Workshop on connections with flexible access

Workshop 10/10/2024

10.10.2024 | Elia

Context

Why flexible access ? → **Realize** the **energy transition on time** and at the **least cost for society**, by **electrifying demand** and integrating **renewables**

What is the **main challenge** we want **to address ?** → **Answering** to an exponentially **increasing** number of **connection requests** to the **power grid** for renewables, electrification and storage projects with a **shorter lead** time than the **needed grid reinforcements**
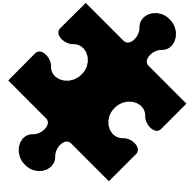
How will we **address this challenge** ? → By defining a **robust design** for **connections with flexible access** – to be **anchored in the regulatory framework** – to **allow grid users** to **connect** to the grid **before** the **realization** of the **required grid reinforcements**

Goal of today workshop

We have reached a **key step** in the **flexible access journey** : The **Code of Conduct*** **submission to the CREG** on the 20/09/2024 – which is the **result** of the **work** done so far in **co-creation with Elia and the Market Parties**

The **goal of today workshop** is to give an **overview of the updated design** – following the **public consultation** – which is **reflected in the Code of Conduct submitted to the CREG**
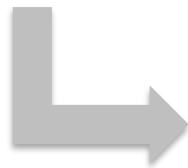
One design element is **still open** and may lead to **an update** of the **submitted Code of Conduct**

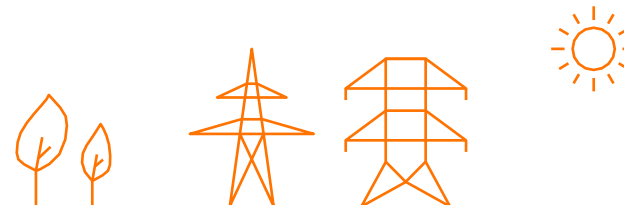* Public Consultation report and Code of Conduct proposal available on Elia website

Main objectives and comments from stakeholders

❑ In the proposed design, Elia intends to **provide the necessary guarantees** – so that the Grid Users with flexible access **are able to finance their project**, while:

➢ Keeping the **right incentive for the Grid Users to connect** to an **appropriate location and** to **timely communicate** their **needs**

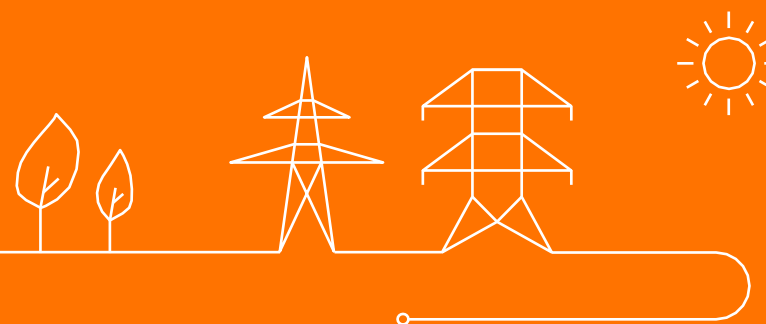➢ **Limiting socialization** of costs to the minimum needed to provide robust guarantees

❑ Elia has received ~220 comments from stakeholders. The comments cover the full scope of the design note, but Elia understands the **main concerns** from the stakeholders can be grouped in the following categories

➢ The **grid studies are too conservative**, leading to **unnecessary** and/or **too high flexible volumes**

➢ The **risks** related to the flexible access are **not quantifiable** and hence **not manageable** for the **Grid Users**

➢ The design offers the **possibility for Elia** to **activate flexibility** for **unjustifiable reasons** ("free lunch")
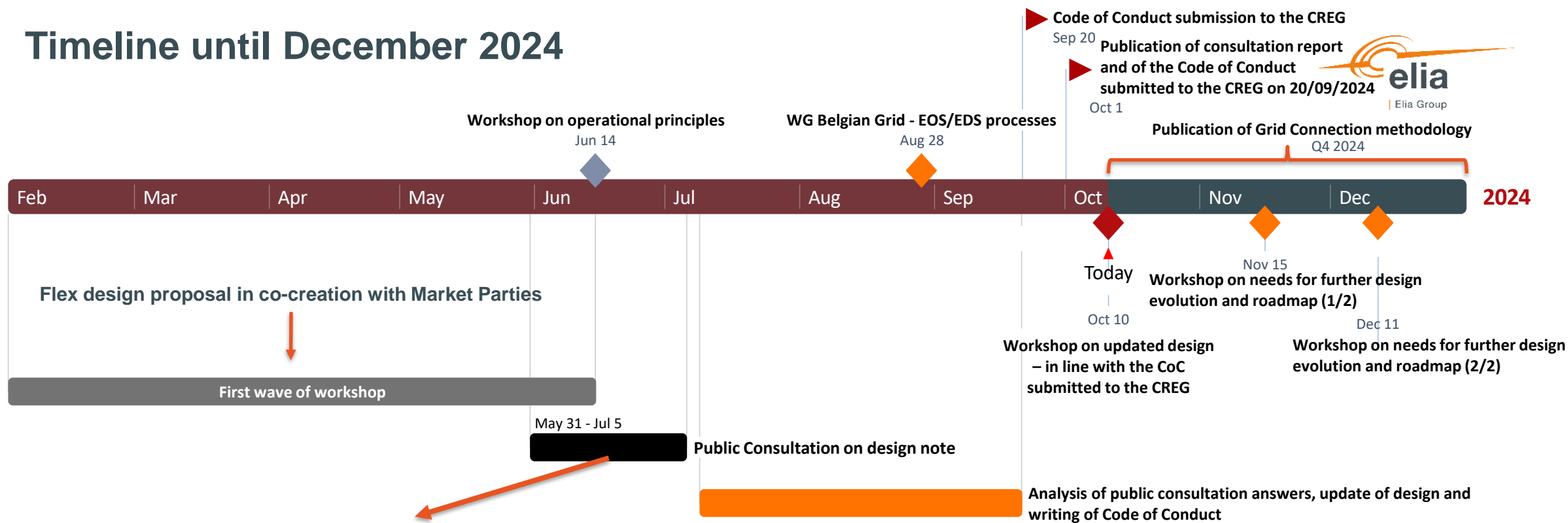
Agenda

1. Planning

2. Overview of the design

3. Methodology for client connection studies

4. Operational processes and flexibility activations

5. Temporary period

6. Annual / multiannual CAP

7. Impact on the BRP

8. Impact on the BSP

9. Overview of changes and answers to main stakeholders' concerns

10. Grid Studies : EOS/EDS Flex dossier

11. Implementation Plan principles

12. Next steps

1. Planning

Timeline until December 2024

Code of Conduct submission to the CREG
Sep 20

Publication of consultation report and of the Code of Conduct submitted to the CREG on 20/09/2024
Oct 1

Workshop on operational principles
Jun 14

WG Belgian Grid - EOS/EDS processes
Aug 28

Publication of Grid Connection methodology
Q4 2024

| Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | 2024 |

Today
Oct 10

Flex design proposal in co-creation with Market Parties

First wave of workshop

May 31 - Jul 5

Public Consultation on design note

Workshop on updated design – in line with the CoC submitted to the CREG

Workshop on needs for further design evolution and roadmap (1/2)
Nov 15

Workshop on needs for further design evolution and roadmap (2/2)
Dec 11

Analysis of public consultation answers, update of design and writing of Code of Conduct

11 received answers leading to ≈ 220 comments
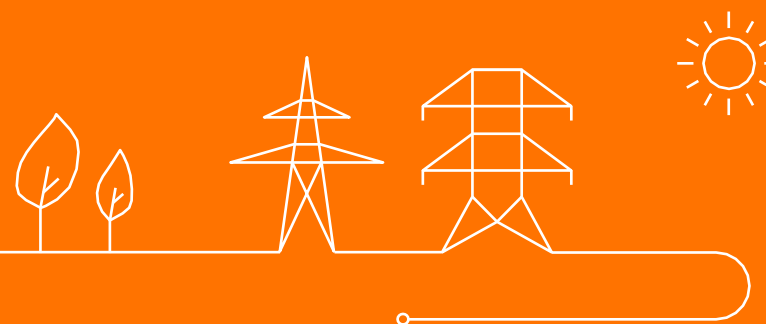
9 Non-confidential answers

2 Confidential answers

- ❑ Febeliec
- ❑ ODE/Edora
- ❑ COGEN Vlaanderen
- ❑ Yuso
- ❑ FEBEG
- ❑ BOP
- ❑ BSTOR
- ❑ Parkwind
- ❑ Continuum Industries*

Focus of Q3 was to analyze stakeholder's comments and design alternative proposals when necessary / justified and to reflect the final design proposal in the Code of Conduct

*Advertising – no answer included in the public consultation report

2. Overview of the design

Design note : content and updates

The design note is multi-disciplinary and covers the whole chain from Connection Studies to Operations

- ❑ Section 1 : Introduction
- ❑ Section 2 : Regulatory framework
- ❑ Section 3 : Early connection – notion of temporary period
- ❑ Section 4 : Clarification on connection processes
- ❑ Section 5 : Procedures and criteria for client-connection studies
- ❑ Section 6 : Guarantees provided to Grid Users
- ❑ Section 7 : Clarification of operational principles
- ❑ Section 8 : Reporting and transparency
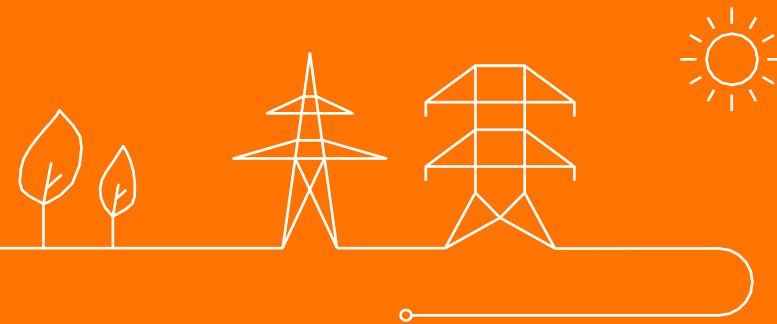- ❑ Section 9 : Target Model

➡ Following slides will provide – **for each topic** – an **overview of the design evolutions** based on **feedback of the public consultation** as well as **explanations** and **justifications** on the **final design**

➡ Where relevant, **additional explanations** complete those evolutions

3.Methodology for client connection studies

Reminder of main principles regarding EOS/EDS processes

❑ **Prior to connect to the grid** a (candidate) **Grid User** must ask for an **orientation study** (EOS) and/or **detailed study** (EDS)

  ➢ An **EOS** is a **preliminary study** that asses through **network calculation** (where flexible level – if any – are calculated) the **possibility to connect to the grid** with a high-level estimation of costs and planning. **Multiple options** are investigated

  ➢ An **EDS** is an **in-depth** study that sets out one **technical solution and associated costs and timing**. The EDS elaborates on **one solution** for the connection. An EDS leads to a **capacity reservation** on the grid.

❑ **Before the expiration** of the capacity **reservation**, the grid user has to **sign its connection contract** to get an **allocated grid capacity** (which now implies a **bank deposit**)

→ **Those processes** were also in scope of the consultation and the final proposal was presented during the **01/10 WG BG**

Reevaluation of the flexibility needs

New compared to design note

❑ Based on the feedback from the Market Parties and after further analysis, Elia believes the main benefit of the reevaluation is to evaluate the flexibility needs after cleaning up reserved capacities that will not lead to a connection.

  ➢ A **single reevaluation** can be done following a **formal request** from the (candidate) grid user in **the context of a valid EDS/reserved capacity**

  ➢ The revision can **result in better or in worse flexibility level** (in order to maintain a **balanced approach**). These **updated flexibility levels** will **replace the previous results** and be used for the remainder of the study and connection process.

  ➢ To give CREG and the (candidate) grid user **sufficient time to analyze and decide**, the candidate (grid user) must **request a revision** during the **first validity period of its capacity reservation** (120 WD).

  ➢ A reevaluation of the flexibility levels **may not result in a longer capacity reservation period.**

Client connection studies : Methodology

❑ In the context of a Grid Connection Studies, network calculation must be done. The **methodology** for performing those calculation was largely described in the design note and **will be soon published on Elia website**.

❑ When a **connection request requires grid reinforcement(s)** (not yet foreseen or foreseen but later than the concerned new connection), Elia gives the **possibility to the** (candidate) **Grid User** to **connect** to the grid **before the realization of those reinforcement** with a **flexible access**.

❑ In case of flexible access, the methodology provides an **estimation of**:

✓ The period during which the connection needs to be flexible (which corresponds to the period until grid reinforcements)
✓ The power that needs to be flexible as well as the power that can be connected firmly [MW]
✓ The yearly average flexible volumes [MWh/year]

❑ Those estimations will be used afterwards (see section guarantees) to define the limits before which the costs linked to the activation of flexibility will be borne by the Grid User.

The **purpose** of the methodology is to provide a **balanced approach** between **risk of overestimation** of flexibility volumes (which could negatively impact the business case of the Grid User project) and risk of **underestimation** (which could lead to higher socialization of congestion management costs).

Client connection studies : Methodology

❑ Within the proposed methodology to identify the hosting capacity of the grid for this new connection, Elia defines a *scenario* and some *hypothesis* to be **used** for the **identification of congestion risks** associated to the connection request. This covers – amongst others:

1. The **reserved and allocated capacities** (for other projects).
2. **Expected connection date** and **growth potential** of other technologies.
3. The **profiles** used for these reserved and allocated capacities
4. **Threshold for considering the access as firm** to streamline process & accelerate delivery of studies – numerical values
5. **Threshold for not considering the identified congestions – numerical values**

❑ During the public consultation of the design note and the workshops, some **stakeholders expressed that those scenario were too risk-averse** (too extreme to avoid socializing cost) which would **lead to unnecessarily high flexible volumes** in the contract of the Grid User.

❑ The purpose of this section is to **clarify some of those hypotheses** and to **justify why those are appropriate,** while **proposing**, where deemed justified, **some evolutions based on stakeholders' feedback.**

Grid Connection study

1. Reserved/allocated capacity:

❑ In her connection studies for the request of a new connection, **Elia takes into account all** *reserved* and *allocated* **capacities** for other connections to calculate the cap.

❑ Today, with the recent important increase of connection requests, sometimes for projects in competition with each other, **it is not certain** that **all the reserved and allocated capacities** will **materialize** in new connections. In addition, the capacity reservation can easily be prolonged. Consequently, today the reserved or allocated capacities that are considered in the connection studies can be very high and, if of the same technology, can result in high values of "CAP".

❑ Elia believes that **taking all reserved/allocated capacities is the right approach** as Elia has no mean to know and shouldn't have to judge on a case-by-case basis which projects have a chance to be realized and which not.

❑ To improve the quality of the forecasted scenario and forecasted CAP, Elia proposes:

1. To adapt the grid connection process with the aim to eliminate reserved and allocated capacity having a low probability of realization. This can be achieved by **reducing the maximum duration of a capacity reservation** and to require a **bank deposit** for its allocation at the connection contract signature.

2. To give the possibility to the Grid User to ask for **<u>one</u> revaluation** of the flexibility level of his connection*. This revaluation once there is more clarity on the projects that will be concretized would provide more accurate and realistic flexibility levels to the Grid User.

No change in these study assumptions, but change in the process to improve the situation

* Only during the first 120 WD's of its capacity reservation

Grid Connection study

2. Growth potential:

❑ As described in the design note, Elia considers the **connection timing** of the **growth potential difficult to estimate** and takes therefore a **worst case approach** to **avoid over-socialization of costs:** i.e. growth potentials which reduce the congestion risk (meaning potentials in the opposite direction) are assumed to be connected after the temporary period, and hence do not help reducing the flexibility need

❑ Additionally, Elia already proposed in the design note to **further improve the transparency and quality of the forecasting of growth potentials** with the **involvement of stakeholders** in the context of a **"Task Force Scenarios"** and to publish, not only potential at national level, but also at a more local level.

❑ Following stakeholder's feedback, Elia proposes the following approach:

1. To **improve the quality of localization** and **timing** of **development of growth potential** for all technology (as indicated in design note).

2. To **adapt the methodology** and to **consider the growth potential of technologies other** than that **ones of the grid user connection request** in the same way as reserved and allocated capacity is considered – meaning in practice, that **growth potential** in **opposite direction** than the **connection request** and decreasing flexibility need will also be **considered.**

New compared to design note

Grid Connection study

3. Profiles for existing reserved and allocated <u>Storage</u> connections (other than the connection request)

❑ In the connection study for a new storage connection, the current methodology uses for each direction (injection or offtake) a **profile** representing the **behavior of all existing**, **reserved and allocated storages** in the zone of influence of the requested new storage.

  ➤ This **profile** is based on an **"energy market-based dispatch"** and is **limited to 0MW** in the **opposite direction** than the **direction considered**. This acknowledges the fact that uncertainties remains in the forecasting of storage dispatching.

  ➤ This allows not to rely on other (incl. low realization probability) reserved capacities to fictively increase the grid hosting capacity by – in the same region – immediately absorbing the energy produced by the storage unit for which the new connection is being studied, or vice versa.

❑ Some **market parties** consider this approach as **too simplistic**, and **conservative** given that all storage will not have a synchronous behavior (due for example to different revenue streams in the DA, ID and RT implicit or explicit balancing markets). This being said, market parties admit there is **no obvious solution** and **no concrete proposal** has been made to model a forecasted storage profile.

❑ Elia acknowledges that this model could be improved in the future. However, **no better alternative exists** to model storage in LT Grid Planning **today.**

❑ Therefore, Elia proposes the following approach:

  1. To **adapt the grid connection process** with aim to **eliminate reserved and allocated capacity** having a **low probability of realization** (cfr proposed modification in the grid connection process proposal).

  2. For **existing** and **reserved/allocated storage** capacities: to use "**energy market-based dispatch**" **without flooring**

    ⇒ As it creates more risks of underestimation of flex power, this implies for Elia the necessity to **ensure** that **activation of flex** can be done **within the permanent** power (hence with compensation)

  3. In the **mid-term**, to **develop other modelling approaches** for **storage** with the **support of stakeholders** and based on **experience feedback** of the **already installed storage** capacities.

New compared to design note

Grid Connection study

3. Profiles for existing reserved and allocated connections (other than the connection request)

existing load profile scaled to PPAD :

❑ In the design note, the profile of the existing load is kept but scaled to their PPAD.

❑ This approach is deemed to be reasonable given that those customers are paying for their PPAD and have the right to reach their PPAD at any time. Doing otherwise would imply the impossibility for the existing load to consume up to his PPAD and would imply to sell the same hosting capacity to different Grid Users.

Grid Connection study

4. **Threshold for considering the access as firm** to streamline process & accelerate delivery of studies **– numerical values**

❑ As described in the design note, **a connection with firm access will be proposed**

if the need for flexibility is only present in rare situations (with a probability of occurrence **below 0,1% of the time** – coherent with the occurrence of N-1-1 states that we don't include in the flexibility calculations) **and** other means are available in real time to ensure the secure operation of the network)

5. Threshold for not considering the identified congestions – numerical values

❑ As described in the design note, the current method & threshold to select the CNEs for which the Grid User has a significant influence is based on:

➢ $\left(\left| PTDF_{GU,CNECGU} \right| \times \dfrac{S_{max_{GU}}}{S_{perm_{CNECGU}}} \right) > 1\,\%$

The CNE is only being considered if the **product of the PTDF** of the Grid User on this element and the **ratio** of the **power of the request** to the **power of the network element** is greater than a threshold (**unless no other means** are available to solve the congestion)

➢ $U_{CNE} < U_{GU}; \quad PTDF_{GU,CNECGU} > 10\,\%$

For congestion located at a **lower voltage level** than the Grid User, the CNE is only being considered if, in addition to above criteria, the **PTDF** of the Grid User on this element is **above** a threshold **unless no other means** are available to solve the congestion)
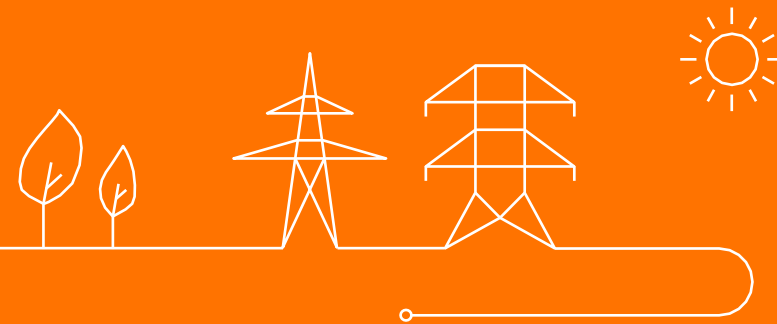
Grid Connection study

Overarching considerations regarding assumptions taken for the studies

❑ While some assumptions of the methodology could be considered as being "on the safe side" for the grid, it is nevertheless important to remind that studies are a **simplified view** of what will be happening in **operations**, and not all situations that would stress the grid are considered For example:

➢ The connection studies consider the initial **grid in its N state** (where all grid elements are available, except for the already planned outages works for infrastructure projects foreseen in the 3 upcoming years) and simulate load flows in N and in N-1 state (with different elements missing). **In operations**, there are inevitably **very often grid elements in the zone of influence which are out of service for maintenance, outages, works or other reasons.** And even in this situation, operational security must be guaranteed in case of subsequent N-1 (outage of one additional element). This means that the studies may also provide more optimistic results, i.e. lower volume of flexibility.

➢ **Balancing* is not modeled** in the grid connection studies. If flexible assets react to implicit and/or explicit balancing signals in the same direction, they might do this all together which could lead to important congestion that are not simulated at the grid study stage.

* Nor explicit nor implicit

Grid Connection study : conclusions and proposed way forward

❑ The purpose of the methodology is to provide a balanced and reasonable manner to estimate the flexibility volumes, trying to avoid too much overestimation which is potentially costly for the candidate grid user but also too much underestimation which leads to unfair socialization of costs or even the impossibility to safely operate the system (especially for the regional grids). Hence a balance between hypothesis that are "conservative or on the safe side" and hypothesis that lead to under-estimation of volumes has to be maintained.

❑ Based on stakeholders' feedback Elia:

➢ Has clarified and better justified the reasons behind some assumptions

➢ Has proposed adaptations of some assumptions to take into account stakeholder's feedback

➢ Has committed to improve some methods in the mid-term in collaboration with stakeholders

➢ Has proposed a process to reevaluate the flexibility needs

➢ Will publish the currently used thresholds numerical values in the methodology document published on Elia's website

❑ All the above-mentioned evolutions provide a **more balanced approach** between over-estimation and under-estimation. This implies that the limits do not cover all situations, and Elia must be able to activate outside of the estimated limits (namely in firm band and beyond the cap) to guarantee operational security. Such activations will be remunerated, implying a **risk of socialization of costs through the tariffs**.

❑ Finally, Elia is ready to analyze and reevaluate in concertation with stakeholder's whether other improvements of the methodology are possible if systematic important deviations between estimations and reality are observed that are due to the methodology.

4. Operational processes and flexibility activations

Connections with flexible access
Reminder - Activation principles

Gflex is intended to automatically solve **real-time congestion issues detected on monitored grid elements**

- Monitored grid elements:

    - Congested grid elements **identified during the grid connection study** that led to the need of flexible access

    - **Possible additional grid elements** with identified congestion caused by the connection with flexible access

        - Due to evolutions of the grid in comparison to the assumptions in the grid connection study.

        - <u>Due to the fact that</u> the methodology cannot take all grid situations into account

- Real-time congestions in N or N-1 situations

Specific for local transmission network

- Due to the unavailability of alternatives, **manual setpoints** can be sent to solve some specific and non-frequent operational security issues (e.g. voltage management issues or congestions on non-monitored grid elements)

Gflex activations

- Gflex allows for **curative actions** (i.e. only requested in case of outage of a grid element) reducing the **frequency of activations**

- Gflex is a **real-time** remedial action allowing to minimize the requested volume to solve a congestion as there is no activation due to forecast error

Usage of Gflex: RA* to limit congestion on a limited set of CNE taking into account the cap

Activation order of considered RAs:

Order	Congestion on monitored grid elements	Congestion on non-monitored grid elements or other operational security issues
1	Internal Elia RAs (topological, tap changes on PSTs,…)	
2	Flexibility from connections with flexible access for **which the cap is not yet reached** as preventive and curative RAs	-
3	• Redispatching activations as preventive RA on units with a SA contract according to a **common technico-economic merit-order** • For congestions that can be solved with a curative RA, flexibility from connections with flexible access for **which the cap is reached.** This allows **reducing the frequency of preventive redispatching activations** that should have been requested in absence of curative RA.	Redispatching activations according to technico-economical merit-order on units with a SA contract
4	Cancellation or restitution of planned outages of grid elements	

*RA = *Remedial Actions*

Operational process
Reminder - Gflex activation in Real-time

Usage of Gflex

- Automatic activation in case of **congestions on monitored CNE(s) that were forecasted in ID/DA** according to activation principles used in security analysis

  ❑ If the cap is not reached: preventive and curative activations

  ❑ If the cap is reached: only curative activations

- Automatic activation (preventive or curative) in case of non-frequent **unexpected congestions** on monitored CNE(s) that were not forecasted in ID/DA

Specific for local transmission network

Due to the unavailability of alternatives, **manual Gflex activations** can be requested to solve some specific and non-frequent operational security issues (e.g. voltage management issues or congestions on non-monitored grid elements)

Operational process
Activation principle – Answer to market parties feedback

> **Market parties feedback**: Gflex activations should not be used to solve congestions on grid elements that were not identified in the grid study

- Considering that

  - **Guarantees are given to Grid Users** in all dimensions relevant for evaluating the financial impact (duration of temporary period, flexible volumes, flexible power and risk mitigation on the imbalance price)

  - Those **guarantees are contractual** and are based on a **balanced and reasonable manner to estimate the flexibility needs** (as specified previously)

  - A Gflex modulation is requested to **mitigate the impact of the Grid User on a congestion** only when this Grid User is contributing to the congestion

- Elia thinks that **some freedom should be kept in the operational process:**

  - To take into account the **evolution of grid elements** in comparison to assumptions in the grid connection study or grid elements that were not considered by the grid study (e.g. in case of specific grid situation due to a maintenance) if the **actual grid situation requires the systematic monitoring of (a) additional grid element(s)** for which the cause of the congestion is the connection of the grid user

  - To ensure an **efficient congestion management process**, especially considering the possibility to use curative RAs

  - To keep **complexity of activation under control** i.e. avoid a complex follow-up of grid elements for each Grid User at every stage of the connection : grid study – infrastructure project (if phased connection) – operational process – settlement process

Connections with flexible access
Activation principles in case of multiple connections with flexible access : adaptation

Market parties feedback: Clarifications are requested on the activation principles in case of multiple Gflex (role of the efficiency on the congestion, use of flexibility beyond the cap,…).Gflex activation merit order should be technology neutral.

Based on Stakeholders' feedback, Elia proposes an adaptation of the activation principles in case of multiple connection with flexible access

- In case multiple connections with flexible access contribute to the same congestion, the **connections for which the cap is not exceeded are selected as follows** (considering only their flexible volume):
    1. Units are divided in groups **based on their efficiency on the congestion** (PTDF larger/lower than a threshold value)
    2. Within the same PTDF group, units are selected **based on technology***
        1. Storage **AND** grey production
        2. Green production
    3. Within each technology group, a **LIFO (Last in First Out) principle** is applied

New compared to design note

- If this is not sufficient to solve the congestion, the **connections with flexible access for which the cap is exceeded** are then considered **following the same selection steps** as described above.

- Finally, if this is still not sufficient to solve the congestion, the **permanent power of connections** with flexible access (within their cap or not) can be considered again **following the same selection steps** as described above

Elia reminds also the importance to have **harmonized principles** to be applied in its grid at **Federal and Regional levels** to ensure the feasibility of the operational management of the grid security

* In line with the philosophy of article 13 of the Regulation EU 2019/943 (Clean, Energy Package)

5. Temporary period
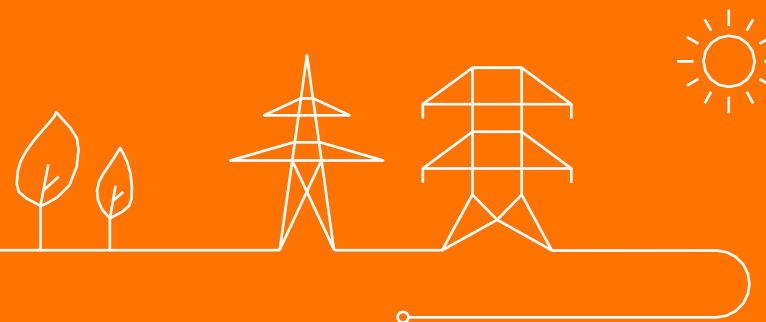
Temporary period
Reminder

- **Temporary period**: period during which the Grid User with a flexible access bears the cost of the flexibility activated to solve the congestions.

- Important clarifications:
  - In any case, the Grid User will receive a firm connection when the infrastructure project(s) solving the congestion are commissioned.
  - When this is not the case but that the temporary period is finished, the flexibility is still needed, so activations are still possible and subject to remuneration and BRP perimeter correction.

- The temporary period is determined based on the planned duration of infrastructure projects necessary to solve the congestion as identified in the gird connection study. Concretely, there are 3 parameters defining the temporary period.

Temporary period
Reminder

There are 3 parameters defining the temporary period:

1. **The standard period**

   The standard period is the maximum possible duration of the temporary period. It is formulated explicitly in the Code of Conduct that in no case the temporary period will be longer than this standard period.

2. **The criteria to consider infrastructure projects as "sufficiently robust" and the margin on this planning**

   When the infrastructure projects necessary to solve the congestions have a "sufficiently robust" planning, this planning can be taken into account in order to shorten the temporary period.

3. **The possibility for Elia to extend the temporary period or to postpone a phase within the temporary period**

Temporary period
Final proposal

There are 3 parameters defining the temporary period:

1. **The standard period**

   As mentioned in the design note, the proposal is to set the standard period to:

   - 15 years when the voltage level of at least one congested grid element is 380 or 220kV

   - 10 years when the highest voltage level of congested grid elements is 150, 70 or 36kV

   - 5 years when the voltage level of congested grid elements is below 36kV

Temporary period
Final proposal

There are 3 parameters defining the temporary period:

2. **The criteria to consider infrastructure projects as "sufficiently robust" and the margin on this planning**

    After further investigation, Elia has proposed the following approach in the Code of Conduct:

    - The project planning is taken into account when it **has reached the status "in study" in the last publicly available planning** at the moment the connection contract is signed.

    - **A margin of 2 years** on this planning is applied. This is explained by the fact the status "in study" is early in the project's lifecycle and hence can't yet be qualified as a robust planning, as the concept for the project is not always defined. Keeping a 1 year margin would request to wait for a more mature status of the projects, which would lead to an increase of cases where the standard period will have to be used. Therefore, Elia believes this proposal is in the interest of the Grid Users.

    Elia acknowledges that the 2 years margin can seem inappropriate when projects are close to realization. However, we need to keep simple rules, and those can go in both directions. For example, there is no margin at all on projects leading to a change of phase, while those can considerably reduce the flexibility needs.

Temporary period
Final proposal

There are 3 parameters defining the temporary period:

2. **The criteria to consider infrastructure projects as "sufficiently robust" and the margin on this planning**

   After further investigation, Elia has proposed the following approach in the Code of Conduct:

   ▪ The project planning is taken into account when it **has reached the status "in study" in the last publicly available planning** **at the moment the connection contract is signed**.

   allows to increase chances that the infrastructure projects have reached the status "in study", and hence reduce cases where the standard period will have to be used

   But   implies an uncertainty for Grid Users in some cases, as the projects could be delayed between EDS delivery and signature of the connection contract

   Elia is prepared to bring one additional modification in the CoC in order to provide needed clarity to Grid Users:

   • The planning provided in the EDS is binding
   • In case projects have achieved the status "in study" in publications between the delivery of the EDS and the signature of the connection contract, the temporary period is reduced by taking into account this planning

Temporary period
Final proposal

There are 3 parameters defining the temporary period:

3. **The possibility for Elia to extend the temporary period or to postpone a phase within the temporary period**

    After further investigation, Elia has proposed the following approach in the Code of Conduct:

    ▪ Elia has the possibility, once for each connection contract, to extend the temporary period or to postpone of a phase within the temporary period

    ▪ This possibility is however **strictly limited to issues related to permits**. As a result, other reasons "which are out of Elia's control" (e.g. major supply chain issues) are excluded

    Elia understands it could be perceived as a transfer of risk for from the tariffs to the Grid User. However, while Elia is already doing whatever is in its own power to deliver the infrastructure projects on time, it remains important to have the Grid User concerned by the permitting process.

6. Annual / Multiannual cap
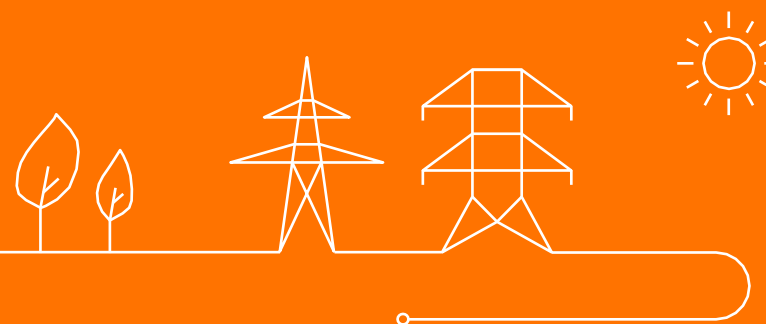
Annual / multi-annual cap

- **Cap**: the yearly flexibility volume beyond which potential activations are subject to a compensation

- 2 options have been proposed in the design note

  - Option 1: multi-annual cap of 3 years

  - Option 2: annual cap carrying unused flexibility over to subsequent years

- Elia has proposed option 2 in the Code of Conduct: **annual cap carrying unused flexibility over to subsequent years.**

- Elia has introduced a **limitation of 3 years** for carrying over the volumes.

Annual / multi-annual cap

- Elia believes this is the **most balanced approach**, as the flexibility will still be used for the congestions created by the Grid User and that future operation of the grid can differ from the assumptions considered in the grid connection study, for example:

  - The grid connection methodology uses average climate years, while there will be years with f.i. more/less wind, impacting the flexibility needs from years to years.

  - Every grid maintenance is not planned several years in advance. Hence, an average value is considered for each year.

  - Even for the planned works, it can't be expected that guarantees are given on the exact timing of execution several years in advance, while in some cases the related projects are not yet fully defined and hence don't have a robust planning.

- The proposed design of the cap doesn't fully cover all those situations. In addition, the Grid User has the guarantee:

  - Equal to a purely annual cap in the 1st year of the connection.

  - That the maximum possible volume of non compensated flexibility is to have the entire annual cap used each year.

Annual / multi-annual cap

- Elia understands market parties' concerns on the **bankability of new energy assets** and is fully aware of the importance of stable cash flows to secure financing for a project.

- Given the importance of the topic for the Grid Users and impact of socialization in case of change towards a purely annual cap, Elia has requested advice from an external consultant. This advice confirms Elia's opinion: the proposed solution should meet stakeholders' concerns and provides a **solid contractual basis to seek financing for new assets** for the following reasons:

  - The maximum volume to modulate the asset is known upfront and can be taken into account in the cash flow analysis of investors.

  - Elia understands that lenders might have issues with the uncertainty linked to carrying forward unused curtailment volumes (MW) to later years. However, Elia is of the opinion that mitigating measures can be included in the financial contract to manage such risk towards the lenders. Examples are the adoption of reserve accounts or clauses to prevent the distribution of excess cash (resulting from lower curtailments at the beginning of the projects) towards investors.

7. Impact on the BRP
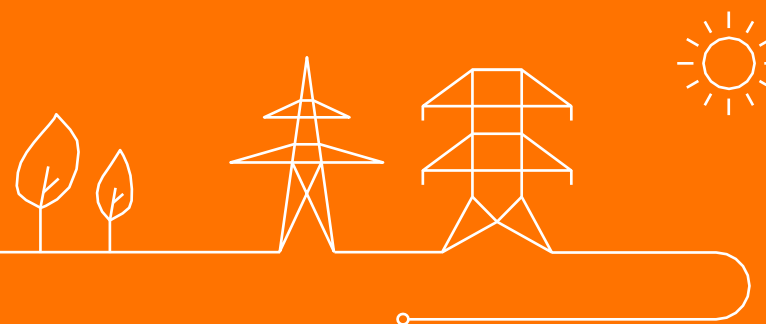
Impact on the BRP

- The proposal in the design note is to **correct the perimeter of the BRP only beyond the cap**.

- Market parties showed some support on the proposal, but also shared concerns on the possibility for the Grid Users to quantify the risk and for the BRP to react in real-time.

- Elia understands that imbalance prices can reach very high values and that the related risk can be a barrier to investment decisions. While it's fundamental for Elia to keep the incentive to the Grid User to connect at the best possible place on the grid, having the Grid User connecting exposed to a volatile and sometimes very high risk might hamper the investment decisions and might not be the most optimal approach from a societal point of view.

- Therefore, Elia included in the CoC the principles of mechanism to **mitigate the risk for the BRP** (see slide 40).
  - Since the submission of the CoC, Elia has worked on the **design of the thresholds of that mechanism** (see slides 41-43).

- In addition, based on discussions with the CREG, an **alternative approach for correction of the BRP perimeter within the limits** (cap on volume, permanent power, temporary period) will be presented. Elia will request market parties' feedback on this approach (see slide 44-46).

Impact on the BRP
Proposal for risk mitigation included in the CoC – principle

- If Elia sends a Gflex setpoint to a Grid User and that the imbalance price during that quarter hour exceeds a to be defined threshold in the corresponding direction, Elia compensates the Grid User for the impact above the threshold. The mechanism would be symmetric (also applicable to negative imbalance prices)

- Example, assuming a threshold of 1.000€/MWh :

  - A 50MW battery receives a setpoint at 0MW in injection during the full quarter hour

  - The corresponding volume amounts to 5MWh (determined according to the historical baseline methodology)

  - The imbalance price during this quarter hour is 3.000€/MWh (system is short)

  - Compensation from Elia to the Grid User amounts to 5MWh x 2.000€/MWh = 10.000€

- Incentives to the BRP to remain balanced / help the system are not affected as the BRP is still exposed to the full imbalance cost

Impact on the BRP
Proposal for risk mitigation included in the CoC – thresholds

Feedback expected

- While the principles of the mechanism to mitigate the risk for the BRP have been included in the Code of Conduct, the thresholds have not yet been included. Elia intends to add the threshold in the Code of Conduct (see next slides).

- The thresholds are designed taken the following into account
  - It's important to keep the right incentives to Grid Users by not socializing the costs related to an early connection
  - Some market parties have provided the feedback that the imbalance risk is unquantifiable and unmanageable
  - There is a discussion on price caps on balancing energy bids (and hence on imbalance prices), but the level of those price caps (currently 15.000€/MWh, potentially 100.000€/MWh in the future) lead to a very high risk which is difficult to manage in a business case

➔ The thresholds are intended to have a beneficial impact for the Grid Users, without comprosing the incentives given to Grid Users and limiting the impact on the tariffs (« cutting the tail »)

Impact on the BRP
Proposal for risk mitigation included in the CoC – thresholds

Feedback expected

▪ The proposed approach is to determine the thresholds based on the historical distribution of the imbalance price

- Use data from January 2021 to September 2024 (included), representing a wide variety of market conditions
- Assume an average impact of Gflex activations of 200MW on the System Imbalance

Density Imbalance prices

P99

[€/MWh]
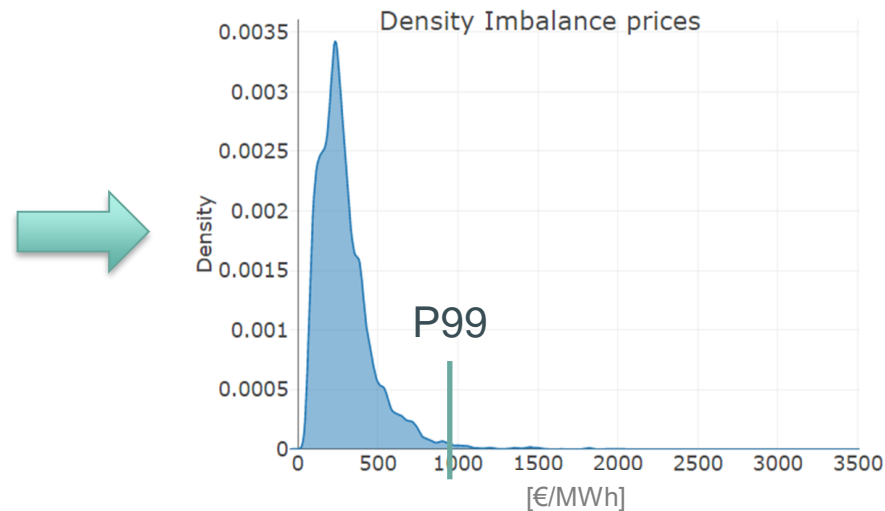
- Positive imbalance price: 940 €/MWh
- Negative imbalance price: -625 €/MWh

Are those values future proof?

Should they be rounded?

- Consider the distribution of imbalance prices for all quarter hours where the System Imbalance is lower than -200MW (short position)
- Setting the threshold at P99 ➜ mitigate the risk for the highest 1% of imbalance prices in the given direction

Impact on the BRP
Proposal for risk mitigation included in the CoC – threshold

Feedback expected

- The connection to PICASSO will change the dynamics of the aFRR balancing market but also entails a risk of high prices. Elia has defended and implemented measures at European and at Belgian level to mitigate this risk on the PICASSO platform, but very high prices can still occur in case of high aFRR demand in neighbouring countries.

- A dynamic threshold dynamic could have the advantage of being more robust towards significant evolutions of market conditions. However, it is proposed to define fixed values in order to:

  - Keep simple rules

  - Maximize guarantees given to Grid Users, as it implies that a modification is only possible after consultation with the market

- It's to be noted that, in the event that a revision of the thresholds is necessary, it might require a different approach to define updated values. F.i., the length of the sample for the statistics might have to chosen differently.

- As a consequence of those elements, Elia proposes to fix the thresholds at:

+1000€/MWh	**-700 €/MWh**
when SI is short	when SI is long
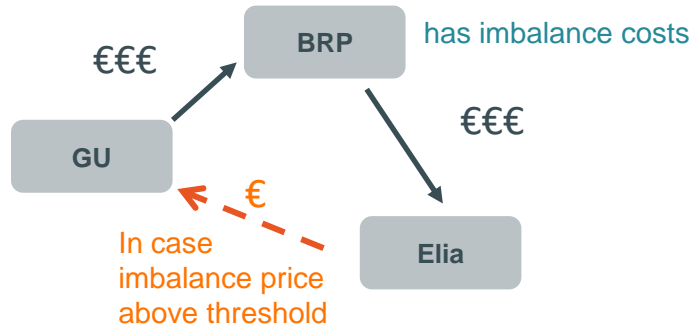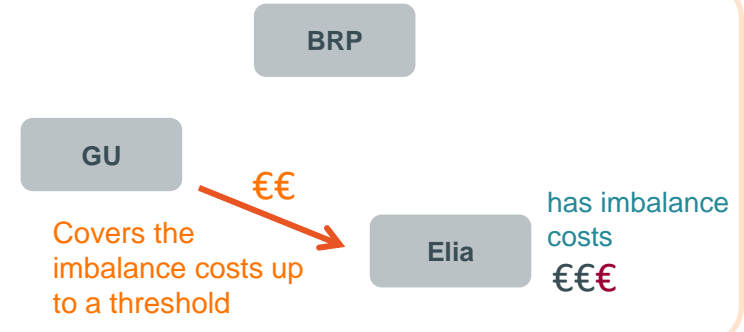
Impact on the BRP
Proposal to adapt the roles & responsibilities within the limits

Feedback expected

- Based on discussions with the CREG, an alternative approach that Elia could propose is the following:
    - The perimeter of the BRP is always corrected
    - The Grid User supports a contribution similar to the imbalance price (up to the limits mentioned in the previous slide) within the contractual caps (cap on volume, permanent power and temporary period)

- The level of socialization is unaffected, but it's the Grid User and not its BRP which bears the consequence of the flexible access

- The 2 methods are compared in the next slide

Impact on the BRP
Proposal to adapt the roles & responsibilities within the limits

Feedback expected

	Method from the CoC	Possible modification of R&R
BRP correction	**BRP is never corrected** within CAP The BRP might support imbalance costs that would be passed on by the BRP to the GU	**BRP is always corrected** considering the baselining approach They should not charge anything to its GU for the flex risk
Grid User (GU) financial compensation	GU receives a **financial compensation when imbalance prices are higher than a given threshold** (>1000€ if SI short & <-700€ if SI long)	GU **supports the incurred costs up to the same thresholds** Overall costs are the same than in the other solution.
Cost socialization	**Not socialized** except above thresholds	**Not socialized** except above thresholds

Method from the CoC diagram:
- GU → €€€ → BRP (has imbalance costs)
- BRP → €€€ → Elia
- Elia ⇢ € ⇢ GU — In case imbalance price above threshold

Possible modification of R&R diagram:
- BRP
- GU → €€ → Elia (has imbalance costs €€€) — Covers the imbalance costs up to a threshold

Impact on the BRP
Analysis and next steps

Feedback expected

- The proposal has the advantage of better respecting the roles and responsibilities of market parties.

- Elia analyzed the impact of the proposal by comparing the 2 options in the different cases (positive / negative imbalance price, imbalance price above / below the threshold, setpoint in injection / offtake,…) and came to the conclusion that there are no major downsides.

- Based on these findings, Elia believes that the proposal to always correct the perimeter of the BRP is preferable

- Note: the baselining methodology for RES is precise, meaning that the proposal to always correct the BRP allows to neutralize the impact on the BRP. This will not completely be the case for technologies where the historical baseline is applied, as the perimeter correction will not necessarily be equal to the impact of the Gflex activation on the BRP.

- Next step: except in case of major substantiated comments from market parties, the latest by 15/10, Elia will submit an updated version of the Code of Conduct by the end of October to the CREG including:

  • The principle to always correct the BRP and to have the Grid User support a contribution similar to the imbalance price

  • The threshold

  • (The moment when the temporary period is defined – see previous slides)

8. Impact on the BSP
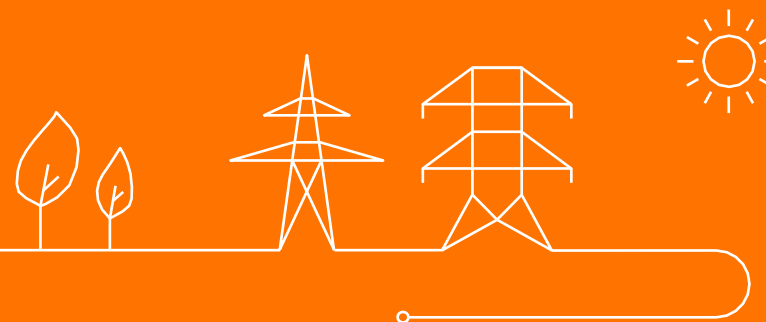
Impact on the BSP

- Elia proposed in the design note to apply the penalties related to the balancing irrespectively of Gflex activations, including beyond the cap. Elia added that, as part of the Target Model, further reflections will take place on the interactions between congestion management and balancing.

- As more Grid Users will be connected to the grid with a flexible access, **finding solutions for the impact on the BSP will become an increasing need**:
  - For the Grid Users themselves
  - For Elia to be able to pursue the development of the balancing markets

- It remains however important to **properly address the risks identified in the design note**, for example the strategic bidding in case of predictable congestions, as the BSP could get incomes from the capacity market for Delivery Points that will be constrained by a Gflex activation.

- Based a.o. on stakeholder's feedback in the public consultation, Elia is currently **further investigating** the topic.

Impact on the BSP

- Besides the elements listed in the design note, there is a high complexity when defining how exactly to compensate the penalties or to adapt the requested balancing volume based on Gflex activations. Depending on the balancing product and on the use of DP_{SU} or DP_{PG} for the delivery of the service, **it will not always be possible to determine the impact of Gflex activations on the discrepancy of the BSP**.

- Example: If a BSP has included 10 Delivery Points in its aFRR energy bids, how could one determine the impact of a Gflex setpoint on an access point behind which there is 1 of these 10 Delivery Points?
  - The impact might be non-existent in some situations…
  - … while in other situations it might actually be even more important than the volume of that Delivery Point, as the BSP might use it to ensure the ramping requirement of its aFRR portfolio.

Impact on the BSP

- Market parties have suggested several concrete approaches to fix the impact on the BSP. Elia has analyzed those options and came to the conclusion that further reflection are necessary (detailed answers are provided in the consultation report).

- **Elia is currently investigating possibilities to define proxies**, allowing to mitigate the impact on the BSP while respecting as much as possible the risks identified in the design note. Elia will report on its reflection and on possible options to the market parties in the workshops planned next months.

- There is no mention of the impact on the BSP in the CoC, which leaves the freedom to adapt the T&C BSP in due time function of the solution found.

9. Overview of changes and answers to main stakeholder's concerns

Overview of design changes and where will the principles be described

❑ Section 1 : Introduction

❑ Section 2 : Regulatory framework

❑ Section 3 : Early connection – notion of temporary period

❑ Section 4 : Clarification on connection processes

❑ Section 5 : Procedures and criteria for client-connection studies

❑ Section 6 : Guarantees provided to Grid Users

❑ Section 7 : Clarification of operational principles

❑ Section 8 : Reporting and transparency

❑ Section 9 : Target Model

Overview of design changes and where will the principles be described

❑ Section 1 : Introduction

❑ Section 2 : Regulatory framework

❑ Section 3 : Early connection – notion of temporary period   ⟶   some clarification were brought

❑ Section 4 : Clarification on connection processes

❑ Section 5 : Procedures and criteria for client-connection studies

❑ Section 6 : Guarantees provided to Grid Users

❑ Section 7 : Clarification of operational principles

❑ Section 8 : Reporting and transparency   ⟶   Limited comments, some clarification were brought

❑ Section 9 : Target Model   ⟶   Interesting inputs to take into account in the coming discussions

Overview of design changes and where will the principles be described

❑ Section 1 : Introduction

❑ Section 2 : Regulatory framework

❑ Section 3 : Early connection – notion of temporary period

❑ Section 4 : Clarification on connection processes

❑ Section 5 : Procedures and criteria for client-connection studies

❑ Section 6 : Guarantees provided to Grid Users

❑ Section 7 : Clarification of operational principles

Changes focus on these sections.
Those are addressed in the next slides.

❑ Section 8 : Reporting and transparency

❑ Section 9 : Target Model

Overview of design and where will the principles be described
Section 4: Clarification on connection processes

Design evolution and/or justification

Elia has presented the topic in the WG Belgian Grid of 1/10, including:

- The **process for EOS and EDS**
- A process for **revaluation of flexibility needs**, based on ideas listed on section 6 of the design note. This has been further discussed in the present workshop
- An updated design proposal for the **bank deposit**. This discussion will be pursued in the framework of the amendment of the Connection Contract

Where will the principles be described

- The **processes for EOS, EDS and revaluation of flexibility needs** are described in the **Code of Conduct**
- The **bank deposit** will be described in the **Connection Contract** (after further discussion with market parties)

Overview of design and where will the principles be described
Section 5: Procedures and criteria for client-connection studies

Design evolution and/or justification

Elia provided an extensive justification explaining why the methodology is **not conservative** and has also **adapted** the following **design elements** :
- The **growth potential** considered in the reference context
- The **profiles used** for modeling existing and reserved **storage assets**
- The **clarification of the thresholds** considered to grant a firm access or to not consider some congestions

Where will the principles be described

- The **overall criteria** are described in Article 22 of the **Code of Conduct** (as it is already the case), including the threshold under which a firm access is granted
- The **detailed methodology**, based on the content of the design note, will be published on **Elia's website**, including the other thresholds

Overview of design and where will the principles be described
Section 6: Guarantees provided to Grid Users with flexible access

Design evolution and/or justification

Elia **fixed / adapted** the following **design elements** :

- Definition of the **temporary period**:
  - ✓ Infrastructure projects are considered as soon as they are "in study", the applicable margin is set to 2 years
  - ✓ The one-shot extension possibility for Elia is strictly limited to issues related to permits
- **Impact on the BRP**:
  - ✓ The risks are mitigated in case of high imbalance price
  - ✓ Proposal to always corrected the BRP perimeter and to have the Grid User supporting the incurred the costs for the imbalance
- **Definition of the cap**: yearly cap with carrying unused flexibility over subsequent year : solution further justified

Elia is **still working** on the **impact on the BSP** and on **solutions for mixed sites**

Where will the principles be described

- Principles of **temporary period**, **cap** and **impact BRP** are described in the **Code of Conduct**
- New submission of **Code of Conduct** considered for the impact on BRP: include threshold and improvement of R&Rs
- The correction of the perimeter of the BRP will also have to be reflected in the **T&C BRP**
- **Detailed design of cap** and the **cost-based formula** for remuneration will be described in the **Connection Contract**
- Baselining **methodology**, based on the design note and updated for new findings, will be published on **Elia's website**

Overview of design and where will the principles be described
Section 7: Clarification of operational principles

Design evolution and/or justification

- Elia clarified the operational proposal

- Elia adapted the **order of activation** in case of multiple flexible connections

Where will the principles be described

- The main principles are described in the **Code of Conduct**
- The detailed processes will be described in the **Coordination Rules**

The design note and the proposed evolutions address the main concerns from the stakeholders

❑ In the proposed design, Elia intends to **provide the needed guarantees** – so that the Grid Users with flexible access **are able to finance their project**, while:

  ➢ Keeping the **right incentive for the Grid Users to connect** to an **appropriate location and** to **timely communicate** their **needs**

  ➢ **Limiting socialization** of costs to the minimum needed to provide robust guarantees

❑ Elia has received ~220 comments from stakeholders. The comments cover the full scope of the design note, but Elia understands the **main concerns** from the stakeholders can be grouped in the following categories

  ➢ The **grid studies are too conservative**, leading to **unnecessary** and/or **too high flexible volumes**

  ➢ The **risks** related to the flexible access are **not quantifiable** and **manageable** for the **Grid Users**

  ➢ The design offers the **possibility for Elia** to **activate flexibility** for **unjustifiable reasons** ("free lunch")

❑ The coming slides will explain how these concerns are addressed

The grid studies are too conservative, leading to unnecessary and/or too high flexible volumes

❑ **Concern** : according to some Market Parties, grid studies are too conservative and risk-adverse towards socializing cost, leading to unnecessarily high flexible volumes and prevent project to realize

➢ *Febeliec wonders whether the approach with the reference context is not overly conservative [...] potential negative impact on the investment decision and/or conditions*

➢ *FEBEG considers allocating flexible capacity in function of potential or future scenario's per technology as not cost efficient [...]*

➢ *BSTOR : The cap under which there is no compensation is defined through a currently proposed methodology which is not meant to investigate consequences of a connection in a "best estimate of the most likely situation" but under a "worst case what if situation" [...]*

➢ *ODE/EDORA argue it is not realistic to calculate the congestion risk and the cap based on all contracted capacities.*

The grid studies are too conservative, leading to unnecessary and/or too high flexible volumes

❑ **Concern**: according to some Market Parties, grid studies are too conservative and risk-averse towards socializing cost, leading to unnecessarily high flexible volumes and prevent project to realize

❑ **Proposed solution**

➤ Elia provided an **extensive justification** explaining **why the methodology is not conservative** and has also **adapted some assumptions** (considered growth potential, profiles for existing/reserved storage capacities)

➤ Elia has **quantified the thresholds** for **granting a firm access** in case of limited congestion risk and quantified the thresholds for **not considering** the congestions on **CNEs** where the **grid users** have a **limited impact**

➤ Elia has **updated the grid connection process** in order to eliminate the reserved and allocated capacities with a low probability of realization

➤ Elia has defined a process in order to allow a single **revaluation of the flexibility needs**

➤ Finally, it should be reminded that in operations, **flexibility is activated** in Real-Time and based on measurement **only if there is an effective need**

Risks related to the flexible access are not quantifiable and not manageable by the grid users

❑ **Concern** : according to some Market Parties, the risks related to the flexible access are not quantifiable and not manageable for the Grid Users

➢ *Parkwind : The unquantifiability and unmanageability of this imbalance risk make the planned investments leading to the grid connection request unbankable,*

➢ *BSTOR : The imbalance risk caused by a G-FLEX activation is a risk that a grid user with flexible access can in no way manage, nor a cost he is directly and fully causing: he doesn't control volumes of G-FLEX he get activated, doesn't control the moment of G-FLEX activations, and he cannot control what will be the System Imbalance nor the Imbalance tariff when activated under G-FLEX*

➢ *ODE/Edora : The updated proposal where the cap can be transferred does not provide enough certainty on the investment decision and will lead to projects not getting the needed funds or at extremely high costs. Transferring unused volumes in the cap from one year to another is not acceptable. Projects can not be financed with this level of uncertainty.*

Risks related to the flexible access are not quantifiable and not manageable by the grid users

❑ **Concern** : according to some Market Parties, the risks related to the flexible access are not quantifiable and not manageable for the Grid Users

❑ **Proposed solutions :**

➢ The non compensated use of flexibility is limited in all dimensions: volume (cap), power (permanent vs. flexible power), duration (temporary period) and price (mitigation in case of high imbalance)

➢ Operational processes are designed to:

▪ Use the flexibility only when it's strictly needed

▪ Avoid activations as much as reasonably possible beyond the limits

➢ Market parties (Grid User, BRP, BSP and SA) are informed in advance when the congestion risk is identified

The design offers the possibility for Elia to activate flexibility for unjustifiable reasons ("free lunch")

❑ **Concern** : according to some Market Parties, the design offers the possibility to activate flexibility for unjustifiable reasons ("free lunch")

➢ *ODE/Edora : The proposal to add grid elements to the list appears to be included to give the possibility to the grid operator to maximize the use of the volumes within the cap. When Elia sees that the cap isn't reached it can simply add more grid elements to the list. This proposal strengthens the belief that flexible access will be used to circumvent the use of redispatching and the related remuneration framework.*

➢ *BSTOR : For not creating undue market barriers, remedial actions triggered for other reason than the ones pre-identified in the grid study must be compensated the same way as above the cap.*

➢ *FEBEG : Gflex activations within the permanent power should in principle not be allowed and be impossible*

The design offers the possibility for Elia to activate flexibility for unjustifiable reasons ("free lunch")

❏ **Concern** : according to some Market Parties, the design offers the possibility to activate flexibility for unjustifiable reasons ("free lunch")

❏ **Justification:**

➢ The grid-study methodology has been adapted to become more balanced in terms of risk resulting in 'reasonable' volumes of cap (flexible power, temporary period) – see previous slides

➢ Operational processes are designed to:

▪ Use the flexibility only when it's strictly needed

▪ Avoid activations as much as reasonably possible beyond the limits

➢ A Gflex modulation is requested to mitigate the impact of the Grid User on a congestion and NOT to solve a congestion created by another party

➢ On the use of the cap for other reasons than the CNEs identified in the grid connection study

▪ Limiting the monitored CNEs to those resulting from the grid connection study would not fully reflect the impact of the Grid User on the created congestions.

▪ In addition, the limits provided volume, power, duration and price are expected to have much more impact in terms of guarantee for the Grid User

10. Grid Studies : EOS/EDS Flex dossier

EOS/EDS leading to a flexible access : technical report sent to the Grid User

In **Art. 61 §2** from the **Code of Conduct**, Elia describes the **information** that will be included in the **non-confidential technical report** shared with the **Grid User** in case of **flexible access**. This includes :

1) In case of **EOS** : the **considered connection options**, including the relevant substation and type of access for each option.

2) The **indication** of the **relevant phases** until the **commissioning of the needed grid reinforcements** foreseen in the **planned evolution** of the **grid**

3) The **firm power** and the **flexible power** for the **different phases**

4) An **estimation** of the **yearly flexible volume per phase** in terms of **time and energy** and an <u>indicative</u> **description** of the **market conditions**

The **information** regarding **3) and 4)** are presented in the form of a **table** (see example on next slide)

Example

Aansluitingsvariant	Toegang	Aansluitingspunt	Toelichting
Variant 1	FLEX	XXXXX150	XXX
Variant 2			
Variant 3			
Variant PERM	PERM	XXXXX380	XXX

Fasen	Periode	Beschrijving
Fase 1	20XX-20XX	Voor indienstname Project XXXX
Fase 2		
Fase 3		
Fase 4		
Finale Fase	>= 20XX	2de TFO XXXX

Profiel afname		Variant 1				
Profiel injectie		**Fase 1**	**Fase 2**	**Fase 3**	**Fase 4**	**Finale Fase**
INJECTIE	Flexibel vermogen (MW)					
	Vaste vermogen (MW)					
	% preventieve flex (tijd)					
	% curatieve flex. (tijd)					
	% flex. (actieve energie)					
	MWh flex./jaar (actieve energie)					
	Beschrijving marktcondities met afregeling					
AFNAME	Flexibel vermogen (MW)					
	Vaste vermogen (MW)					
	% preventieve flex (tijd)					
	% curatieve flex. (tijd)					
	% flex. (actieve energie)					
	MWh flex./jaar (actieve energie)					
	Beschrijving marktcondities met afregeling					

EOS/EDS leading to a flexible access : confidential technical report sent to the CREG

The **confidential report** sent to the **CREG** contains the following information:

- ❑ **Description** of the **reference context**

- ❑ List of **considered EDS**

- ❑ **CNEs** and detailed **Load Flow results** per phase

Beschrijving fase	Voor indienstname project xxx
Periode	20xx - 20yy
Beschrijving netstructuur	

Cluster	Representation [%]	PTDF,CNEC	Beschikbare capaciteit (MW)	Type afregeling	CNE	C	Ssea_CNE	Ssea_temp_CNE	PTDF,CNEC	Beschikbare capaciteit (MW)
1				Preventief						
1				Curatief						
2				Preventief						
2				Curatief						
3				Preventief						

- ❑ **Detailed Market Conditions**, including per **each simulated situation** :

Cluster	Representatie (%)	BE_net_position	BE_Load	BE_Onshore	BE_Offshore	BE_Solar	BE_Storage	BE==>FR	BE==>NL	BE==>DE	BE==>UK
1											
2											
3											
4											

EOS/EDS leading to a flexible access : technical report sent to the Grid User – comparison with report sent to the CREG

- ❑ Elia has proposed to include in the non-confidential version **all information** that are relevant to **assess the financial impact** on the **Business Case** of the Grid User

- ❑ The information that are not included are **not easy to use/interpret** and Elia is concerned that these information, accessible only for the concerned grid user, could **give opportunities for strategic behavior**.

- ❑ To reduce this risk and considering the low added value for most GUs, Elia shares only with CREG the following information:

But: some information are public and Elia will improve the transparency and quality of the scenario with the involvement of the stakeholders in the context of the Task Force Scenario and also publish the potential at a more local level

Additional information for the **CREG**

➢ Description of the Reference context

➢ List of considered EDS ➝ Confidential

➢ CNEs and detailed Load Flow result per phase

➢ **Detailed** Market Conditions

- • Information difficult to use/interpret, could give opportunity for strategic behavior
- • High level information on Market Conditions are shared with the Grid User

➡ **Feedback from the Market Parties ?**

11. Implementation Plan principles

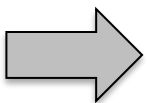# Implementation will be phased in multiple go-lives

The **implementation** of the design note will be **phased in multiple go-lives** depending on :

The **time** required by **Elia** in order to **adapt its applications and processes**

The **amendment** of the required **regulated documents**

This implementation plan is built under the hypothesis that the **Code of Conduct decided** by the **CREG doesn't** contain important **deviations** compared to the **proposal** by **Elia**

Go-lives for which no amendment of regulated document is needed

Go-Live 1 : Methodology for client-connection studies - Q4-2024

- The **methodology** for the client connection studies (adapted based on the received feedback to the public consultation – see previous section) was **shared with the CREG on 30/09/2024**.

- The **methodology** will **be published** on Elia website

- The methodology will be applied **two weeks after publication** for the new Grid Connection Studies

Go-Live 2 : Reporting of flexibility activation – industrialization - Q1-2025

- First reporting for Q1-Q3 2024 foreseen in December 2024 in the context of the incentive

- Industrialization of monthly reporting foreseen by 31/03/2024

Go-live for which an amendment of the Code of Conduct is needed

Go-Live 3 : Client Connection processes – Capacity reservation – Q1/Q2 2025

- The adaptation of the Client Connection processes (including the adaptation linked to the Capacity Reservation processes) can be implemented **2 weeks after decision of the Code of Conduct by the CREG** (expected in **Q1-2025**) and **not before the 31/03/2024.**

- Detailed studies ordered or sent before the entry into force of the Code of Conduct that have a valid capacity reservation may request, once only – before the end of the current period of validity of 120 working days – an extension of the reserved capacity and, where applicable, a revaluation of the required flexibility levels*

* Yearly flexibility values in MWh, firm and flexible power per phase

Go-lives for which an amendment of the Code of Conduct and the <u>coming amendment</u> of the Connection Contract are needed

Go-Live 4 : Bank deposit for the allocated capacity – Q2/Q3 2025

- This can be implemented **2 weeks after the approval of the Code of Conduct** (expected in Q1-2025) <u>**and 2**</u> **weeks after** the <u>**coming**</u> <u>**amendment**</u> **of the Connection Contract** (estimated in June 2025) and **not before the 31/03/2024**

Go-live 5 : Guarantees and operational principles : amendment of several regulated documents needed
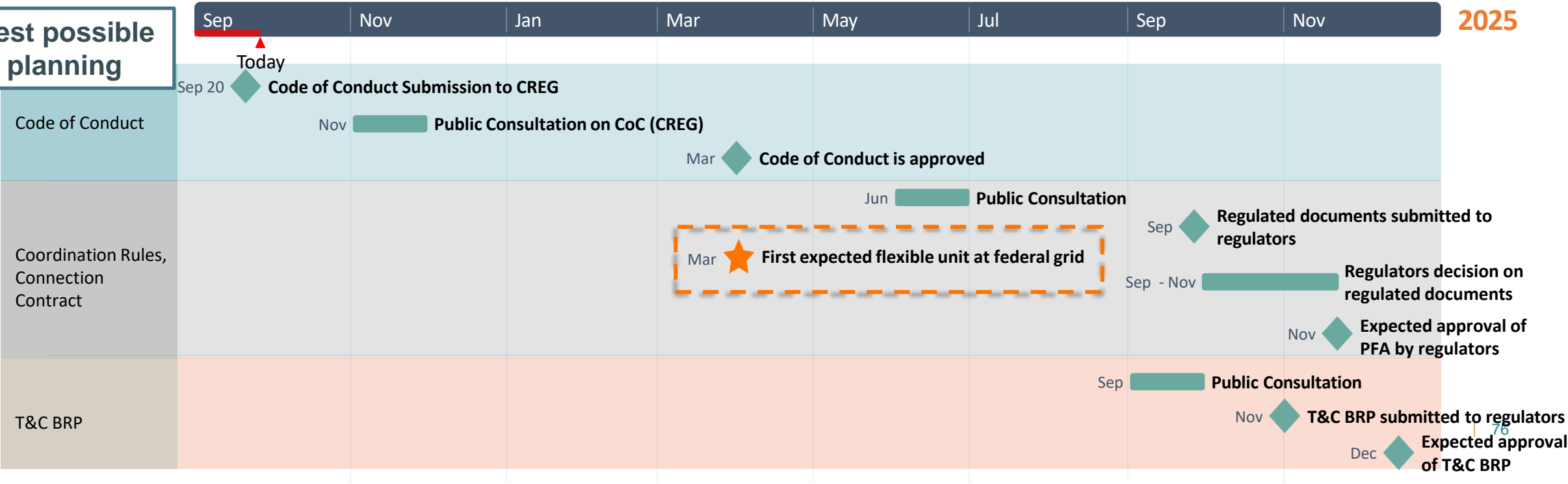
The **following regulated documents must be amended after** the **approval of the Code of Conduct** in order to transpose the entire design :

❑ The **Connection Contract**, as regards to the **guarantees** granted to the Grid User;

❑ The **Coordination Rules for Congestion Management**, as regards to the **operational principles**;

❑ The **T&C BRP**, as regards to the modalities around the **BRP perimeter**.

→ Considering an **approved amendment** of the **Code of Conduct in Q1-2025**, the **proposals for amendments** of **these regulated documents** could be **submitted** to the **relevant regulators** during **2025**

Best possible planning

| | Sep | Nov | Jan | Mar | May | Jul | Sep | Nov | **2025** |

Today

Code of Conduct
- Sep 20 ◆ Code of Conduct Submission to CREG
- Nov ▬ Public Consultation on CoC (CREG)
- Mar ◆ Code of Conduct is approved

Coordination Rules, Connection Contract
- Jun ▬ Public Consultation
- Sep ◆ Regulated documents submitted to regulators
- Mar ★ First expected flexible unit at federal grid
- Sep - Nov ▬ Regulators decision on regulated documents
- Nov ◆ Expected approval of PFA by regulators

T&C BRP
- Sep ▬ Public Consultation
- Nov ◆ T&C BRP submitted to regulators
- Dec ◆ Expected approval of T&C BRP

Go-live 5 : Guarantees and operational principles

Go-Live 5 : Guarantees and operational principles : timing will be presented by EOY

- As explained in previous slides, the **amendment of several regulated documents** is required. The proposals could be **submitted** to the **relevant regulators** during **2025 which means that by the end of 2025 we could expect the changes in the regulated documents.**

- These go-lives require **significant changes** in **Elia's applications** and **processes. The implementation** could be on the **critical path**

- Elia is currently **establishing an implementation plan** and will **share** it with the **CREG** and the **Market Parties during the workshop planned in by EOY**

Harmonization of federal and regional framework

- The federal and regional framework related to flexible access are currently not harmonized

- With the transposition of EMDR, we have an opportunity to align the regional and federal framework: the transposition deadline of the article regarding flexible connection agreements is set in January 2025 (ambitious)

- If we don't succeed to harmonize the framework, this may put at risk the operational feasibility of the proposal and may create societal inefficiencies with connection requests being influenced by regulatory discrepancies instead of only being guided by technical and financial aspects

Implementation plan : overview

12. Next steps

Next steps

What we have done so far

- We focused on improving **transparency** regarding the **methodology** for **client connection studies** and flexibility **activations**

- We developed a **flexible access product** (Gflex) fit for purpose for **production** and **storage** and for **demand facilities** that have the capability to **react in real-time**

- We provided the **needed guarantees** so that Grid Users with flexible access **can assess the impact on their business case** and we **address the concerns** regarding the **BRP** perimeter correction

→ We foresee **2 main clusters** of evolutions in the **future**

Evolution of the current design

This will include, amongst others:

- The **impact** on the **BSP** and **CRM** in case of flexibility activations

- The management of **mixed sites** (baselining, how to treat the signal amongst the different DP)

- The **harmonization** of the **regulatory framework**

Long term evolution of the design

This will include, amongst others:

- The definition of a consistent **set of Congestion Management products** with the evolution of the existing products and the development of new products to **fit** all **customers' capabilities** and **needs**

- Consideration of **ROSC** requirements in the flexible access framework

- The **TOTEX optimization** in the long-term grid planning

Next steps

The **following topics** will be at the agenda of the coming workshops:

15/11/2024 workshop

- ❑ List of the **design elements** to analyze and prioritize for the future evolutions of the design

- ❑ **Reporting** on the **flexibility activations** for Q1-Q3 2024

11/12/2024 workshop

- ❑ Refined **implementation plan** for the **design** transcribed in the **Code of Conduct**

- ❑ **Updated list** of design elements to analyze and definition of a **roadmap for** the to-be-designed **evolutions** to prioritize these elements

Thank you.