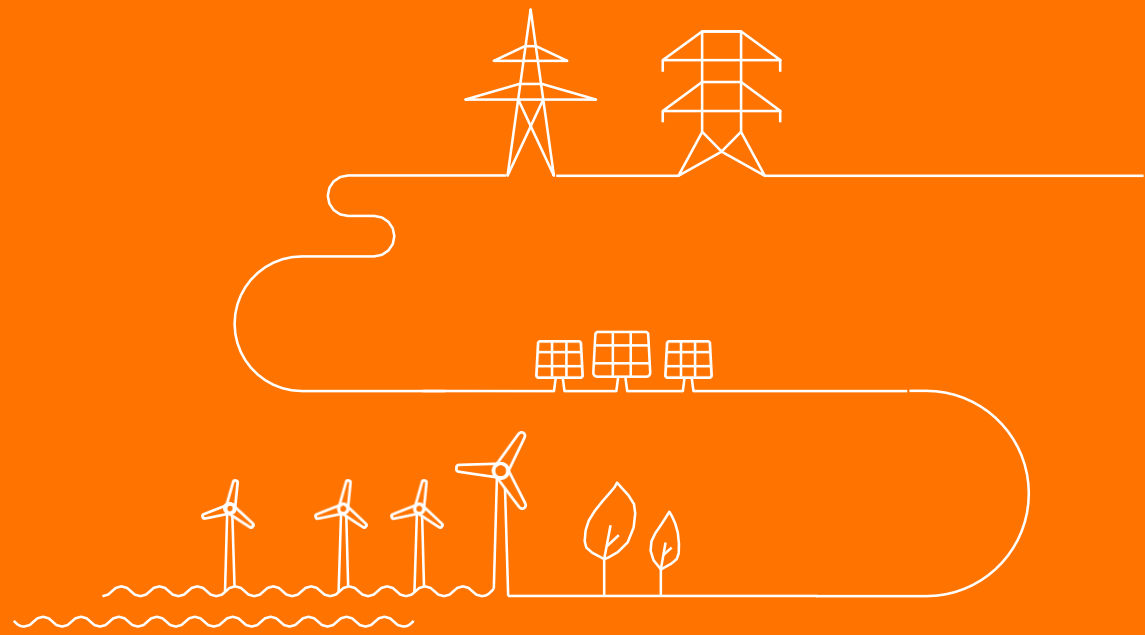
This was taken up by the CREG as an **incentive for 2024** with following objectives:

1. to ensure transparency in the activation of connected installations with flexible access in the event of congestion;
2. to develop a vision and methodology for integrating flexibility into the cost-benefit analyses supporting the connection variants proposed to network users as part of the orientation and detail studies;
3. to develop a vision and roadmap integrating the role of connections with flexible access in network development solutions.

A public consultation on those incentives was organized by the CREG (24/07 - 28/08).

A presentation on the Grid User Flexibility For Congestion Management project is foreseen in the Users' Group (13/9)

Merci.



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     - **Wed. 15/11** 10am-12pm **Tariffs 2024-2027**

Federal grid losses compensation

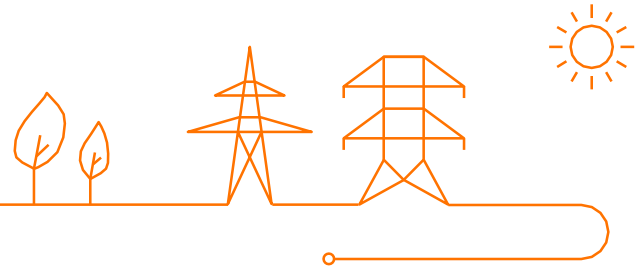
Outlook & percentage 2024

Users' Group, WG Belgian Grid

Agenda

1. Outlook: evolution of the grid losses

2. Percentage for compensation in kind by BRPs in 2024

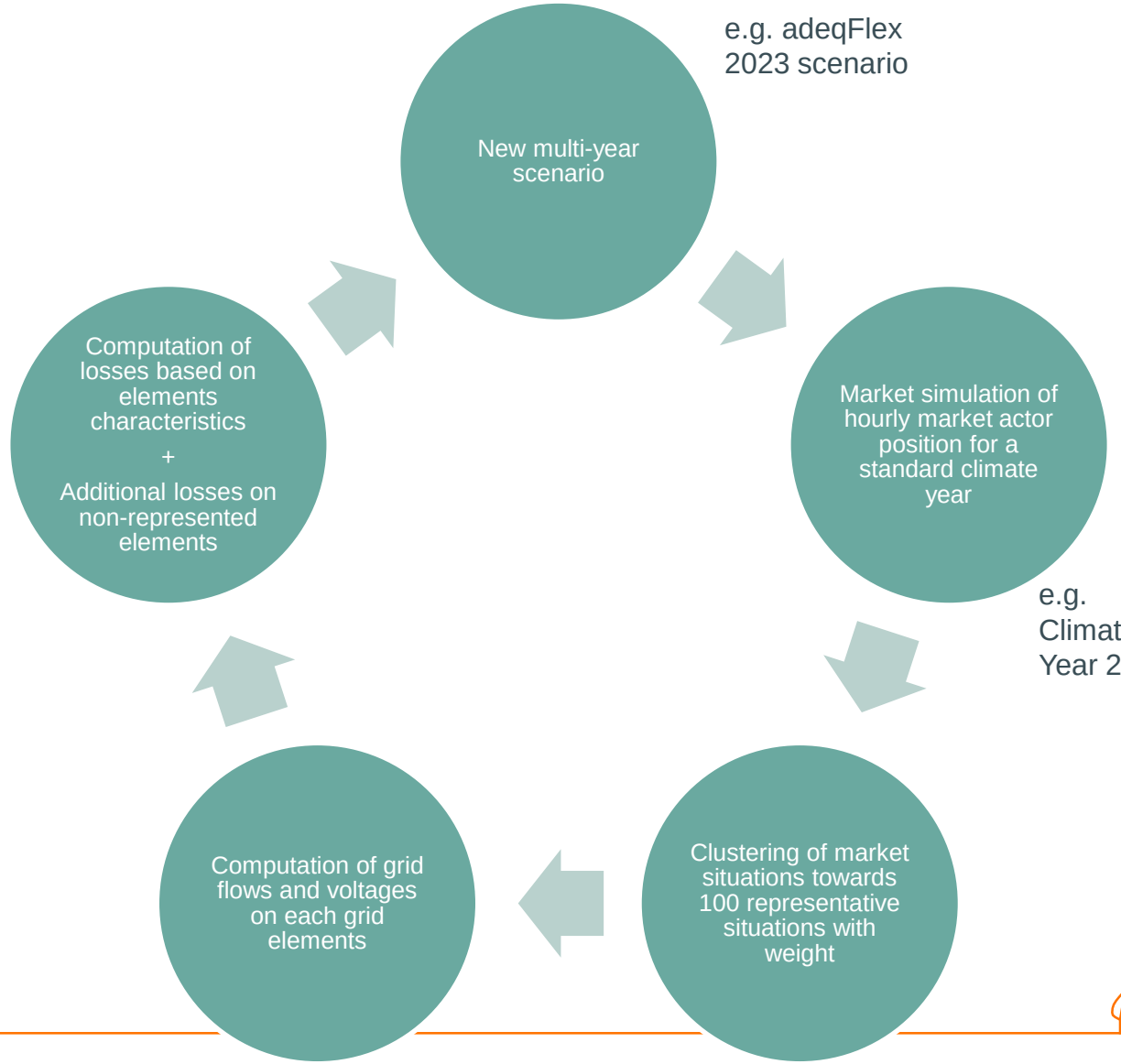


Outlook : Evolution of the grid losses towards 2030

Outlook: Evolution of the grid losses towards 2030

1. Methodology for losses computation
2. Evolution of grid losses
3. Evolution of Regional grid losses
   - Losses Repartition
   - Explanations
4. Evolution of Federal grid losses
   - Losses Repartition
   - Explanations
5. Summary of grid losses evolution

Methodology for losses computation

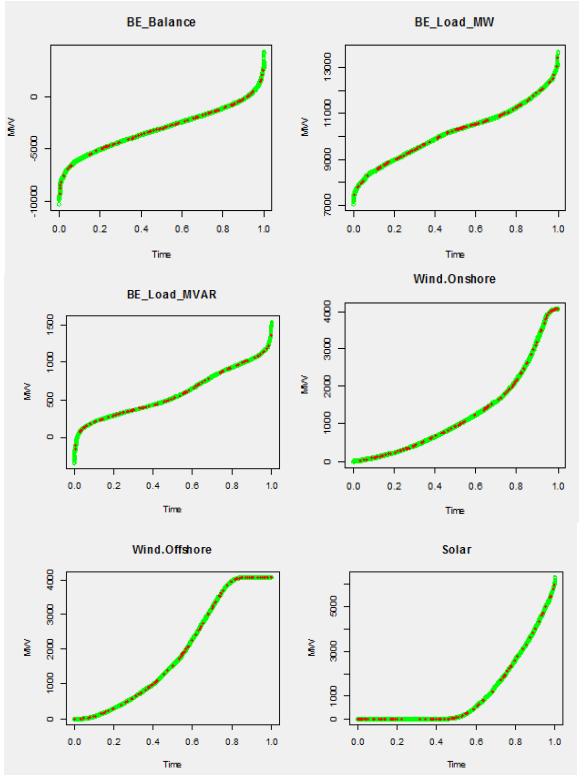


e.g. adeqFlex 2023 scenario

e.g. $3RI^2$

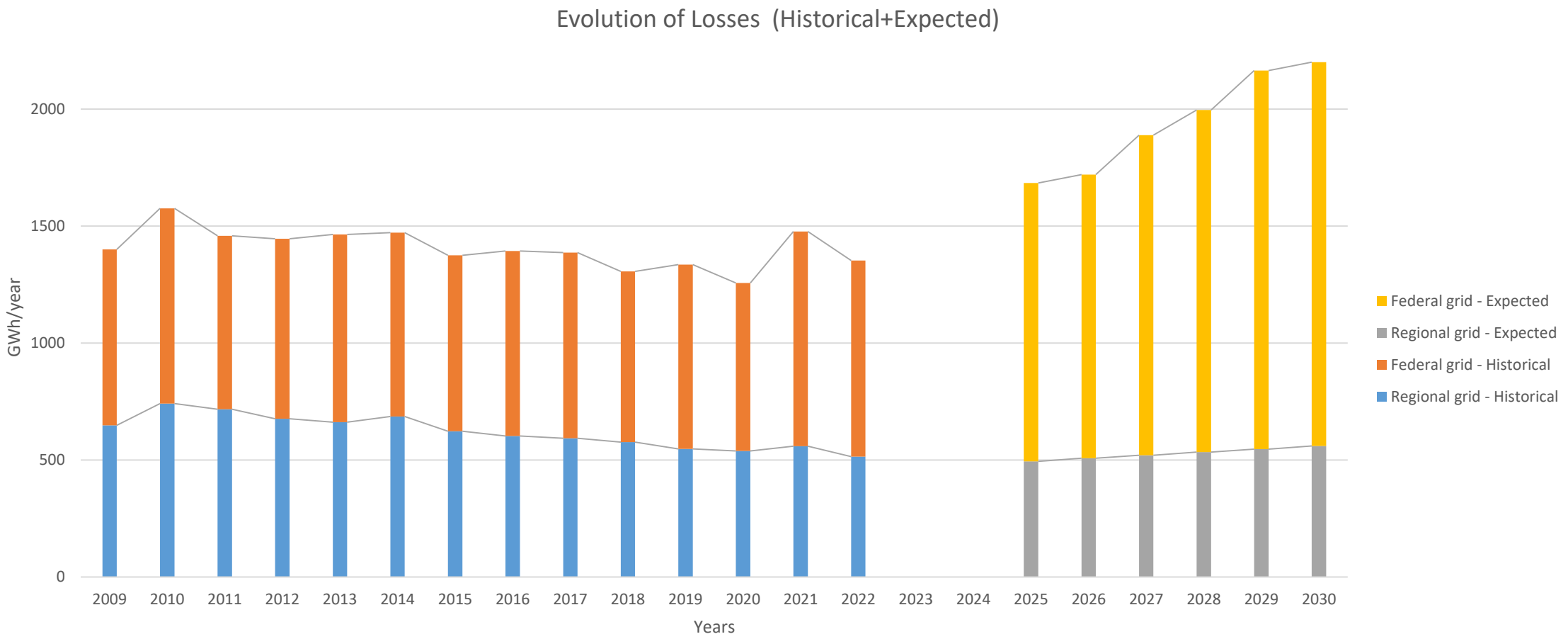
e.g. auxiliary load consumption, syncons, internal HVDC losses

e.g. Climate Year 2007

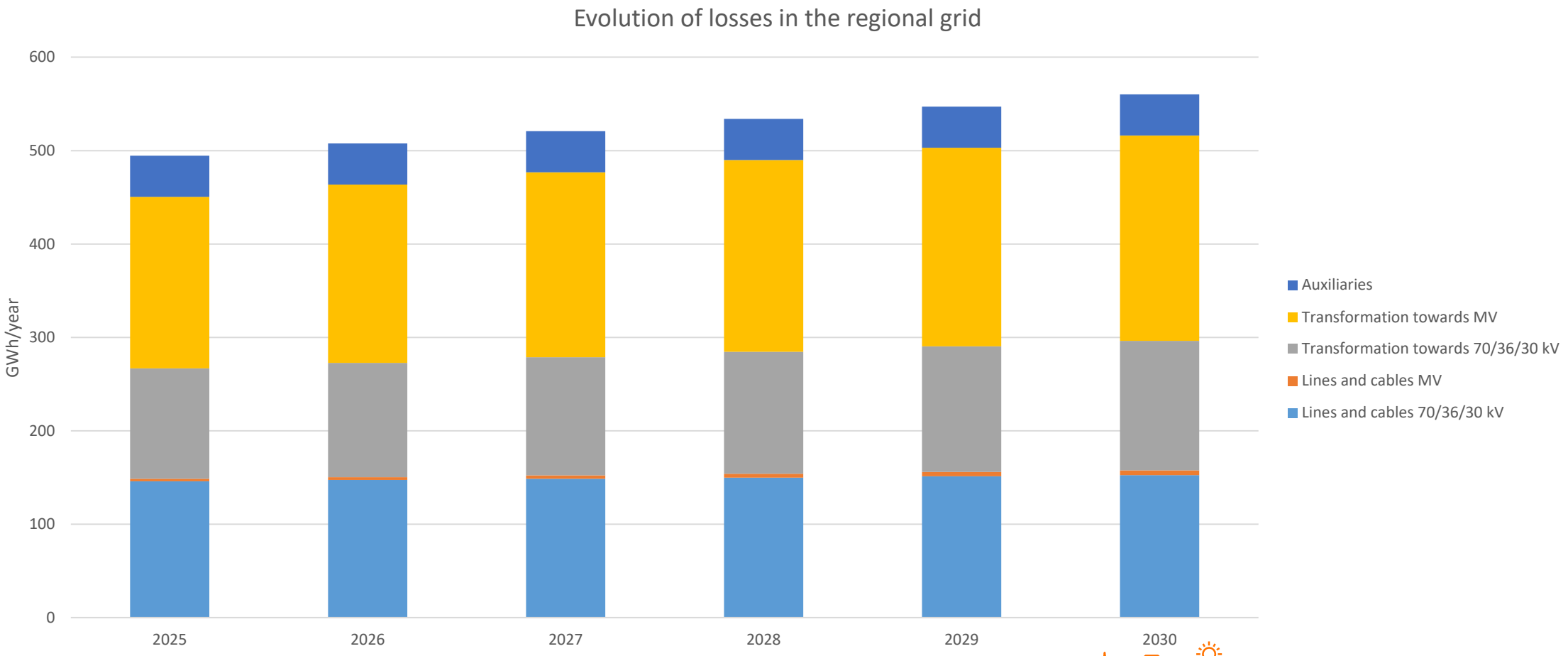


- Clusters
- Market data set

Evolution of grid losses

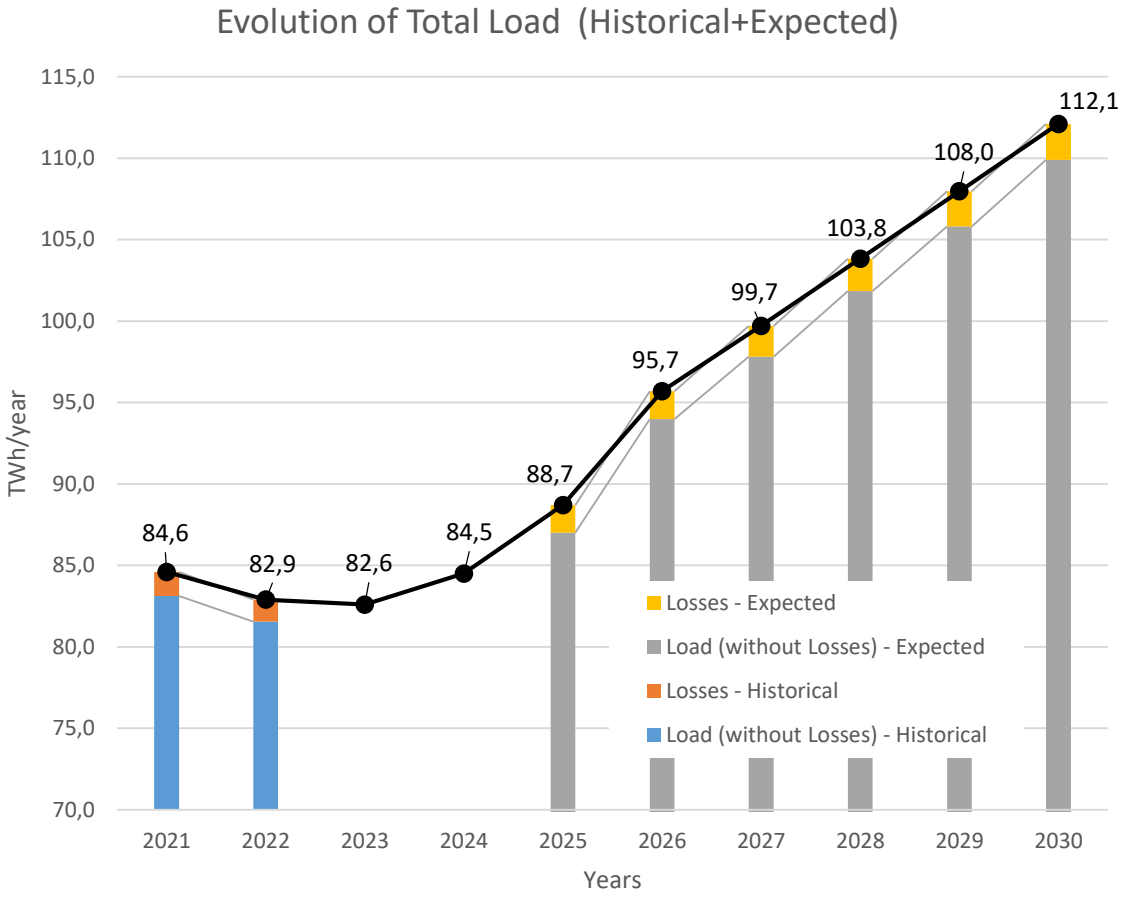


Evolution of regional grid losses - Repartition

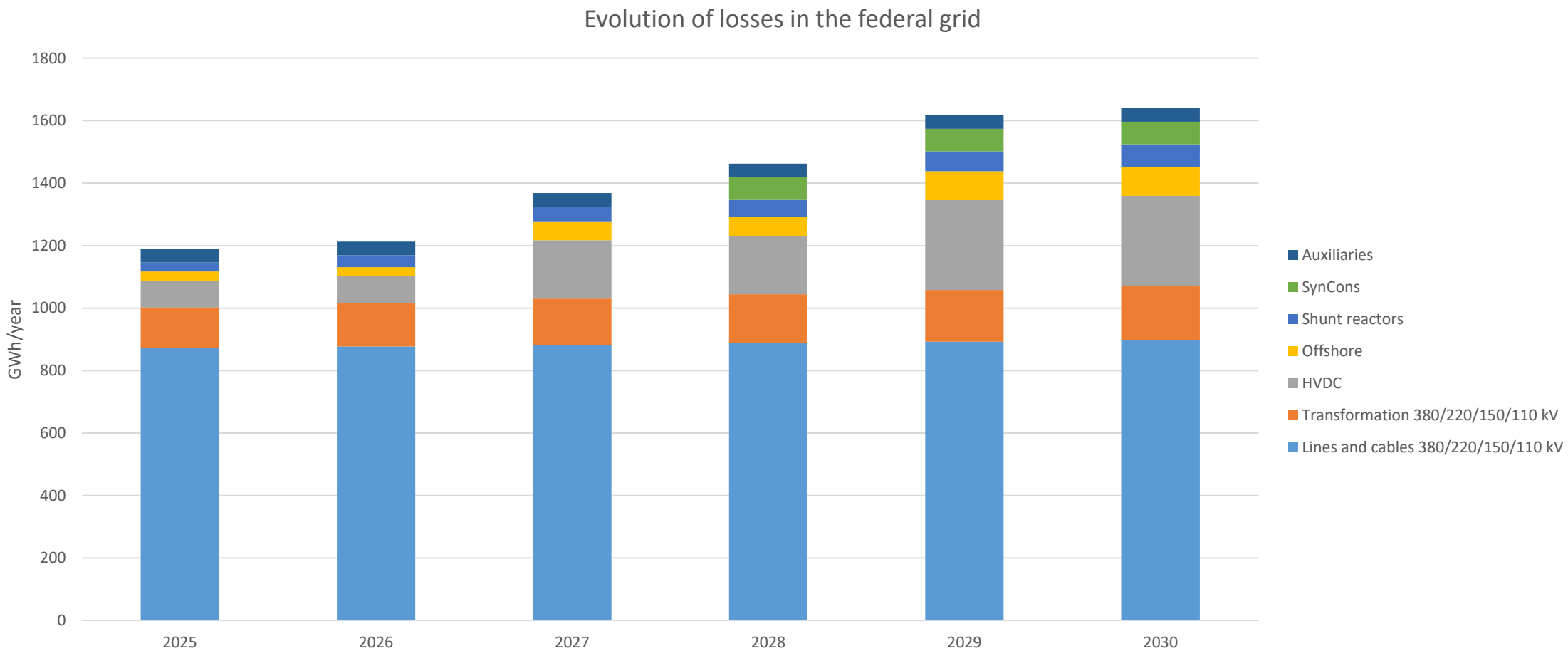


Evolution of regional grid losses – Explanations

- The largest share of regional losses is to be attributed to transformers towards medium voltage
- Losses are expected to grow in the regional grid due to a strong increase of the consumption
- Although increasing towards 2030, losses for 2030 are close to the ones measured today. Regional losses expected for 2030 (560.1 GWh) are very close to the ones measured in 2021 (559 GWh) and the ones expected for 2027 (520,7 GWh) are close to the ones measured in 2022 (515 GWh).



Evolution of federal grid losses - Repartition



Evolution of federal grid losses - Explanations

The elements contributing to the increase of the Federal Grid losses are:

See next slides

Expansion of
- 400kV grid (Ventilus, Boucle du Hainaut) &
- 220kV grid (offshore system)

Increasing flows on existing part of the 400kV grid (HTLS reinforcement with similar impedance but much higher rating)

Development of new HVDC corridors (MOG II)

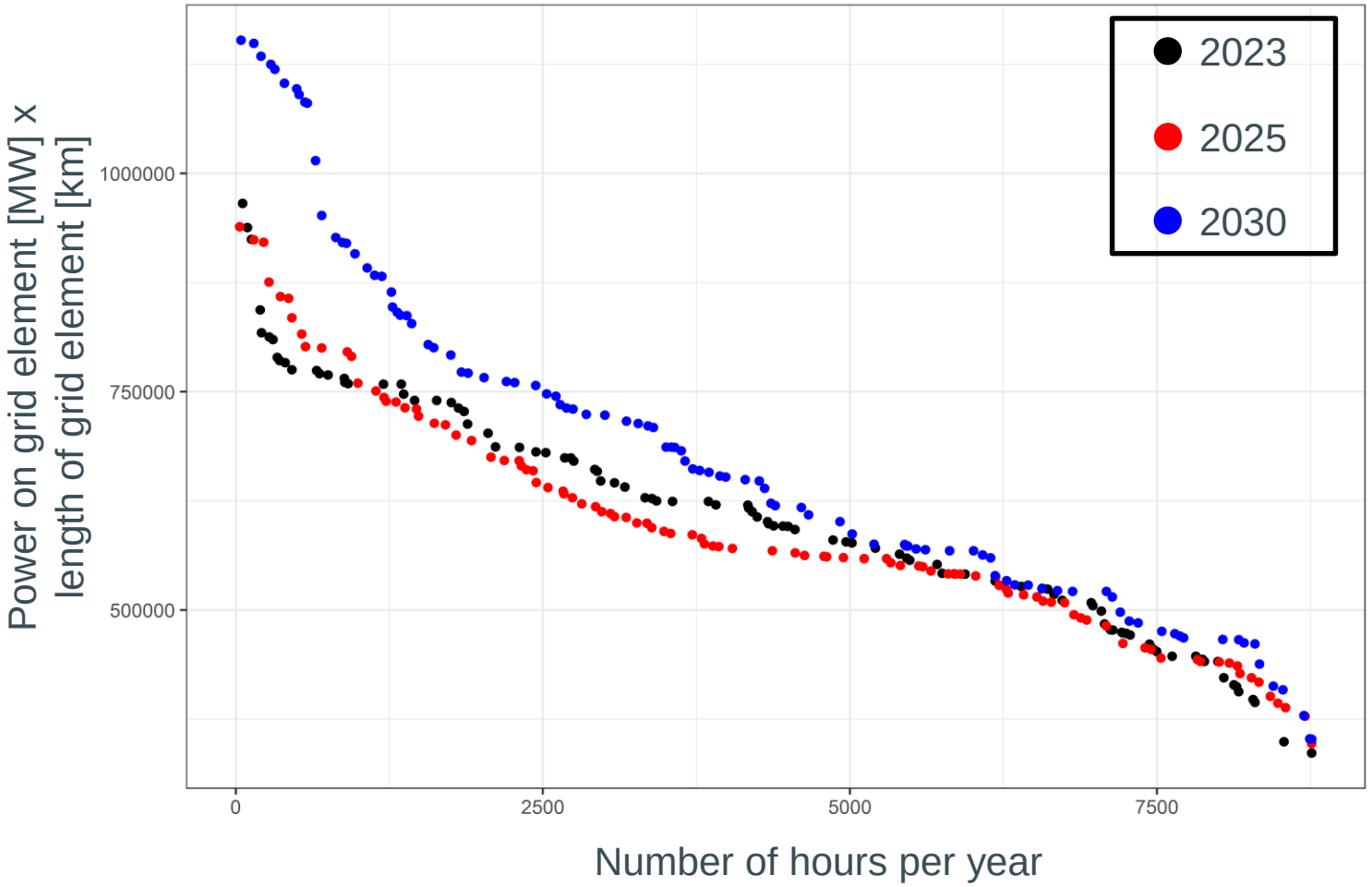
Increasing of the number of transformers
- from 400kV to 220kV (offshore)
- From 400kV to 150kV (increasing consumption)

Installation PSTs @400kV

Installation of shunt reactors to absorb generation of reactive power:
- Situations with high import, high DG and limited conventional generation
- Increasing number of underground cables
- Increasing power factor of distribution system

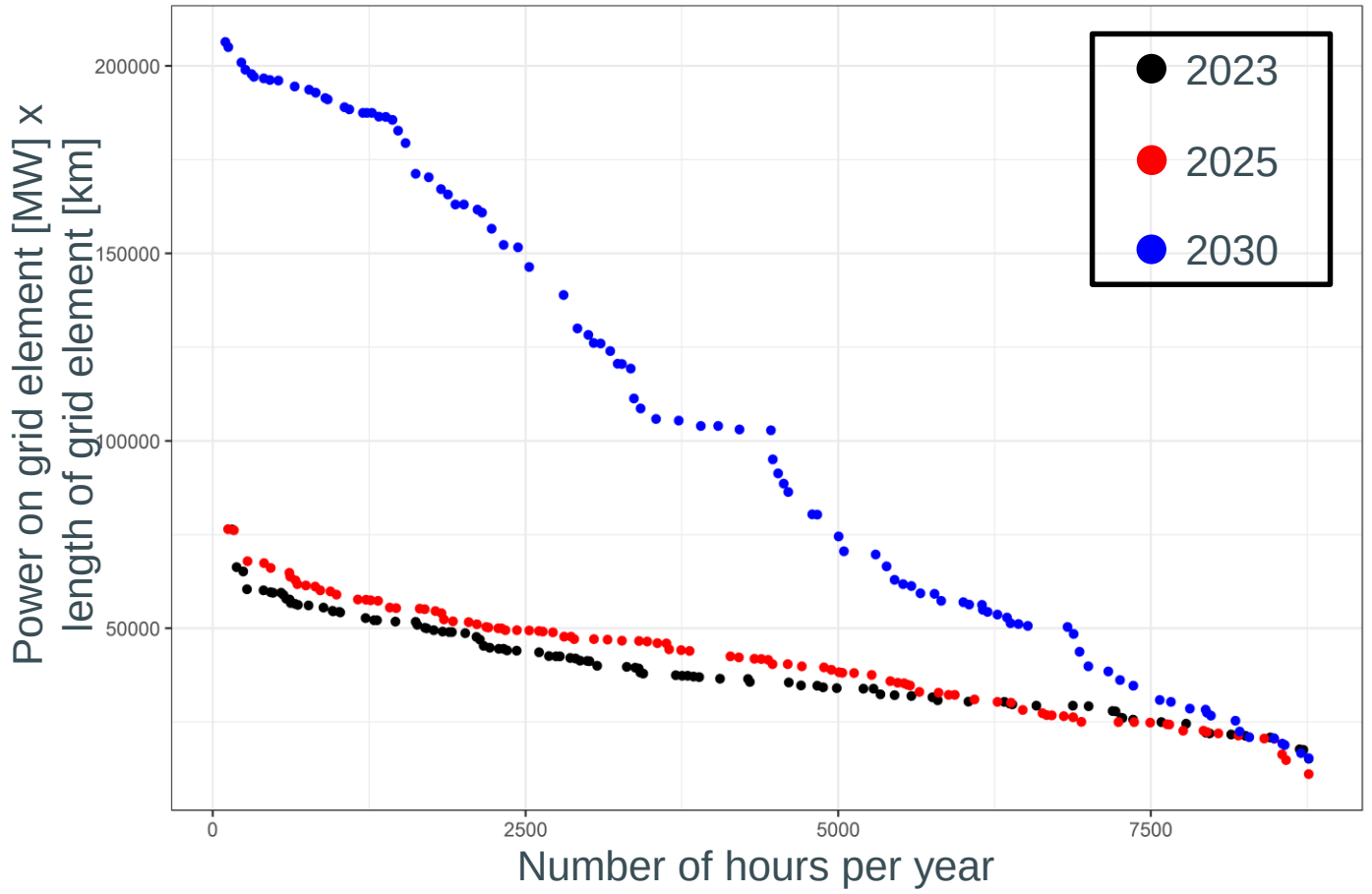
Installation of synchronous condensors for system stability

Evolution of federal grid losses – Explanations – New corridors and HTLS capacities are used by the market – Monotone of transported energy over distance at 400kV



- The new corridors (BdH and Ventilus) as well as HTLS reinforced corridors are well used by market flows and to bring energy towards load centers.
- The transported energy by Elia over distance at 400kV is therefore increasing between 2025 and 2030.

Evolution of federal grid losses – Explanations – Expansion of grid offshore with large loading factor – Monotone of transported energy over distance at 220 kV



- The connection of offshore wind through 220kV cables leads to a significant increase of the transported energy by Elia over distance between 2025 and 2030.

Summary of grid losses evolution

- The total annual losses are expected to grow by almost **40% between 2022 and 2027**. Federal losses are expected to grow by 63% between 2022 and 2027 and regional losses by about 1%. Total annual load is expected to grow by almost **18%** between today and 2027.
- Main drivers for an increase of the losses in the federal grid
  - More grid onshore and offshore (AC lines, HVDC & transformers)
  - HTLS reinforcement for 400kV increasing flows
  - PST
  - Shunt reactor
  - Synchronous condensors
- Main drivers for an increase of the losses in the federal grid
  - Load increase

Percentage for compensation in kind by BRPs in 2024

Context

- The Code of Conduct (in the past it used to be the Federal Grid Code) provides in a compensation in kind by BRPs of the federal losses, further arranged in the T&C BRP
    - Note that the arrangements for situations with ‘multiple BRP at a single access point’ are planned to be adapted by the end of 2023
- Elia has committed to publish the new coefficient(s) for year Y+1 before the end of June of year Y
- The coefficients of the compensation in kind takes into account:
    - Expected losses for year Y+1
    - Any deficit/surplus in order to strive towards long-term financial neutrality of BRPs

Determination of the yearly percentage for compensation of federal grid losses by BRPs on their net offtake

Main drivers:

- Estimation of the grid losses in year Y+1 *(cf. methodology in previous slides)*
- Expected load evolution

Complement:
LT financial neutrality correction (+/-) to cover for BRPs' surplus/shortfall compensation

Valorization of (remaining) historical shortfall/surplus and estimation for running year Y @[cost of regional losses and balancing cost] for year Y-1 and years Y respectively	Update remaining cumulative value of the valorized shortfall/surplus	Determination of the equivalent volume to be corrected for in Y+1
GWh * price (Y-1,Y) → €	Σ€	Σ€ / price(Y+1) → GWh

% Y+1

Note that LT financial neutrality effectively fluctuates around zero (cf. 2022 study Fig.5, p.13)

Main drivers: estimated losses and load

ESTIMATED LOSSES:

	2021	2022	2023	2024
Federal losses (in GWh)	918	838	*900*	*1050*
	2021 actuals	2022 actuals	2023 based on actuals for Jan-Apr + scaled estimation for May-Dec	2024 based on scaled estimation

Observations:

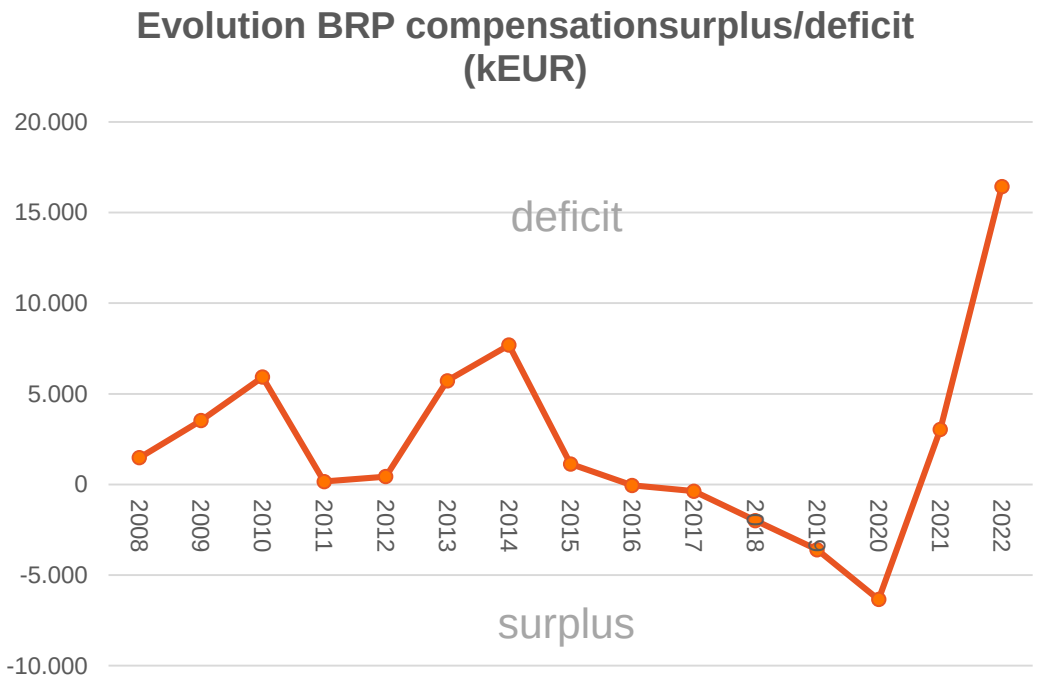
- It has been observed that 2021 and 2022 were below initially estimated volumes. 2022 is considered atypical due to the very pronounced energy crisis.
- Also 2023 volumes for Jan-Apr are on the low side compared to initially estimated volumes.

➔ Long-term **losses estimation for 2023 and 2024 is scaled downwards** based on the 2021 difference between estimation and actuals for use in the compensation in kind mechanism.

➔ Notwithstanding this scaling, the **overall expected long-term trend remains respected**, i.e. increasing federal losses remains at the root (cf. previous part of the presentation)

ESTIMATED LOAD: Same values used in the tariff file for 2024-27 have been applied

Long-term financial neutrality correction



- **2022 resulted in a sharp increase of the deficit**:
  - **Volume effect:** while at annual level the total volume was rather well covered by BRPs, the deficit is explained by the fact that over- and undercompensations are valued at QH-level
  - **Price effect:** High prices in 2022 result in high value to be carried over to next year(s)
- **2023 expected to reduce already a portion of the deficit**
  - As foreseen at determination of the % for 2022, a part of the % was justified at calibration for this purpose (i.e. 0,15% out of 1,80%)
  - It however falls significantly short to compensate the full 2022 deficit.

➔ **To avoid a too sharp increase of the percentage for BRPs, the remaining deficit is only partially taken into account in the 2024 percentage** (next slide)**. During next years, the remaining deficit will be gradually picked up.**

2024 Percentage for BRP compensation in kind

	2021	2022	2023 (partially estimated)	2024 (estimated)
Federal losses (GWh)	918	838	900	1050
Compensation in-kind in GWh (*)	837	840	996	1116
Peak coefficient %	1,35%	1,45%	1,80%	**1,95%**
Offpeak coefficient %	1,35%			

(*) Cumulative annual volume. A good match with federal losses can still imply a deficit/surplus as this is looked at (and valued) at QH-level (e.g. 2022)

The coefficient is aligned upwards:

- Losses and load estimations would lead to a percentage of about 1,90%
- Additional increase of about 0,05% in order to recover already (partly) the deficit in view LT neutrality

➔ **The final coefficient for 2024 is set at 1,95%**

Thank you.

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Voltage service - Incentive

Workshop slides

MVAr service incentive – Review and recommendations for design optimisations

1. **Continuous** activation control for manual and automatic activation

2. **Penalties** need to be in line with the continuous activation control.

3. **Communication** with Elia
    1. The current communication is done via Revolt and is limited in the type of messages that can be sent.
    2. Option for additional interactions in order to sent more complex messages

4. Indication of the **need for MVAR service**
    1. In order to be able to better estimate the number of activations for a certain unit, the need in a certain area will be better clarified

5. **Price setting** during the tendering process
    1. Introduce the possibility of offering a formula instead of a fixed price

6. Participation of **non active power related assets**

7. Delivery of the **service from an industrial site**

8. **Update the Terms and conditions** of the MVAr service in order to be written more technology-neutral.

9. Simplification of the participation for non-mandatory units

MVAr service – Review and recommendations for design optimisations

Proposed new market design

Continuous activation control for manual and automatic activation

Instead of only using a select number of samples, Elia proposes to check all samples.

- This would remove the issues regarding penalizing momentary failures that do not represent the overall delivery of the service.

- This needs to be accompanied by a **revision of the penalties** associated with not delivering the service

Feedback workshop:

Why are some specific quarter hours not considered for the control? This could create a risk for the system.
→ We have integrated this feedback and will include all quarter hours.

MVAr service – Review and recommendations for design optimisations

Proposed new market design:

Automatic

Manual

$$\%Q_{failed} = \frac{\#\ QHs\ not\ compliant\ with\ the\ supply\ conditions}{\#\ QHs\ analysed}$$

- The penalties will be the same for both the manual and automatic service

Feedback workshop:

The penalty scheme is more stringent than before. → This is indeed the case, however the previous penalty scheme was too lenient towards no delivery of the service

The penalty should be proportional to the deviation from the setpoint. → Elia agrees with this point and will add other penalty proposals to the market design

MVAr service – Review and recommendations for design optimisations

Proposed new market design

Proposal for additional interactions:

1. Sending the available capacities 24h on beforehand for each quarter hour
   - This allows assets with a variable availability (see later) to participate
   - This has no impact on the obligation to be available when above the Pmin

2. Possibility to provide a reason why a setpoint cannot be achieved
   - This provides a quick and efficient way to identify issues
   - However, the penalty will be maintained

3. The reception of the same setpoint twice can currently lead to issues (linked to 3rdparty setup)
   - Resolve this in the implementation (at market party side)

4. Zerotage communication
   - Allow for Elia to send a zero setpoint while below the Pmin (already in the current market design)

5. Update communication protocol
   - Current technology that is being used has its limitations, so an update is needed

Feedback workshop:

The costs associated with implementing a new system at market party side create challenges. → Elia understands these concerns, but still believes that the additional value of a new system would be greater than the costs

MVAr service – Review and recommendations for design optimisations

<u>Proposal to give an indication of the need for MVAR service</u>

In order to be able to better estimate the number of activations for a certain unit, the need in a certain area will be better clarified

1. A map up to the 30KV per area what the needs are for MVArs

2. 3 different levels:
    1. No/low need (+- X hours of activations)
    2. Medium need (+- X hours of activations)
    3. High need (+- X hours of activations)

Feedback workshop:

This is a good initiative. The more information Elia is able to provide in this context, the better the view of the market parties will be on the need and utilization of assets.

MVAr service – Review and recommendations for design optimisations

Proposed new market design 1:

A formula that can be updated on a yearly basis, by the client

1. Most freedom for the client, can propose a fixed price/formula on a yearly basis
2. Need for a yearly tender

Feedback workshop:

The market parties agree that fixing the price close to delivery will reduce the overall risk and should reduce costs. However, proposals were made to go further than Y-1, on monthly indexes or even DA prices. → Elia is glad that this proposal is well-received. Furthermore, Elia is looking into the options to fix the price closer to delivery.

Market parties asks to shorten the selection process to reduce the risk premium → Elia believes that the option to provide a formula instead of a fixed price will resolve the issue.

MVAr service – Review and recommendations for design optimisations

Proposed new market design 2:

A fixed formula per technology, where the client can ask for an update of the factors on a yearly basis. The **structure of the formula is the same for every technology type**, but local differences are possible by adapting parameters in the formula:

1. Less flexibility for the client
2. However, no need for lengthy process of updating the formula every year
3. Possibility to negate the need for a yearly tender

Feedback workshop:

The market parties see the benefit of such a system, however implementing it will be too complex and will lead to endless discussions. → Elia understands the position of the market parties and has decided not to retain this proposition.

MVAr service – Review and recommendations for design optimisations

<u>Proposed new market design</u>

Allow for non-mandatory non-active power related assets to declare their hourly availability on beforehand (24h) via revolt, which enables their participation to the voltage service

- This resolves the issue that they need to have full availability at all times, whilst leaving sufficient time for Elia to consider their activation
- Their participation will only be feasible from the moment that the communication system has been updated

Feedback workshop:

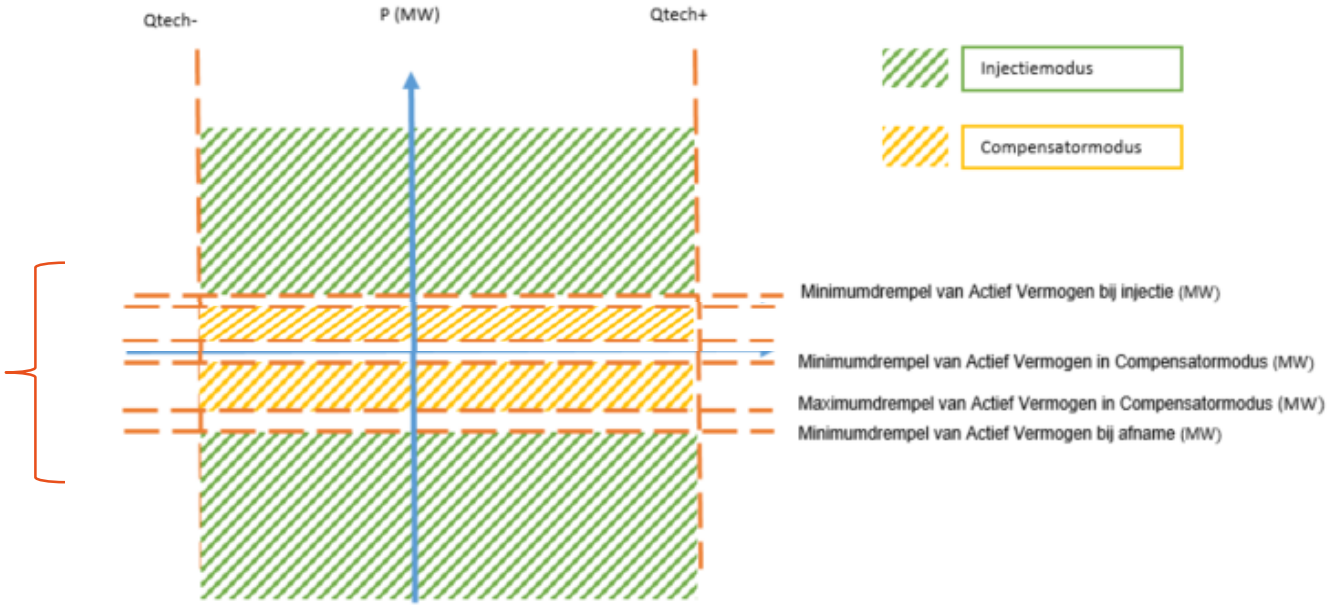
Market parties ask if the current regulation for capacitor banks will be maintained. → all regulation that is in place and would not be considered discriminatory will be maintained.

MVAr service – Review and recommendations for design optimisations

Proposed new market design

Allow for an additional band of compensator modus

2 Bands for compensator modus



Feedback workshop:
/

MVAr service – Review and recommendations for design optimisations

Proposed new market design

There is a change in the MVAr tariff foreseen in the new tariff proposal. This removes the “butterfly” band, which resolves the issue created by the start-up of generation on the industrial site.

Feedback workshop:
/

MVAr service – Review and recommendations for design optimisations

Additional change

Update the Terms and conditions of the MVAr service in order to be written more technology-neutral.

- The current terms and conditions are at some points written from the perspective of large power plants. This does not hinder other units to participate but creates some unclarities. The goal is to rewrite these sections of the T&C in order to remove these barriers.

Feedback workshop:
/

Simplification of the participation for non-mandatory units

MVAr service – Review and recommendations for design optimisations

Simplification for the participation of smaller units

Prequalification

Cost

Understanding of the MVAr service

MVAr service – Review and recommendations for design optimisations

Simplification for the participation of smaller units

Prekwalificatietest

e) Vóór de aanvang van de Dienstverlening vraagt Elia een Prekwalificatietest om de kenmerken van de levering van de Dienst door elke Technische Eenheid te controleren.

f) Deze test moet minstens de activering inhouden van de Dienst waarin de VSP de Dienst moet verlenen volgens de in dit Contract voorziene voorwaarden. De precieze testmodaliteiten worden beschreven in Bijlage 13.

g) De Prekwalificatietest zal het beschikbaar gestelde Technische Regelbereik van het Reactief Vermogen bevestigen, evenals de meetmodaliteiten en de modaliteiten voor de berekening van Q_{req} (volgens Bijlage 2).

h) De Prekwalificatietest wordt niet beschouwd als een activering van de Dienst.

i) Elia behoudt zich het recht voor de Prekwalificatietest op elk ogenblik af te breken indien hij de veiligheid van het Elia-net in gevaar brengt.

Conformiteit

j) In het geval van niet-conformiteit met een of meer van de verplichtingen in Art. II.3.3, a) tot i), zal de VSP alle nodige maatregelen treffen om zijn conformiteit zo snel mogelijk te herstellen.

Prequalification

No remarks from market parties received

Feedback workshop:
/

Make all operational communication requirements and software/hardware modifications clear from the start:
- Currently multiple interactions are needed between Elia and market parties
- This increases the cost, since multiple interactions with 3 rd parties are required
- By creating a document with the main occurring issues, a large part of these questions can be mitigated

MVAr service – Review and recommendations for design optimisations

Additional simplifications for the participation of non mandatory units

Provide a way to cover the upfront investment cost

- In order to deliver the service, additional investments are needed. To make the service interesting, these would need to be recuperated via the delivery of the service. An additional cost component can be introduced to cover the investment cost for non mandatory units. (mandatory units need to be able to provide the service and are not able to request this)

- These costs will be assessed in order to determine their competitivity with other assets.

- This does require a longer term commitment from the market party to provide the service to Elia

Cost

Feedback workshop:
/

MVAr service – Review and recommendations for design optimisations

Simplification for the participation of smaller units

The feedback that was received from some market parties is that the service is quite complex and difficult to understand. In order to remedy this, we propose:

1. To create additional documents that explain the MVAr service in a simple way. This will also help with the risk assessment of the participants to the service

2. Add FAQ to the available documents to already answer many of the questions that the market parties have

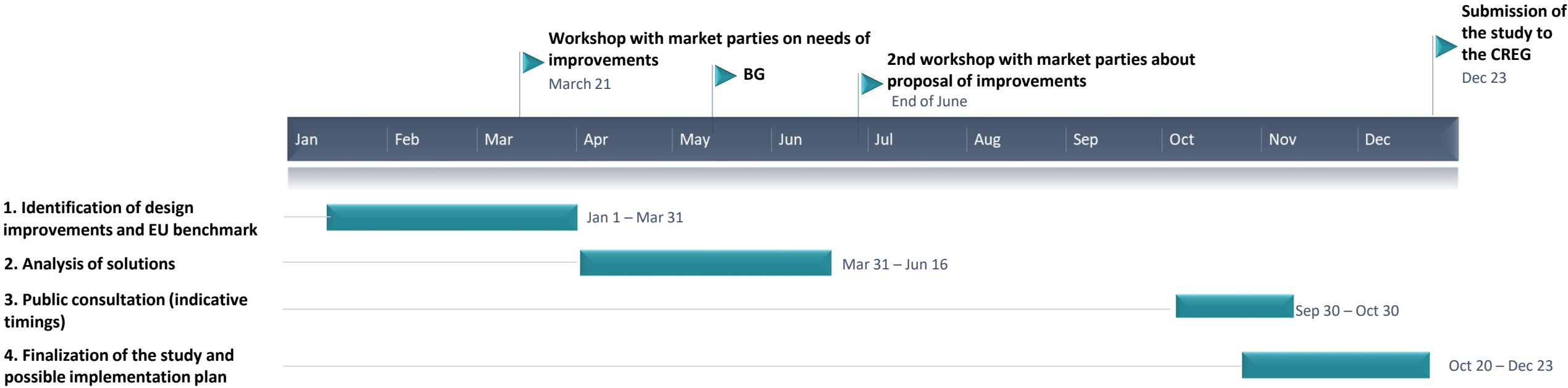
Understanding of the MVAr service

Feedback workshop:
/

Next steps

MVAr service incentive– Planning

Indicative timeline:



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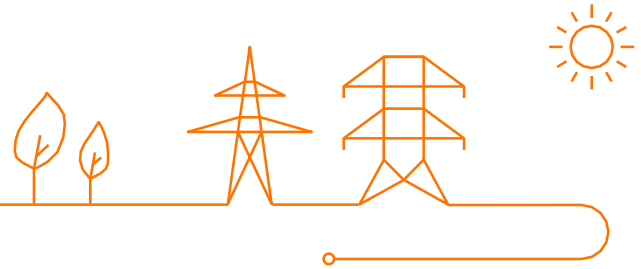
Cost benefit analysis on Requirements for generators applicable on existing and new generating units between 1 and 25 MW

Belgian Grid

05/09/2023 | N. Bragard, O. Bronckart, C. Hoedenaeken, S. Temtem

Agenda

1. Reminder of the objectives of the incentive
2. Reminder of the results of the first phase of the incentive
3. Feedback from stakeholders & quantitative cost assessment
4. Planning and milestones



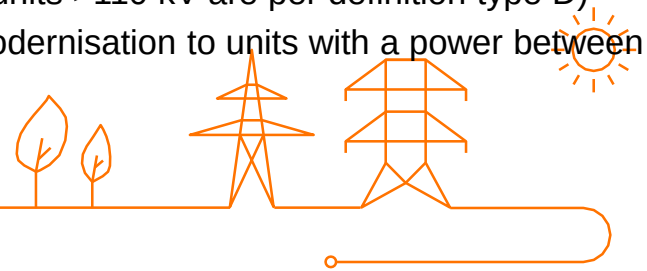
Objective of the incentive

The objective of the incentive is to :

- Identify the differences between the prescriptions applicable to existing and new PGMs between 1 and 25 MW (not included) and connected to Elia grid (Belgium).

- Perform a cost-benefit analysis :
    - Focused on the PGMs with a power between 1 and 25 MW
    - on the possible application on existing PGMs of requirements applicable to new PGMs
    - by applying the methodology described in the EU code RfG (art 4, 38 & 39)

- The outcomes of the CBA will be used as an input for:
    - Application of Art 4.1b of the EU code RfG (application of some new requirements on existing units by the regulatory authority)
    - Possible prolongation of the derogation from the application of the principle of substantial modernisation for PGMs of type D with a maximal installed capacity lower than 25 MW and > 110 kV (all units >110 kV are per definition type D)
    - Evaluate the opportunity to extend the concept of substantial modernisation to units with a power between 1 and 25 MW (currently substantial modernisation is only applicable to type C & D units)



Results of the first part of the incentive : Qualitative CBA done by Elia

			Frequency vs voltage vs current		Normal state vs Emergency		Be robust vs give robustness		Impact/benefit	Costs	Results of the CBA
Sub category	GAP analysis	Eligible for incentive	Classification	Benefit	Classification	Benefit	Classification	Benefit			
Models	More stringent	X	Other	Nice to have	Normal	Nice to have	Give robustness	Nice to have	**MEDIUM**	LOW	positive CBA
Rate of change of frequency (ROCOF)	More stringent	X	Frequency	MUST	Emergency	MUST	Be robust	MUST	**HIGH**	LOW	positive CBA
LFSM-O	More stringent	X	Frequency	MUST	Emergency	MUST	Give robustness	Nice to have	**HIGH**	LOW	positive CBA
Voltage withstand capability	More stringent	X	Voltage	Nice to have	Normal	Nice to have	Be robust	MUST	**MEDIUM**	HIGH/LOW	CBA to be performed
Voltage control (SPGM)	More stringent	X	Voltage	Nice to have	Normal	Nice to have	Give robustness	Nice to have	**MEDIUM**	LOW	positive CBA
Reactive power capability	More stringent	X	Voltage	Nice to have	Normal	Nice to have	Give robustness	Nice to have	**MEDIUM**	HIGH/MEDIUM	CBA to be performed
Fault current & dyn. Voltage support (PPM)	More stringent	X	Voltage	Nice to have	Normal	Nice to have	Give robustness	Nice to have	**MEDIUM**	HIGH/LOW	CBA to be performed
Post-fault power recovery (PPM)	More stringent	X	Frequency	MUST	Normal	Nice to have	Give robustness	Nice to have	**MEDIUM**	HIGH/LOW	CBA to be performed
Information exchange	More stringent	X	Other	Nice to have	Normal	Nice to have	Give robustness	Nice to have	**MEDIUM**	MEDIUM	CBA to be performed
Remote control reductions	More stringent	X	current	Nice to have	Emergency	MUST	Give robustness	Nice to have	**MEDIUM**	MEDIUM	CBA to be performed
Automatic connection	More stringent	X	Frequency	MUST	Emergency	MUST	Be robust	MUST	**HIGH**	LOW	positive CBA
Automatic reconnection	More stringent	X	Frequency	MUST	Emergency	MUST	Be robust	MUST	**HIGH**	MEDIUM	positive CBA

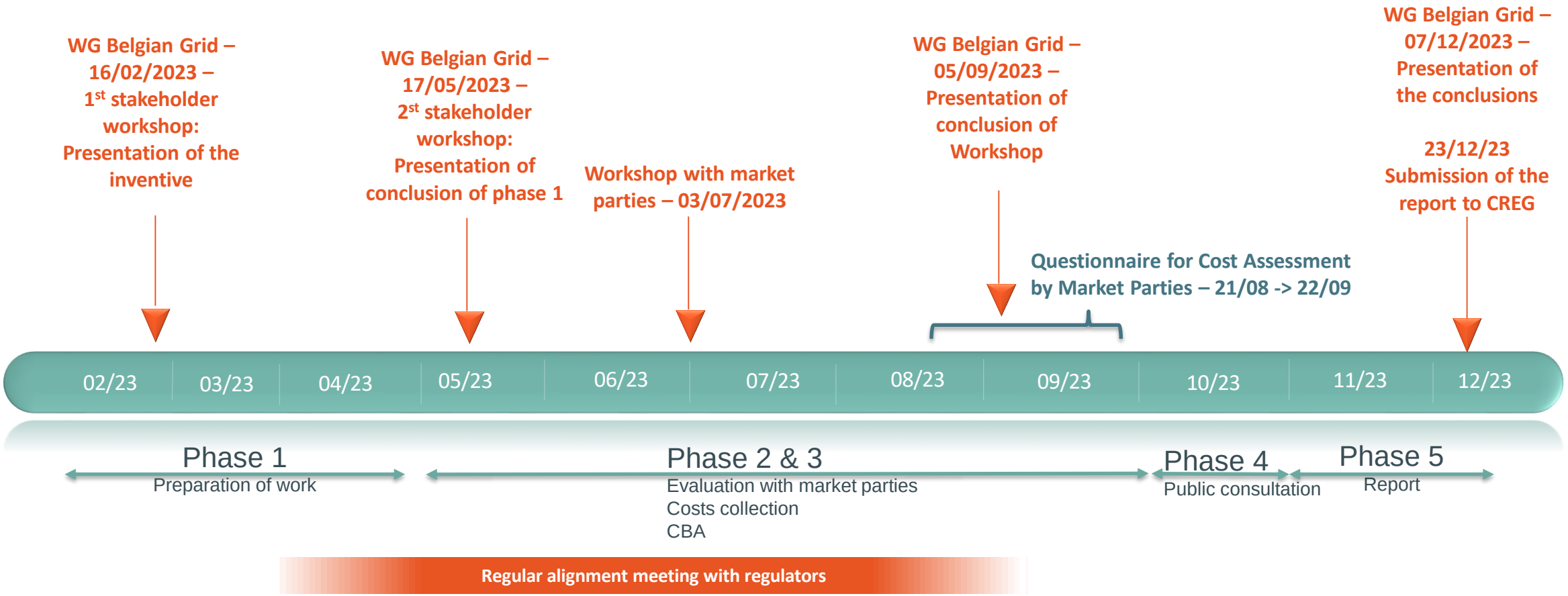
Key findings :

- Requirements with a **HIGH impact/benefit** and a **NON-HIGH Costs** have a positive CBA
- Requirements with a **MEDIUM impact/benefit** and **LOW costs** have a positive CBA
- **Other requirements should be further investigated through a quantitative CBA**

Call for inputs from market parties :

- confirm the categories of costs (low/medium/high)
- give detailed costs estimations for the quantitative CBA to be performed

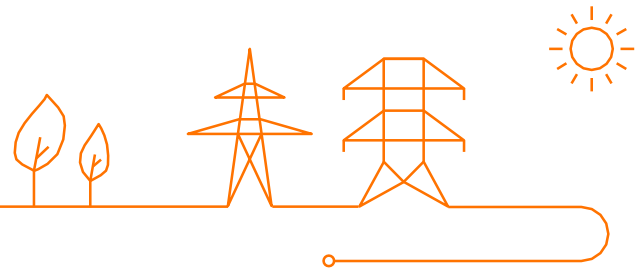
Planning and milestones



Feedback from the Market Parties collected on 03/07/23

The objective of the workshop was to :

- Validate the high-level cost assessments done by Elia during the first part of the incentive
- Identify how to collect input from market parties concerning the costs (quantitative evaluation)

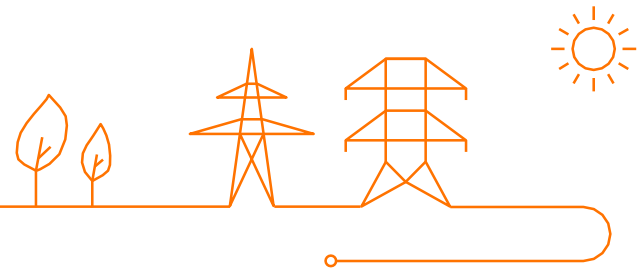


Feedback from the Market Parties collected on 03/07/23

The objective of the workshop was to :

- Validate the high-level cost assessments done by Elia during the first part of the incentive
    - Elia reminded the stakeholders that a positive Cost Benefit Analysis will not automatically lead to a retrofit of the requirement concerned to the existing PGMs
    - Stakeholders and Elia agree that there is a difference between putting a difference between putting an available capability in an existing PGM at disposal of the grid (ex. changing some settings in a controller) and building a capability that was not designed and foreseen in the existing PGM
    - Nuances in the answer : need to split the cost assessment on the following criteria : type of the PGM (SPGM/PPM), technology (PV, windturbine, ...), size and age of the PGM
    - Cost assessment may be impacted if the upgrade is done during or outside the normal maintenance or investment cycle
    - Low cost does not mean easy to implement (technical competencies not always available for the Grid Users)
    - Some requirements are technically impossible to implement without replacing the whole PGM
    - Doubt of market parties concerning Elia's ability to realize a quantitative CBA with a reasonable error range
        -> However, if no cost is provided by the market parties, the risk is that the CREG may conclude that all CBAs are positive

- Identify how to collect input from market parties concerning the costs (quantitative evaluation)
    - Questionnaire is the best solution because it could take time to provide cost assessments
    - Sent on 21/08/2023 to the stakeholders
    - Content :
        - Cost evaluation (qualitative and quantitative) per PGM type and per requirement
        - Identification of potential limitations to provide answers (technical competencies, ...)
        - Questions on maintenance and reinvestment cycles
        - 3 easiest requirements to implement



Questionnaire Cost Assessment by market parties (1)

Part 1

Identification of the responder

We ask the information below to ensure that the respondent has the adequate knowledge to be able to fill in this questionnaire. This information will be treated according to our privacy policy, which is available on our website.

Name:	Click or tap here to enter text.	**Surname:**	Click or tap here to enter text.
Company:	Click or tap here to enter text.	**Email address:**	Click or tap here to enter text.
Function:	Click or tap here to enter text.		

Identification of the PGM

We know that the cost assessment per requirement may differ greatly between different kinds of PGM. To be able to get a clear view on the costs per type of PGM, we would like you to complete this questionnaire based on **one type of PGM**. If you own multiple PGMs of different types, you are allowed to complete this questionnaire multiple times. We identified the following categories of PGMs, between 1 and 25MW and considered as existing according to the framework of this incentive[1]. Please check the box of the type of unit you will consider while completing this questionnaire.

[1] For background information, please refer to the report for the phase 1 of this incentive (preparation of work)

Classical (Steam Turbine)	☐
Diesel	☐
Hydro Unit – Run of River	☐
Incineration Station	☐
Solar	☐
Turbojet	☐
Wind Onshore	☐
WKK (Warmtekrachtkoppeling = Cogeneration unit)	☐

Questionnaire Cost Assessment by market parties (1)

Part 2

Could you provide a list of requirements which are – according to you - impossible to implement on the type of PGM listed above? Please only mark the requirements which you consider TECHNICALLY impossible to implement.

Requirement	Is it **impossible** to implement this requirement?	What are the limiting elements?
Models	☐	Click or tap here to enter text.
Rate of Change of Frequency (RoCoF)	☐	Click or tap here to enter text.
LFSM-O (Limited Frequency Sensitive Mode – Over frequency)	☐	Click or tap here to enter text.
Voltage withstand capability	☐	Click or tap here to enter text.
Voltage control (applicable to Synchronous Power Generating Modules (SPGM) only)	☐	Click or tap here to enter text.
Reactive power capability	☐	Click or tap here to enter text.
Fault current & dynamic voltage support (applicable to Power Park Modules only)	☐	Click or tap here to enter text.
Information exchange	☐	Click or tap here to enter text.
Remote control reduction	☐	Click or tap here to enter text.
Automatic connection	☐	Click or tap here to enter text.
Automatic reconnection	☐	Click or tap here to enter text.

Questionnaire Cost Assessment by market parties (3)

Part 3

With the following questions, Elia would like to get an estimation of the costs that may be caused by the retrofitting of some requirements to existing PGMs.

Elia understands that associating figures to technical requirements is a rather difficult task. To facilitate this estimation, you can use orders of magnitudes, error ranges or any other potential hypothesis that helps you.

Elia understands that you may not be able to provide estimates figures for each requirement. In this case, you can skip the requirement and go to the next question. We would kindly ask you to give a short explanation why you were not able to provide the estimate for that particular requirement.

For each requirement, please provide the following:

- **The category of cost**
- **A quantitative cost assessment (best effort)**
- **(if no quantitative cost assessment can be done) A reason for not providing a quantitative cost assessment**

2. Rate of Change of Frequency (RoCoF)

2.1. Category of cost

Please select one cost category		
☐ Low cost (setting change in a controller)	☐ Medium cost (upgrade of minor components of the PGM)	☐ High cost (replacement of major parts of the PGM)

2.2. Cost assessment (numbers and potential comments on these numbers)

Complete the table below with numbers, potential comments on these numbers or, if you cannot provide a cost evaluation, one of the following justifications:

- Not applicable: when this case does not exist (or not in the PGMs you own).
- Not existing: when the cost assessment is impossible. (technically impossible).
- No competent resources available: when nobody in your company is able to provide a cost assessment for this requirement.
- Not enough time: when the timing does not allow to provide a quantitative cost assessment. If you had more time, you would be able to provide numbers.

You are allowed to split you answer based on the age of the PGM and on the rated power of the PGM. Remember that you give your answer for the type of PGM selected in the part 1 of this questionnaire.

		Commissioning date of the PGM		
		Before 2002	Between 2002 and 2012	After 2012
Rated Power of the PGM	1-10 MW	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
	10-25 MW	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.

Questionnaire Cost Assessment by market parties (4)

Part 4

If you had to implement 3 requirements mentioned above, which 3 would be the easiest (cheapest) for you to implement?

Click or tap here to enter text.

Questionnaire Cost Assessment by market parties (5)

Part 5

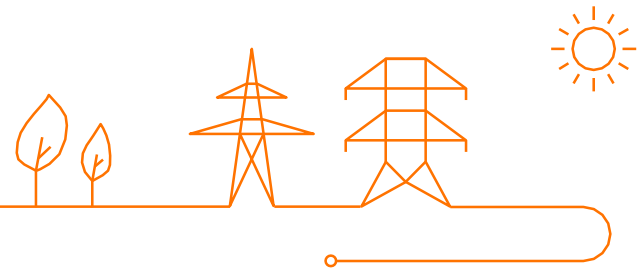
According to the understanding of Elia, the PGM-owners often reinvest in their assets at the end -of- life of those assets. Does your company also consider reinvestments? If yes, could you describe these reinvestment cycles? Hereunder you can find a list of questions for inspiration. Feel free to add other relevant aspects in your answer.

Did you already reinvest in an existing PGM?
How often do you reinvest in a production asset? Does it depend on the technology of the PGM?
Do you increase the power of the asset during this reinvestment? If yes, to which extend?
What are the factors that may influence the reinvestment decision?
Click or tap here to enter text.

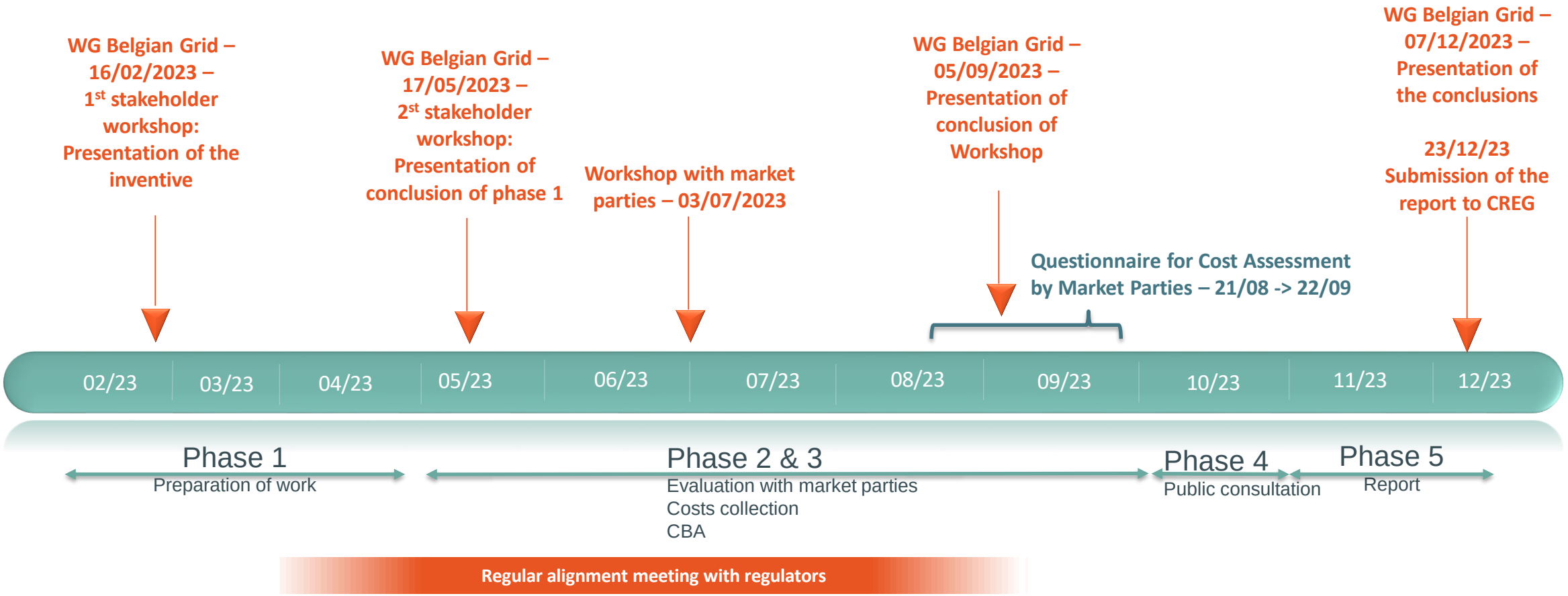
Elia would also like to better understand the maintenance operations performed on the existing PGMs. At which frequency do you execute maintenance operations on your generation assets? What are the costs of these maintenance operations? If you had to update some parameters on the controller of your PGM during a planned maintenance, how would the price of the maintenance evolve? Would it rise by 10%? 50%? 100%? Feel free to add any other relevant element in your answer.
Click or tap here to enter text.

Planning and milestones

- **Phase 1 : Preparation of work – Elia**
  - Inventory of existing and new PGMs between 1 & 25 MW
  - Comparison or the requirements applicable to existing and new PGMs
  - First evaluation of the requirements in terms of benefits for the grid and selection of candidate requirements for the CBA
  - First proposal for the different categories of costs to take into account
- **Phase 2: Evaluation with market parties – Elia & Market parties**
  - Of the candidate requirements for the CBA
  - Of the CBA methodology
  - Of the categories of costs
- **Phase 3: Data collection and CBA – Elia & Market parties**
  - Data collection with market parties for the costs part for the selected requirements for the CBA
  - CBA performed by Elia
- **Phase 4 : Public consultation - Elia & Market parties**
- **Phase 5 : Report and conclusions – Elia**



Planning and milestones



Thank you.

Agenda

1. **Approval of report 17 May**
2. **Energy View Point**
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Toegangscontract

05/09/2023 | Jessie Moelans

Definities & coherentie

- Coherentiecheck FR/NL (vb. verwijzing naar bijlage 3bis)
- Verwijzingen naar artikelen
- Definities
  - Coherentiecheck toegang – aansluiting
  - Verduidelijkingen
  - …

GDPR en data protection (Art.4.5)

- Te licht bevonden. Niet voldoende duidelijk over welke data het gaat
  - Artikel licht aangepast, het gaat over gegevens opgenomen in Bijlage 1

Drop-off (Art.19 en 22)

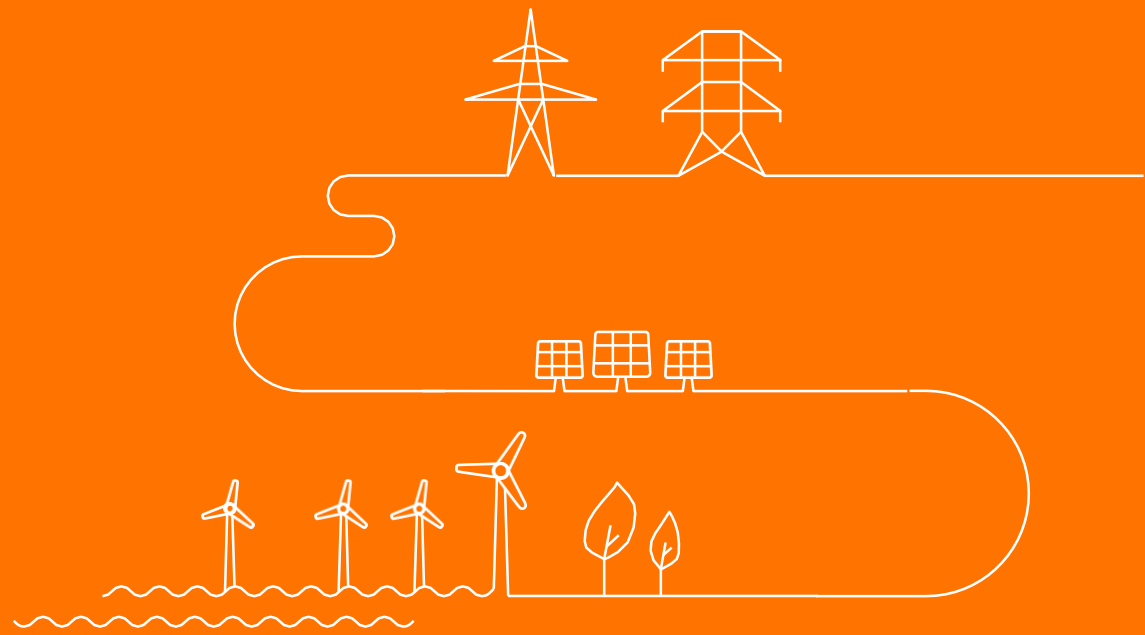
- Zowel als VREG als CWaPE kondigen aan drop-off op regionaal niveau mogelijk te zullen maken
  - Art 19 en 22 worden op basis van deze info aangevuld

Multiple BRP

- Onduidelijkheid rond gebruik definities leveringspunt <> markttoegangspunt, link met CDS'en
  - 12/09 workshop CCMD – application CCMD for CDS

- Vragen rond de procedure van toevoeging van leveringspunten
  - Zie werkgroep CCMD waar dit uitvoerig besproken wordt (procedure beschreven in BRP-contract)

Merci.



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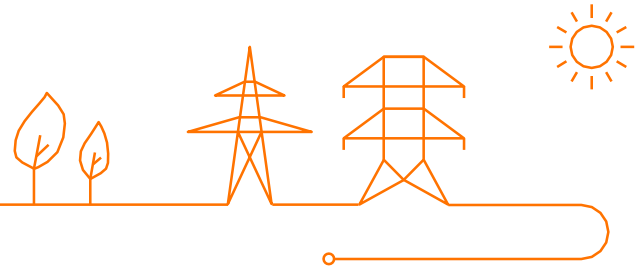
Aansluitingscontract

05/09/2023 | François Dessain

Agenda

1. Main Topics raised

- Transversal subjects (affecting multiple chapters)
- Per article review



Transversal topics

Transversal remarks/questions – impacting several chapters/annexes

❖ Sections of Detailed study that will be integrated in the connection contract:

- Content of Annex 7 will be integrated in the relevant annexes after the realization or substantial modification of the connection.

❖ Different wording compared to current connection contract (ex: confidentiality) or revised contract ancillary services (ex:overmacht):

- Alignment with the approved Access and BRP contracts (at the request of market parties) .
- The General T&Cs for System Services concern the relationship of services provided by the contracting party, while in the Access Contract and Connection Contract, Elia is responsible for access and connection.

=>This explains a number of differences.

❖ Light/Fullsize management:

- In all cases, Elia is responsible for the "light" management of the Connection (art 18.2.1)
- If Elia does “full-size” it includes light (art 18.2.2). The cost for “light” is included in the full-size tariff
- If a customer does “full-size” he fulfills the tasks described under the "full-size" management (see art 18.2.2) but that does not include "light" given art 18.2.1.

General remarks - Structure of contract & definitions

- Contract structure: terminology used in art 4 Gedragcode=> replace “technical” conditions by “specific”
- Definitions listed in the contract versus definitions in the existing legislations:

  Sometimes Elia formulated a definition for the application of this contract taking into account the different (federal/regional legislations). Also as indicated in art 1.1/ (" Subject to further specification in the present Contract") legal definitions were further specified.
- Unused definitions deleted
- Modified definitions
  - "Connection Contract": include in definition that this is the contract entered into between a Grid User and Elia in accordance with the approved type agreement for connection to the Elia Grid.
  - “Delivery point”: conceptual questions and links to legislation (federal and regional)
- New definitions:
  - “Detailstudie”/”Energieopslagfaciliteit”/”Herstelplan”/”Systeembeschermingsplan”/”SA Contract”/”VSP Contract”
  - Change “Installatie van de Netgebruiker” in “Installatie van de Medecontractant”
  - Clarification definition "owner"
  - “Medecontractant” how will it concretely be in case Medecontractant is not the Netgebruiker
    - example: in case of an incident

Boiler plate clauses

- Modification of the contract

  Clarification: modification to the “type-overeenkomst voor de aansluiting”

- Priority

  Reference to the “type-overeenkomst voor de aansluiting”

Topics per chapter

Art. 8 – Noodsituatie en overmacht

- Request to align maximally to the articles of auxiliary services contracts:

  Yes but for the part Alarm-,nood-,black-out of hersteltoestand the content is more specific:

  In order to implement the measures imposed by Elia under the approved restoration plan and system protection plan relating to the relevant infrastructure, Elia addresses the grid user who has signed the connection contract for the corresponding infrastructure. The identified DSOs and SGUs must carry out the procedures provided for in these plans in accordance with Elia's instructions. This explains the more specific and concrete provisions regarding grid users.

- Clarify communication procedure/definition SGU

- Why “sterkmaking” by the co-contractant for SGU?

The measures concern certain infrastructure as defined in article 2 of the Grid Code E&R (SGUs) that do not always belong to the Grid User with whom Elia has concluded a connection contract (and thus Co-contractor). It is through the Co-contractor that Elia wants these provisions regarding the instructions to apply to the SGUs that are not a Co-contractor.

Art. 8 – Noodsituatie en overmacht – WG EMD-SO 15 Mei (LFDD)

Revision of System Defense Plan and Restoration Plan

- June 15th 2023: Elia will send first text proposals to stakeholders
- Second Half of June 2023: different stakeholder meetings:
  - Public authorities: Creg, AD Energy, NCCN (Brieuc will coordinate)
  - Synergrid (Elia-DSOs): June 29th 2023
  - SGUs: Febeg, Febeliec (Peter will coordinate)
- July 7th 2023: Elia will send adjusted text proposals to stakeholders and neighboring TSOs
- September 7th 2023: Feedback from stakeholders
- Second Half of September 2023: Elia will draft Final Versions + Stakeholder Consultation Report
- September 30th 2023: Elia will submit Final versions to Minister of Energy

New LFDD plan will be part of System Defense Plan

The LFDD Design note, as result of the LFDD Working Group, will be joined as explanatory note to the SDP.

Art 11 Invoicing & payment conditions

- Further modalities concerning invoicing (e-invoicing/paper/address) will be defined on the Digital Platform
- Clarification compensation credit notes: a credit note sent by Elia constitutes a provisional payment on the next invoice(s). On the next invoice(s), a settlement of the credit note will be made by the Co-contractor.
- Keep description of “manifest gegrond bezwaar” since requested by CREG in BRP contract and approved in Access contract.

Art. 12 – Schorsing of beëindiging van dit Contract

- Open remarks on termination reasons - ongoing
- Dissolution: concerns about the “prior judicial authorization”:

It was considered that given the consequences of a dissolution, a prior judicial authorization is appropriate

(and moreover in line with the Civil Code). See also margin number 16 of decision B883

- Problem with wording Art 12.1.1 “Het instellen van het beroep heeft echter geen schorsende werking”.
    - Het betreft in casu de niet-conformiteit van installaties dewelke een invloed hebben op de veiligheid, betrouwbaarheid of efficiëntie van het Elia-Net. Deze situaties dienen zo snel mogelijk te worden aangepakt, vandaar dat er geen schorsende werking kan zijn.
- Concerns about Art 12.3 which shifts costs and burdens towards the Grid User:

Proposal to add: “unless Elia is the sole party in default and performance of the Contract is suspended or terminated for that reason”

- Art 12.4 – clarify procedure, request to align as much as possible with the CRM functioning rules

Art. 16 Condition precedent regarding the Use of an Installation, a New or Modified Connection

- Concerns about the place of this article:

  Proposal to integrate this in art 18.1 where the last § is also referring to the appointment of OPA/SA.

- Question: delivering EON,ION,FON guarantee that all technical requirements following from the federal technical regulations have been met?

  Issue of EON,ION or FON is subject to the conditions provided in the Technical Regulations (cfr Code of Conduct art 64 and following

- Why not reference to BSP and VSP for which obligations are also possible?

  Signing BSP and VSP contracts is not a condition to use a connection.

Art. 18 Establishing, Modifying, Providing and Managing the Connection facilities

- Remarks concerning wording/references/coherency in terminology
- Annex 7 and “detailstudie”: see above
- Questions light/full-size management: see clarification above
- Questions regarding the choice that Elia can make in art 18.2.4:

  The reason is that if Elia does not own the first connection bay – (première travée de raccordement) (which will be exceptional) she should be able to decide whether she wants to carry out this activity (cfr. installation not managed by her etc.).

  Elia does not wish to maintain facilities over which it has no knowledge.

Art. 24 – Werken, exploitatie en onderhoud van de installaties die een invloed kunnen hebben

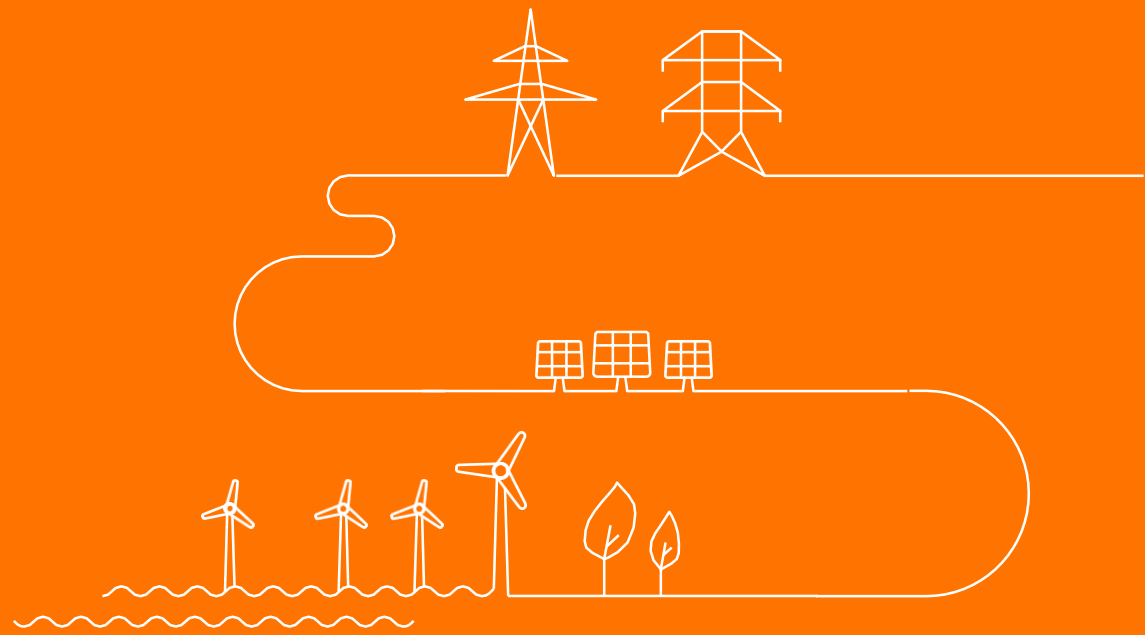
- Delen tekst ontbreken
- Aantal vragen voor verduidelijking
- Herschikking van sommige artikelen

Art 25 Data sharing

- Aantal vragen voor verduidelijking
- Terminologie gedragscode gebruiken
- Toevoegen verplichting aanleveren structurele gegevens door de eigenaar van verbruiksinstallaties

en basis van verplichting (SOGL)

Merci.



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