WG Energy Solutions of November 26ᵗʰ 2024

Hybrid meeting

26/11/2024

For a smooth teleconference with 30+ people …
Some rules apply

- Please put yourself on mute at any time that you are not speaking to avoid background noise.

- If you receive a call, please ensure that you do not put this meeting **on hold.**

  - You can quit and reconnect later on.

  - You will be muted or kicked out of the session, if necessary.

- You will be requested to hold your questions for the end of each presentation.

  - Should you have a question, please notify via Teams or speak out if you are only via phone.

  - Share your question (with slide number) in advance so all participants may follow

  - Before you share your question, please announce yourself.

- If you have a poor internet connection, please dial-in.

- Finally, please be courteous and let people finish their sentences.

  - It is practically impossible to follow when 2 people are speaking at the same time in a teleconference.

Agenda

10:15 – 10:25: Welcome and approval MoM

10:25 – 11:10: Update on the upcoming changes and public consultations to the T&C BRP

11:10 – 11:30: Sustainability Insights & Eco2Grid

11:30 – 11:45: Touchpoint Parallel run RTP

11:45 – 13:00: Lunch

13:00 – 13:20: EU & BE Balancing program update

13:20 – 13:35: Incentive 2025: BSP Faster Settlement

13:35 – 14:05: Action plan incompressibility

14:05 – 14:25: Feedback from the market parties on the public consultation of availability testing in the market

14:25 – 14:45: AOB

Minutes of Meeting for approval

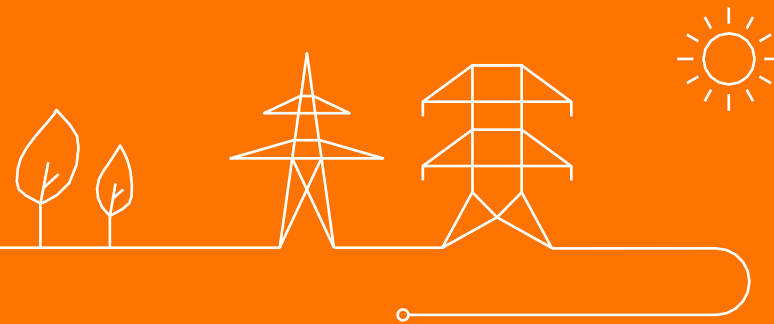Minutes of Meeting of WG Energy Solutions of 30/09/2024

Comments: /

Suggestion to approve:

- The MoM of WG Energy Solutions of 30/09/2024

Validation of the MoM

Kris Poncelet

Observed imperfections exchange of real-time signals

elia
| Elia Group

- During the testing with the platform, **Elia has observed some imperfections in the exchange of real-time signals between the scada system of Elia and the aFRR-Platform**. Specifically, a **delay of on average 2 optimization cycles** is observed on the transmission of real-time signals between the scada system of Elia and the aFRR-Platform. Similar delays are also observed by other participating TSOs.

- These **imperfections in the data communication do not create system-security issues** (e.g., for the aFRR controller).

- **However**, BSPs could observe some inconsistencies between the aFRR CBMPs published by the aFRR Platform and the aFRR CBMPs received by Elia and exposed to BSPs via the Settlement UI. The inconsistencies **may also have an impact on BSP/BRP settlement processes**. These impacts are however very limited considering that:

  - The magnitude of the inconsistencies observed for aFRR CBMPs tend to be very limited

  - The inconsistencies observed for aFRR CBMPs are spread ~symmetrically in both directions

  - The bid price forms a minimum (maximum) price for the remuneration of upward (downward) aFRR Energy Bids ⇨ BSPs can never be remunerated below (above) the price of the activated bid

  - The aFRR component of the imbalance price is based on the weighted average of all aFRR CBMPs within the ISP.

- Simulations based on the testing period 5/8/'24 – 23/9/'24 shows that the impacts on BSP's energy remuneration remain very small, and this regardless of the direction and the position of the bid in the merit order.*

Bid price	UP @ 100 €/MWh	UP @ 300 €/MWh	UP @ 800 €/MWh	DOWN @ 200 €/MWh	DOWN @ 50 €/MWh	DOWN @ -50 €/MWh
Total BSP remuneration for a 1 MW Bid - aFRR CBMP sent [€]	72908	16255	6470	6124	11982	11982
Total BSP remuneration for a 1 MW Bid – aFRR CBMP received [€]	73081	16353	6515	6578	12120	12120
Difference [%]	0,24	0,60	0,70	7,1	1,15	1,1

- The analysis is based on aFRR CBMPs for 50Hertz as received in the scada system of Elia and the aFRR CBMPs for 50Hertz as published by the platform
- Upward activations are assumed in moments there is an upward aFRR CBMP equal to or higher than the bid price and excluding periods of perfect netting
- Downward activations are assumed in moments there is a downward aFRR CBMP equal to or lower than the bid price and excluding periods of perfect netting
- It is assumed a bid of 1 MW is submitted for the entire testing period

# Observed imperfections exchange of real-time signals

- To avoid such impacts/inconsistencies in the settlement processes in the future, Elia has identified a solution to use the 4"-data made available ex-post by the aFRR Platform as the basis for all settlement purposes instead of the data received in the scada system.

- While Elia intends to develop this solution, it cannot be put in place prior to the targeted connection to the aFRR Platform.

- Elia therefore proposes to connect to PICASSO using the aFRR CBMPs as received by Elia's scada system

- Elia proposes to do the developments to use the 4"-data made available ex-post by the aFRR Platform as soon as possible while not jeopardizing the targeted connections to the aFRR and mFRR Platforms.

Observed imperfections exchange of real-time signals - update

- Elia is pleased to announce that:
  - **An intermediate solution has been found** that allows the final settlement for BSPs to be carried out based on aFRR CBMP data provided ex-post by the aFRR Platform (thus **avoiding an impact on the final invoice of the BSP** of the possible imperfections in the data exchange in real time);
  - **An intermediate workaround solution has been found** that allows the calculation of the final imbalance price based on the aFRR CBMP and aFRR satisfied demand data provided ex-post by the aFRR Platform as of our connection to the aFRR Platform. As a result, **any impact of the observed imperfections in the real-time communication on the final imbalance price calculation and settlement of BRP imbalances will be avoided**.

- Practically, the intermediate solution implies that the **settlement of the BSPs will for a temporary period however need to be performed in two steps**:
  - In a first step, the settlement will be done based on the data received by Elia in real time.
  - In a second step, when the target solution is available, a recalculation will be done based on the data provided by the aFRR Platform and potential differences will be settled.
- This intermediate solution has no impact on the process of the settlement of BRP imbalances and will be needed until the target solution for the settlement (cf. previous slide) is implemented. The target solution will be developed as soon as possible while not jeopardizing the targeted connection to the mFRR Platform.
- An exchange with CREG on this matter has taken place.

Update on the upcoming changes and public consultations to the T&C BRP
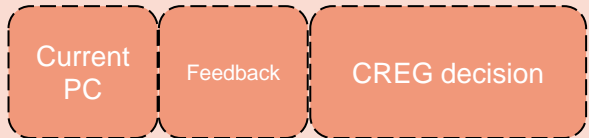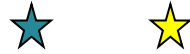
Simon Serrarens
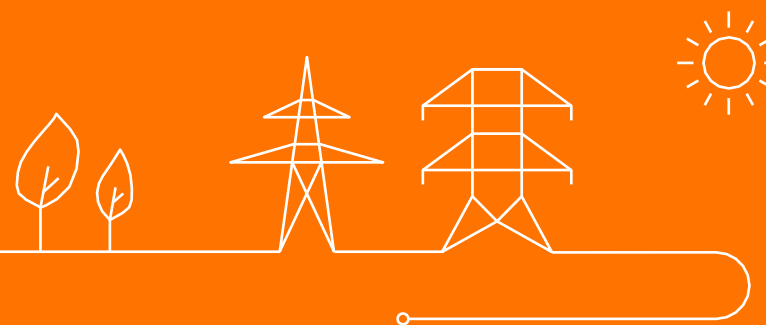
Timeline Public consultation T&C BRP – track 2024
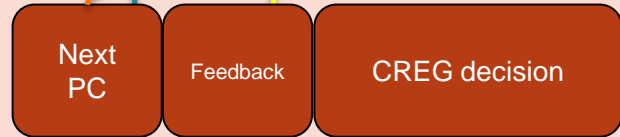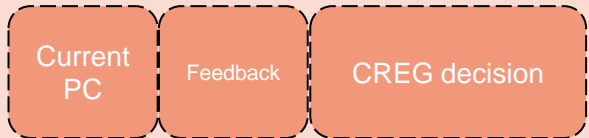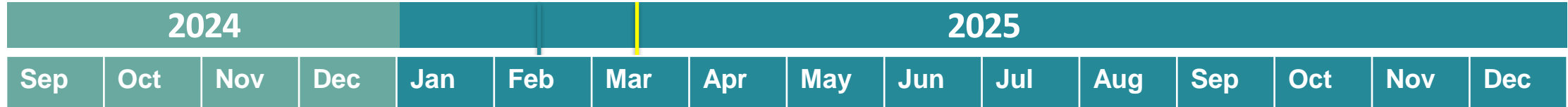
Go-live SDAC 15' MTU
15/03

Entry into Force
current revision

2024				2025												
Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Track
2024
*xBRP
SDAC
SIDC*

Current PC

Feedback

CREG decision

A next public consultation was foreseen shortly after

A next public consultation was foreseen shortly after

Go-live SDAC 15' MTU 15/03

Entry into Force current revision

Request for Amendment CREG 14/11

Entry into Force next revision not possible before mid June/'25

2024				2025												
Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Track 2024 *xBRP SDAC SIDC*

Current PC

Feedback

CREG decision

Next PC

Feedback

CREG decision

CREG RfA BRP perimeter correction incompressibility
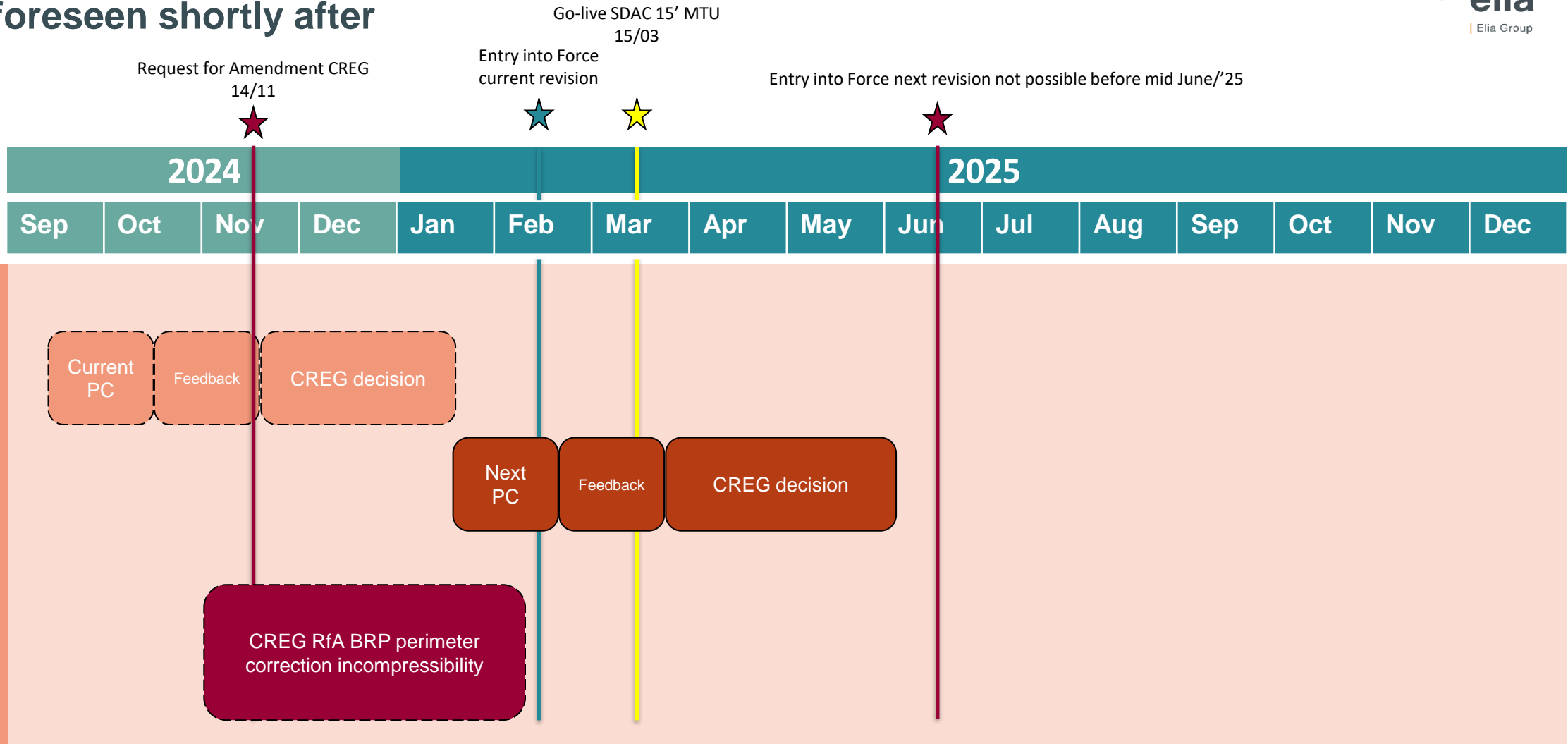
If the EiF of the RFA BRP perimeter correction is required before June/'25 (which seems appropriate considering the incompressibility risks as from April)
→ **Current track can not be finalized**

Revised timeline Public consultation

Delayed until at least mid May

Go-live SDAC 15' MTU 15/03

Deadline imposed VAT admin.

Request for Amendment CREG 14/11

Entry into Force Revision track 2025

2024				2025												
Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Track 2024 xBRP SDAC SIDC

Due to RFA, current Track 2024 cannot be finalized

Current PC | Feedback | CREG decision

Track 2025 = T2024 RfA Self-bill Ext. inc.

Finalize T&C | Public consultation | Feed back | CREG decision

2nd revision 2025: incentive faster settlement + lifting + GU4Flex(?)

Track 2025 = Track 2024 + self-billing + BRP perimeter correction (RfA) + redesign external inconsistencies
Lifting and Incentive Faster Settlement postponed to 2nd revision 2025

13

Public consultation track '25
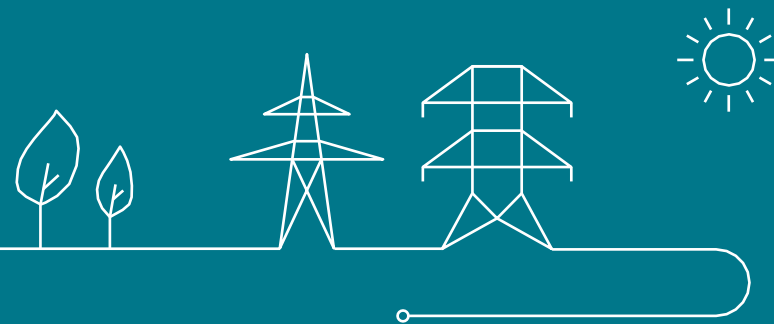
Scope of revision track 2025

The upcoming public consultation will consist of the amendments from the current public consultation as well as some additional amendments:

- **Current public consultation:** SDAC & SIDC, service multiple BRPs and some other small changes, with market feedback incorporated

- Additional amendments:

  - **Self-billing:** as decided by the tax authorities, the system of credit notes needs to be adapted to a system of self-billing. The deadline imposed for this is 01/07/2025. However, Elia aims to transition on 01/05/2025.

  - **External inconsistencies:** Elia has noticed an increase in external inconsistencies and receives questions on the invoices applied, as well as the ambiguity in the process when a nomination deadline is missed. Elia aims to put measures in place to help avoid external inconsistencies (outside of the T&C BRP), and to revise and update the invoicing scheme (described within the T&C BRP).

  - **BRP perimeter correction:** as requested by CREG and formalized in the RfA received on 14/11, Elia will introduce a BRP perimeter correction in case of activation of technical measures for incompressibility.

In agreement with CREG, and to avoid jeopardizing the timeline to address CREG's RFA, the changes required for IFS and lifting will be postponed to the next revision.

BRP perimeter correction – incompressibility

- Elia received an RfA from CREG on 14/11, to include a BRP perimeter correction in case of activation of technical measures for incompressibility.

- The expected changes to the T&C BRP are the following:

  - A method for BRP perimeter correction in case of activation of technical measures.

  - An amendment to the settlement process, to take into account the impact of the BRP perimeter correction on the invoice. This settlement process would happen outside of the regular settlement cycle.

- A discussion was held within Synergrid on how to apply this perimeter correction. Discussion are ongoing, however:

  - The DSOs will provide the necessary data to apply the perimeter correction. This can be the metered data or the corrected volumes, most likely the latter (open point)

  - Several possibilities exist on how to perform the BRP perimeter correction, discussions are ongoing. Most likely the perimeter correction will happen in accordance with the method described in the C8/4 Synergrid document, which defines the perimeter correction in case of activation of technical flex.

Principes

- Pour le maintien de l'équilibre dans les réseaux faisant partie de sa zone de réglage, Elia collabore avec différents responsables de portefeuille d'équilibre ("BRP").
- Le BRP conclut un contrat avec Elia dans lequel il s'engage à mettre en œuvre et à prévoir tous les moyens raisonnables pour maintenir l'équilibre de son portefeuille (ou périmètre) par quart-horaire.
- Lorsqu'un BRP est en déséquilibre dans son périmètre, Elia l'aide à rétablir l'équilibre dans son périmètre en retirant ou en injectant de l'électricité dans celui-ci. Cette intervention, **seulement du chef d'Elia** est organisée dans le cadre du tarif de déséquilibre

Traitement TVA du tarif de déséquilibre

- Tarif de déséquilibre positif ou négatif, selon la relation entre l'offre et la demande sur le marché de l'électricité ("déséquilibre résiduel").
  - Tarif **positif** → Facture sortante d'Elia vers le BRP
  - Tarif **négatif** → Compensation du BRP via l'émission par Elia d'une note de credit.

- « Netting » des déséquilibres au quart-horaire d'un BRP spécifique sur base mensuelle.
  - Solde **débiteur** pour le BRP : émission d'une facture par Elia.
  - Solde **créditeur** pour le BRP : émission d'une note de crédit.

		Déséquilibre résiduel dans la zone de contrôle gérée par Elia (= solde des déséquilibres de tous les BRP)	
		Positif = plus d'injections que de retraits sur le réseau. Limitation par Elia de l'injection dans la zone de contrôle via un BSP.	Négatif = moins d'injections que de prélèvements sur le réseau. Rééquilibrage par Elia : création d'injections supplémentaires dans la zone de contrôle via un BSP

Prix pair-impair	**Positif**	• Elia – BSP: Elia fait appel au BSP pour limiter l'injection.
		• BRP – Elia:
		  • Déséquilibre négatif du périmètre : rétablissement de l'équilibre, facturation au BRP
		  • Déséquilibre positif du périmètre : montant imposable négatif, compensation par Elia.
			• BSP - Elia : demande d'injection supplémentaire.
			• BRP – Elia
			  • Déséquilibre négatif du périmètre : rétablissement de l'équilibre et facturation au BRP
			  • Déséquilibre positif du périmètre: retrait de l'injection excédentaire et compensation par Elia (montant négatif).

	Négatif (offre excédentaire d'électricité)	• BSP - Elia : demande pour limiter l'injection.
		• BRP - Elia :
		  • Déséquilibre positif du périmètre : retrait de l'énergie excédentaire et facturation.
		  • Déséquilibre négatif du périmètre: rééquilibrage par injection de puissance excédentaire et création d'une base imposable négative.
			Cette situation n'arrive pas. Trop peu d'injection créerait un déséquilibre négatif, mais une offre excédentaire d'électricité empêcherait cette condition de se produire

Position de l'administration fiscale (E.T. 140.805 dd. 22/08/24)

(1) L'administration estime qu'il y a en l'espèce **des prestations de services mutuelles entre Elia et ses BRP**. En fonction de l'interaction entre le déséquilibre résiduel, les déséquilibres des BRP et le tarif de déséquilibre:

- le BRP fera appel aux services d'Elia (facture sortante d'Elia); ou
- Elia fera appel aux services du BRP (facture sortante du BRP vers Elia)

(2) Elia ne peut plus compenser les différentes positions de déséquilibre au quart-horaire en un flow de facture mensuel positif ou négatif. Ces flows doivent être singularisés dans le processus de facturation.

Conséquence pratique

(1) Pour la situation où Elia fera appel aux services du BRP, Elia devra émettre une facture au nom de son fournisseur via l'implémentation du « self-biling ». Les principes:

- Elia devra obtenir l'accord préalable du fournisseur en début de processus;
- En cas de facturation du BRP vers Elia, Elia devra émettre la facture au nom et pour le compte du BRP

(2) Elia ne pourra plus recourir à une compensation mensuelle des positions par quart-temps et devra organiser un processus de facturation pour chaque quart-temps recensé dans un portefeuille spécifique.

Ces deux conséquences pratiques s'illustrent par une revue importante par Elia de son système de facturation (SAP).

Temps d'implémentation

Les nouvelles dispositions en matière de facturation sont applicables d'ici au **1er juillet 2025**, les factures précédentes à cette période sont amnistiées.

		Déséquilibre résiduel dans la zone de contrôle gérée par Elia (= solde des déséquilibres de tous les BRP)	
		Positif = plus d'injections que de retraits sur le réseau. Limitation par Elia de l'injection dans la zone de contrôle via un BSP.	Négatif = moins d'injections que de prélèvements sur le réseau.Rééquilibrage par Elia : création d'injections supplémentaires dans la zone de contrôle via un BSP
Prix pair-impair	**Positif**	• Elia – BSP: Elia fait appel au BSP pour limiter l'injection. • BRP – Elia: • Déséquilibre négatif du périmètre : rétablissement de l'équilibre, facturation au BRP • Déséquilibre positif du périmètre : montant imposable négatif, facturation à Elia (self-billing)	• BSP - Elia : demande d'injection supplémentaire. • BRP – Elia • Déséquilibre négatif du périmètre : rétablissement de l'équilibre et facturation au BRP • Déséquilibre positif du périmètre: retrait de l'injection excédentaire par le BRP, facturation à Elia (self-billing) .
	Négatif (offre excédentaire d'électricité)	• BSP - Elia : demande pour limiter l'injection. • BRP - Elia : • Déséquilibre positif du périmètre : retrait de l'énergie excédentaire et facturation. • Déséquilibre négatif du périmètre: rééquilibrage par injection de puissance excédentaire par le BRP, facturation à Elia (self-billing)	Cette situation n'arrive pas. Trop peu d'injection créerait un déséquilibre négatif, mais une offre excédentaire d'électricité empêcherait cette condition de se produire

# External inconsistencies – redesign

Description of the current design:

– The design is based on the double nomination principle, where both BRPs need to nominate an exchange to one another.

– An external inconsistency arises when there is a mismatch between the nomination of one BRP and the counternomination of another. Most of the times, these inconsistencies are observed in DA nominations. This then leads to an external inconsistency invoice in DA.

– Elia observes an important increase of external inconsistencies in DA and related invoices over the last years.

– The key issue arises in ID. Currently, the design and invoicing scheme for DA inconsistencies offers no guidance to a BRP as to whether to make the correct counternomination in ID (which leads to a second inconsistency invoice in the current design) or to not nominate, resulting in an imbalance (which might be positive or negative). This in turn leads to questions and frustrations from market parties, as they are 'doubly penalized', even if they want to rectify the situation.

Envisaged solution:

– Elia has investigated several solutions and will most likely propose to:

  – Develop a digital solution. This consists of adding warnings and reminders to BRPs in the tooling if they have a counternomination for which they haven't made a nomination yet, or if their nomination does not match another BRP's counternomination.

  – Apply the inconsistency invoice if no rectification is done in ID; unambiguously incentivizing the BRP rectify a DA mistake in ID, as well as ensure there is no potential for gaming, i.e. by awaiting the imbalance price in ID and letting the choice of nominating depend on it.

  – Apply a smaller penalty for missing the DA nomination deadline, in line with the gravity of missing it and the relaxation of DA Balance obligation. A full invoice is not always warranted. This invoice will immediately be sent to the BRP who made the rectification, as it is then clear which BRP made a mistake (instead of invoicing the BRP who did nominate, as is the case today).
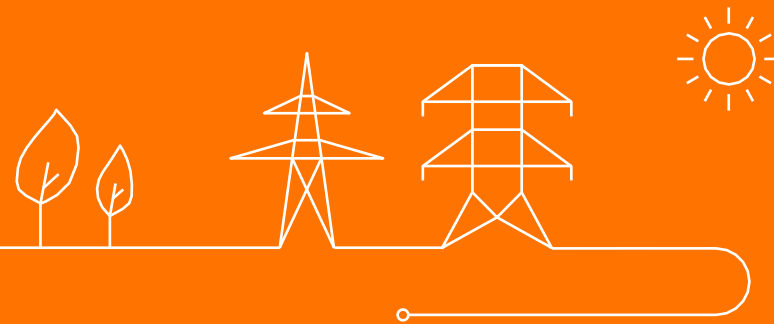
GreenGrid Compass and EPIC Sustainability Insights: Location-based hourly sustainability information

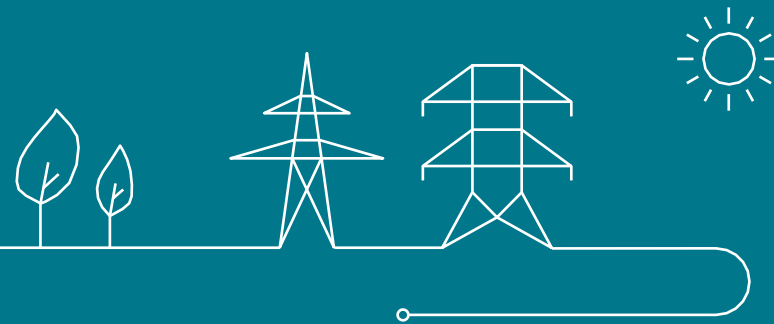**1** | **Why** Elia Group is providing it and why it could be useful for you

2 | **How** it is calculated and which data are being used
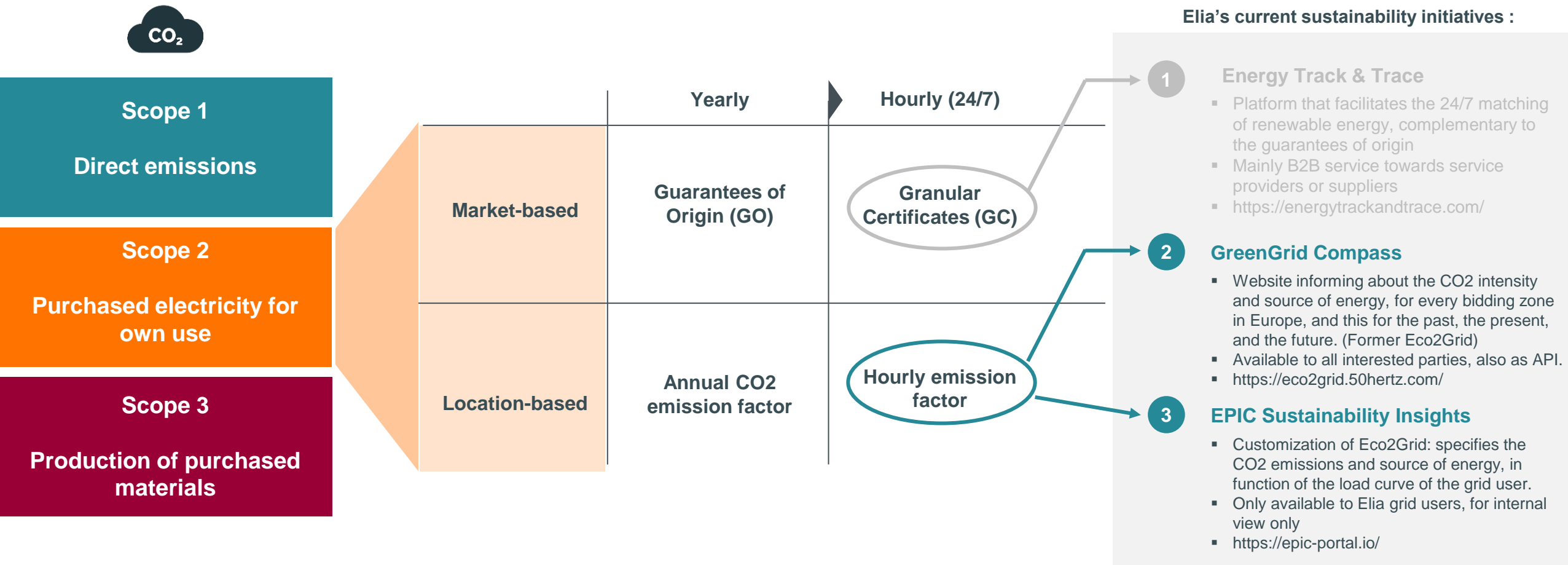
A | **Annex (reading)** - **What** GreenGrid Compass and EPIC Sustainability Insights are about

1. Why Elia Group is providing it and why it could be useful for you

GreenGrid Compass and EPIC Sustainability Insights are already live and provide information on the hourly location-based aspect

Elia's current sustainability initiatives :

CO₂

Scope 1		Yearly	Hourly (24/7)
Direct emissions	**Market-based**	Guarantees of Origin (GO)	Granular Certificates (GC)
Scope 2			
Purchased electricity for own use			
Scope 3	**Location-based**	Annual CO2 emission factor	Hourly emission factor
Production of purchased materials			

1 **Energy Track & Trace**
- Platform that facilitates the 24/7 matching of renewable energy, complementary to the guarantees of origin
- Mainly B2B service towards service providers or suppliers
- https://energytrackandtrace.com/

2 **GreenGrid Compass**
- Website informing about the CO2 intensity and source of energy, for every bidding zone in Europe, and this for the past, the present, and the future. (Former Eco2Grid)
- Available to all interested parties, also as API.
- https://eco2grid.50hertz.com/

3 **EPIC Sustainability Insights**
- Customization of Eco2Grid: specifies the CO2 emissions and source of energy, in function of the load curve of the grid user.
- Only available to Elia grid users, for internal view only
- https://epic-portal.io/

It will soon be obligation for a TSO to provide information on the share of renewable energy on an hourly granularity

European legislation to come into force by mid 2025

Renewable Energy Directive III – Article 20a

'1. Member States shall require transmission system operators […] to make available information on the share of renewable electricity and the greenhouse gas emissions content of the electricity supplied in each bidding zone, as accurately as possible in intervals equal to the market settlement frequency but of no more than one hour, with forecasting where available. This information and data […] shall be made available digitally […] so that it can be used […] by electricity market participants, aggregators, consumers and end-users, and that it can be read by electronic communication devices such as smart metering systems, electric vehicle recharging points, heating and cooling systems and building energy management systems.'

EUROPEAN COMMISSION

Brussels, 2.9.2024
C(2024) 5041 final

COMMUNICATION FROM THE COMMISSION

Guidance on Article 20a on sector integration of renewable electricity of Directive (EU) 2018/2001 on the promotion of energy from renewable sources, as amended by Directive (EU) 2023/2413

Guidance on Article 20a by the European Commission

Source:https://energy.ec.europa.eu/document/download/efcd200c-b9ae-4a9c-98ab-73b2fd281fcc_en?filename=C_2024_5041_1_EN_ACT_part1_v10.pdf

Grid users are interested in more information on sustainability related data, especially to gain a first awareness and set sustainability goals

A CREG incentive was introduced to Elia, based on the outputs of a survey to grid users about data services

58. on a scale from 1 to 5, how useful would it to be for your company to access sustainability related data at the company level, such as information on CO_2 emissions, the sources of the energy consumed through the grid, etc.?

More Details

■ Not useful at all (1)　■ Not useful (2)　■ Neutral (3)　■ Useful (4)　■ Highly useful (5)

Usefulness of sustainability related data of my company

100% — 0% — 100%

59. If your company were to receive sustainability data from Elia, what actions, if any, do you envision taking based on this information? (Select all that apply)

More Details

- ● use the information to gain first ...　5　[awareness]
- ● Set sustainability goals　5
- ● Adjust energy consumption patt...　2
- ● Invest in renewable energy sour...　2
- ● Other　1

Elia survey to grid users, earlier in 2024

Use cases of carbon intensity data

1.

Unlocking flexibility to reduce emissions

Load can be shifted from times with high carbon intensity to times with low emission intensity.

The API of GreenGrid Compass could be used by service providers as input source for their digital offering.

"As a consumer I want to consume 100% green energy."

Examples:

- **Smart charging / optimization**

- Behavior-based optimization

- Load shifting

Use Clean Energy Charging on your iPhone

With iOS 16.1, your iPhone can try to reduce your carbon footprint by selectively charging when lower carbon-emission electricity is available.

Learn about Clean Energy Charging

When Clean Energy Charging is enabled and you connect your iPhone to a charger, your iPhone gets a forecast of the carbon emissions in your local energy grid and uses it to charge your iPhone during times of cleaner energy production.

Clean Energy Charging is available only in the United States and is on by default when you set up your iPhone or after you update to iOS 16.1. To turn off the feature, go to Settings > Battery > Battery Health & Charging and turn off Clean Energy Charging.

Activating Clean Energy Charging (available only in the US) will result in your iPhone being charged during periods of cleaner energy production.

Source: Apple

Use cases of carbon intensity data

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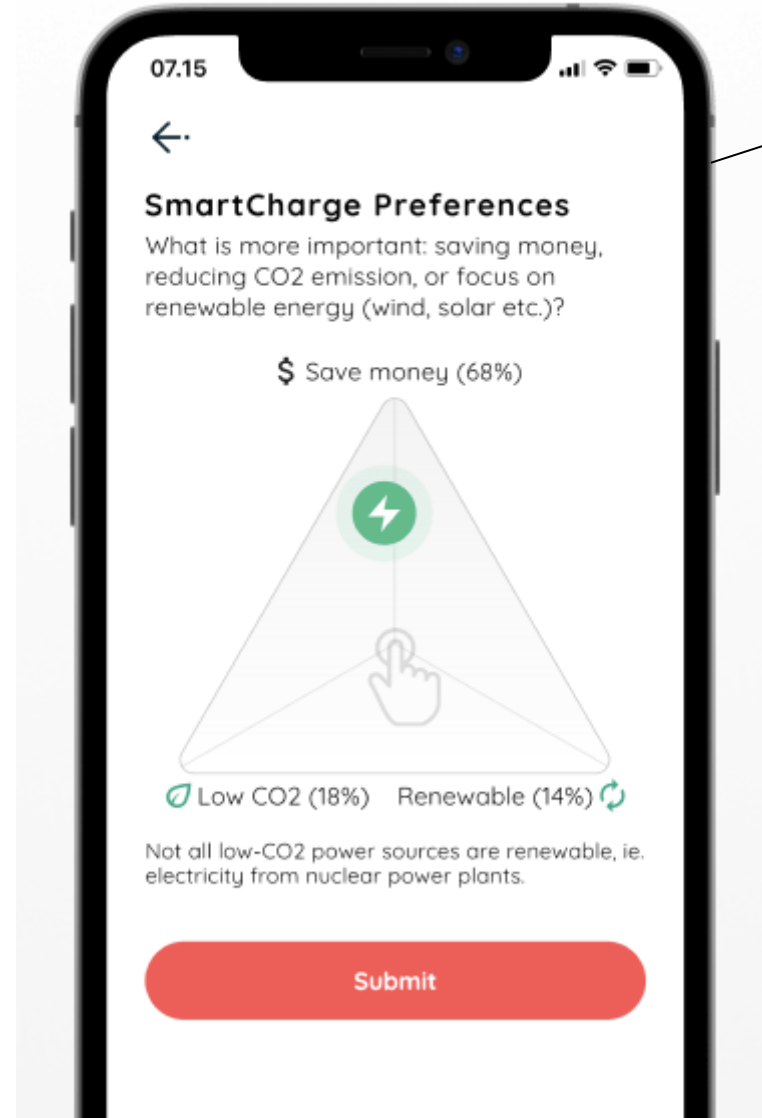
Users are given the opportunity to provide their smart charging preferences. Fully financial or considering CO2 footprint. Montea but various other smart charging tools provide these services already.

Source: Monta: EV charging software built to EV better!

Use cases of carbon intensity data

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- **Behavior-based optimization**

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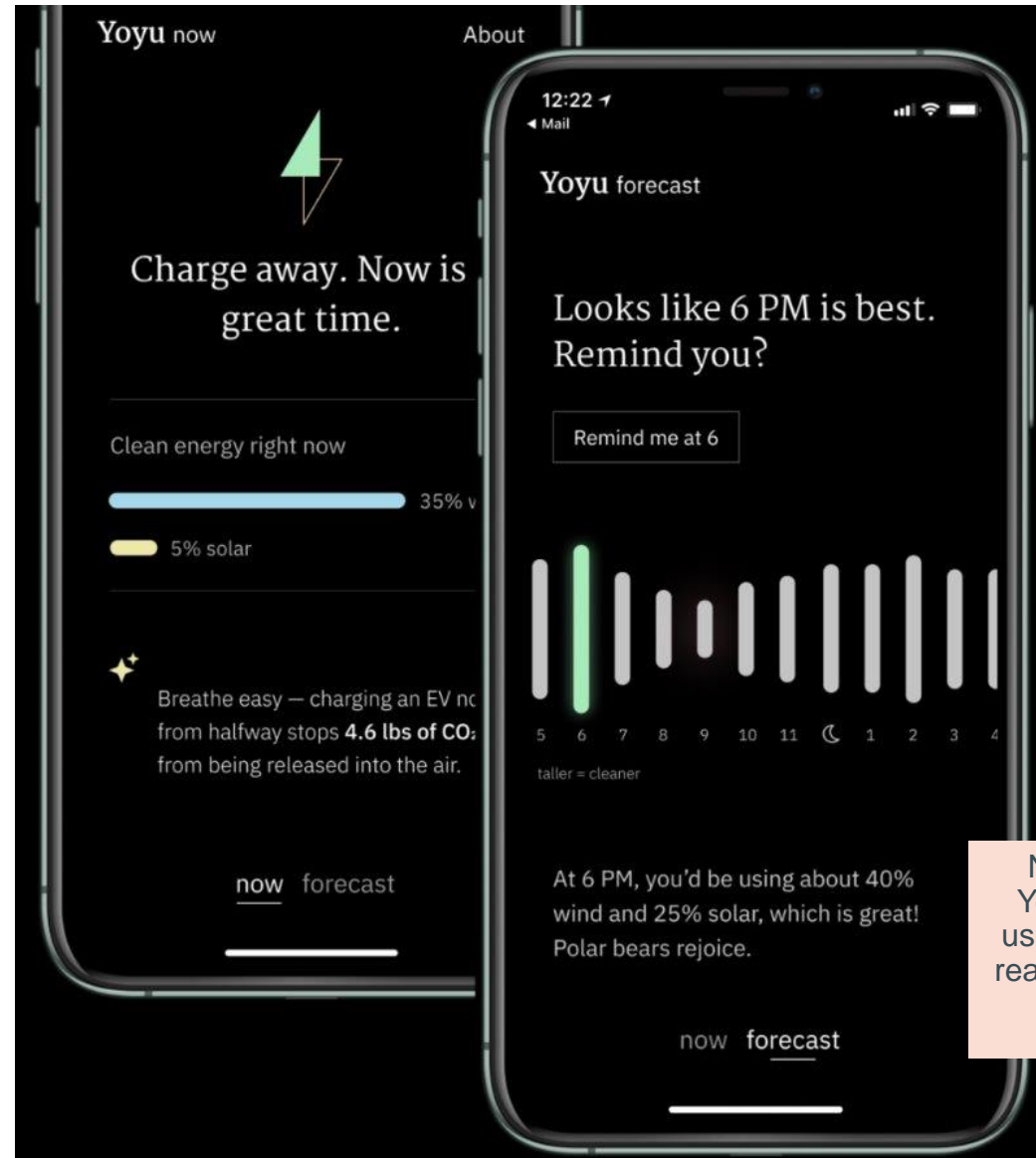
New start-ups (such as Yoyu), engaging with the user to trigger a behavioral reaction when the electricity is greenest.

Source: Yoyu – Use Better Energy

Use cases of carbon intensity data

1. Unlocking flexibility to reduce emissions

Load can be shifted from times with high carbon intensity to times with low emission intensity.

The API of GreenGrid Compass could be used by service providers as input source for their digital offering.

"As a consumer I want to consume 100% green energy."

Examples:

- Smart charging / optimization

- Behavior-based optimization

- **Load shifting**

Baseline versus Carbon-aware Load

- - Baseline Load — Carbon-aware Load ● Carbon Intensity

MIDNIGHT   NOON

Time of Day

Computation tasks at Google **data centers** are aligned with times of low-carbon electricity supply (while meeting operational needs).
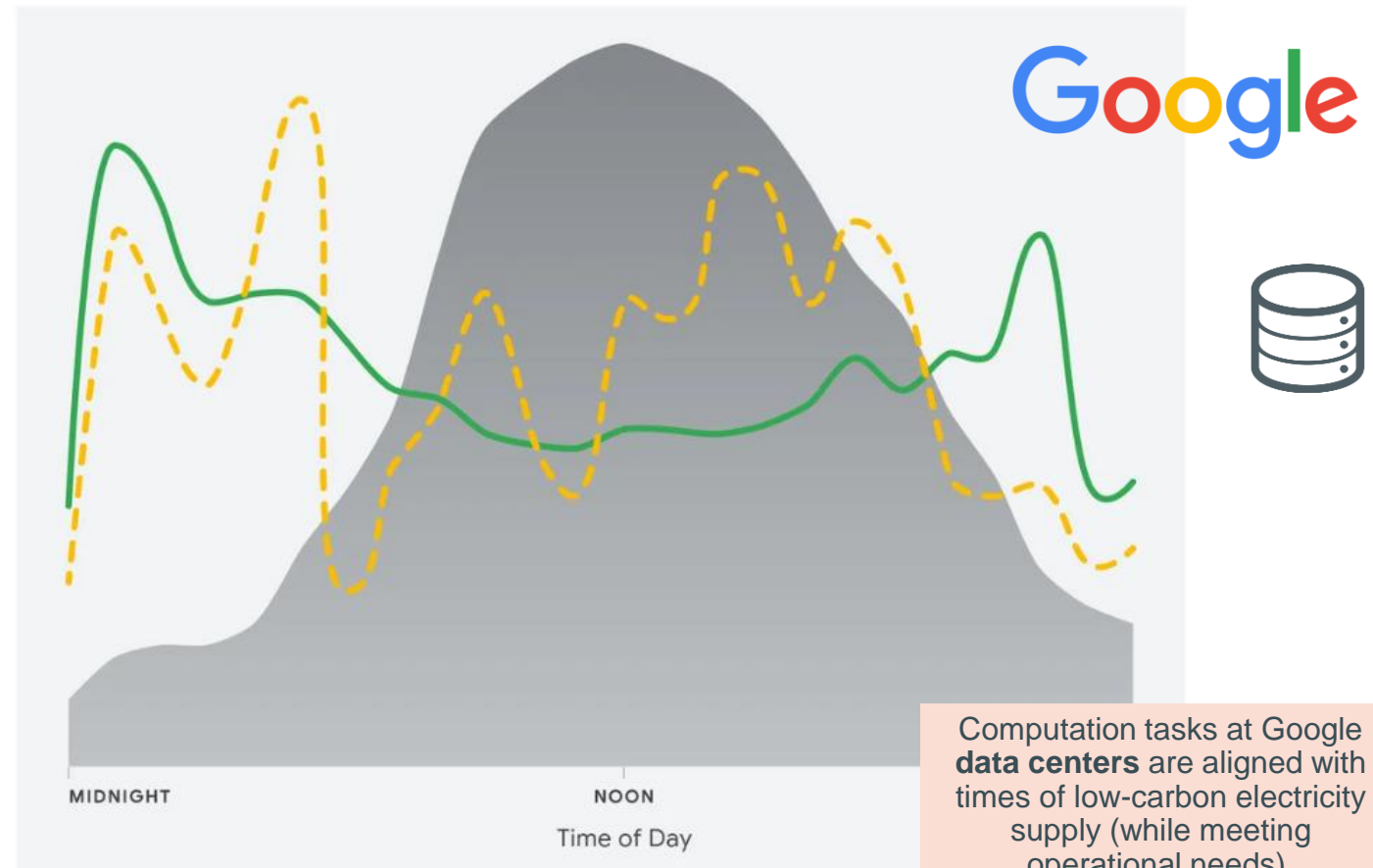
Source: Google - Our data centers now work harder when the sun shines and wind blows

Use cases of carbon intensity data

2.)

Carbon accounting and reporting

More and more companies are obliged to provide evidence of the GHG emissions associated with their economic activities (on a more granular level).

"As a company I want to assess my carbon emissions related to electricity consumption, for internal analyses or for external sustainability reporting."

Examples:

- **Yearly emission factor**

- Hourly based scope 2 reporting

ACT NOW — FOR A SUSTAINABLE WORLD — elia group

Elia Group´s compass for a sustainable future

Our ActNow programme embeds sustainability into our strategy and business activities through concrete and measurable targets for the Group to reach.

Climate Action	2019 (base year)	2022	2023	Target
Carbon intensity of electricity consumption BE[1] (gCO₂/kWh)	166[1]	154[1]	137	n.a
Carbon intensity of electricity consumption DE[1] (gCO₂/kWh)	357[1]	397[1]	327	n.a.
EU Taxonomy aligned CAPEX	n.a.	99.9%	99.5%	n.a.
New and upgraded lines (km)	453	324	550	n.a
CO2 footprint of grid losses (ktCO₂e)[1]	887[1]	1,097[1]	905	-28% by 2030
Grid reliability Elia (based on AIT)	99.9%	99.9%	99.9%	n.a.
Grid reliability 50Hz (based on # of incidents)	99.9%	99.8%	99.7%	n.a.
Emissions from mobility (ktCO₂e)	7.3	6.1[8]	6.3[8]	-90% by 2030
SF6 leakage rate	0.15%	0.13%	0.11%	below 0.25%
Scope 3 data maturity	0%	0%	61%	60% by 2023

Elia Group is relying on GreenGrid Compass outputs to to define a yearly emission factor and it is used for official Sustainability Reporting

Source: Elia Group - Press Release

Use cases of carbon intensity data

2. Carbon accounting and reporting

More and more companies are obliged to provide evidence of the GHG emissions associated with their economic activities (on a more granular level).

"As a company I want to assess my carbon emissions related to electricity consumption, for internal analyses or for external sustainability reporting."

Examples:

- Yearly emission factor

- **Hourly based (scope 2) reporting**

In a recent use case, Flexidao calculated the location-based and market-based CO_2 emissions **hour-by-hour**, for a Microsoft data center in Amsterdam.

Flexidao   Microsoft

Source: Flexidao - Microsoft's Renewable Energy Case Study

GreenGrid Compass is reaching out to other TSOs with the aim to reach an European Standard

- GreenGrid Compass uses an externally validated methodology that already **considers all bidding zones**

- In the worst case, all TSOs publish different tools providing different values

  - Avoid **additional work** and **loss of trust** from the user's perspective

  - **Standardization** is crucial

- Possible goal: Provision of data at **European level**

- Our methodology is **open to further improvements** including more granular emission and scaling factors per bidding zone

- **A common European standard for the calculation methodology should be the aim of the implementation of Art. 20a (1).**

2. How it is calculated and which data are being used

Calculation and complexity: correct and complete input data
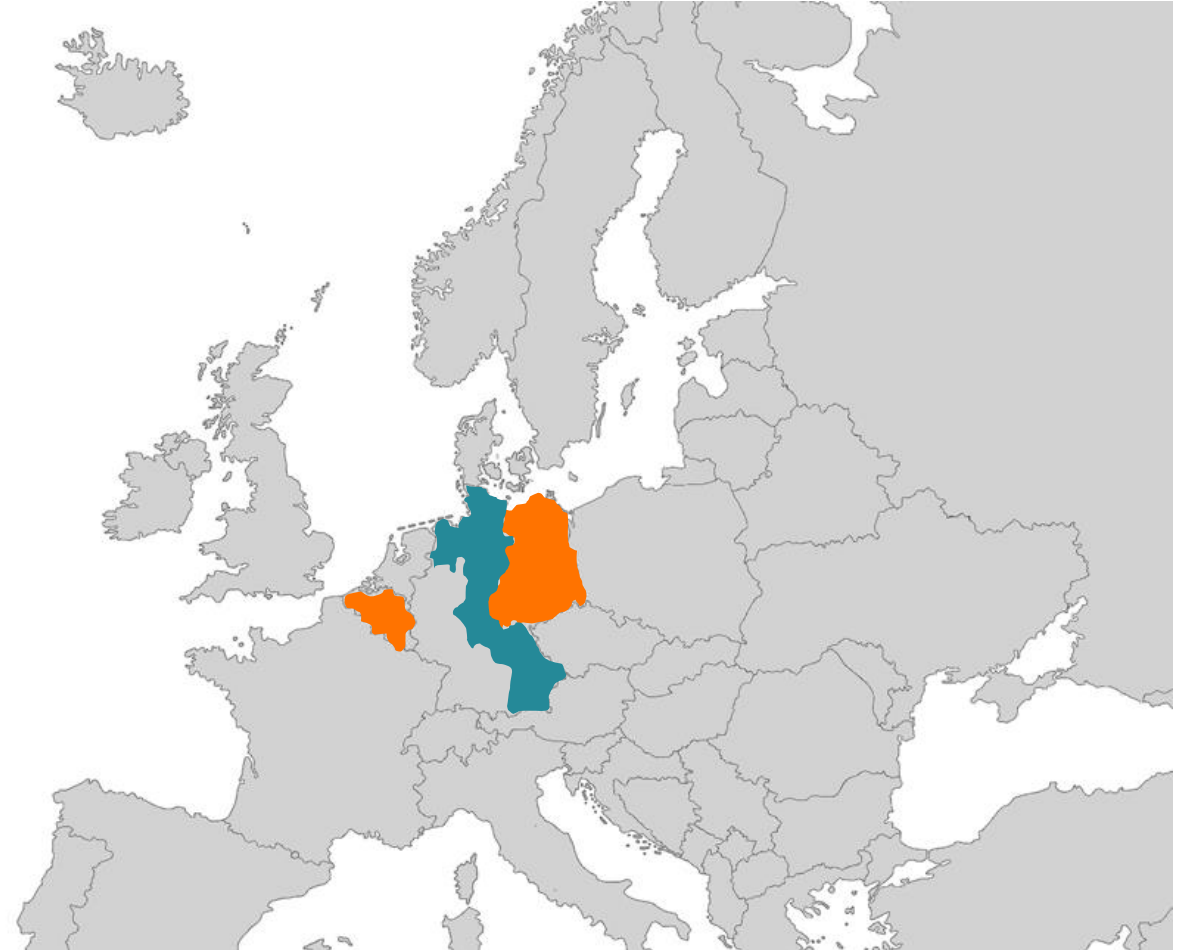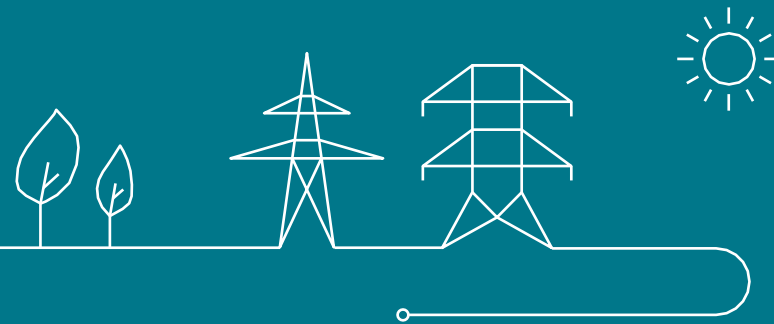
Carbon intensity of electricity: The number of grams of carbon dioxide (CO_2) emitted while generating one unit of electricity (kWh)

Generation: **100** MWh
EF: **0** gCO$_2$eq/kWh

Generation: **100** MWh
EF: **1000** gCO$_2$eq/kWh

200 MWh
CO2-Intensity: **500** gCO$_2$eq/kWh
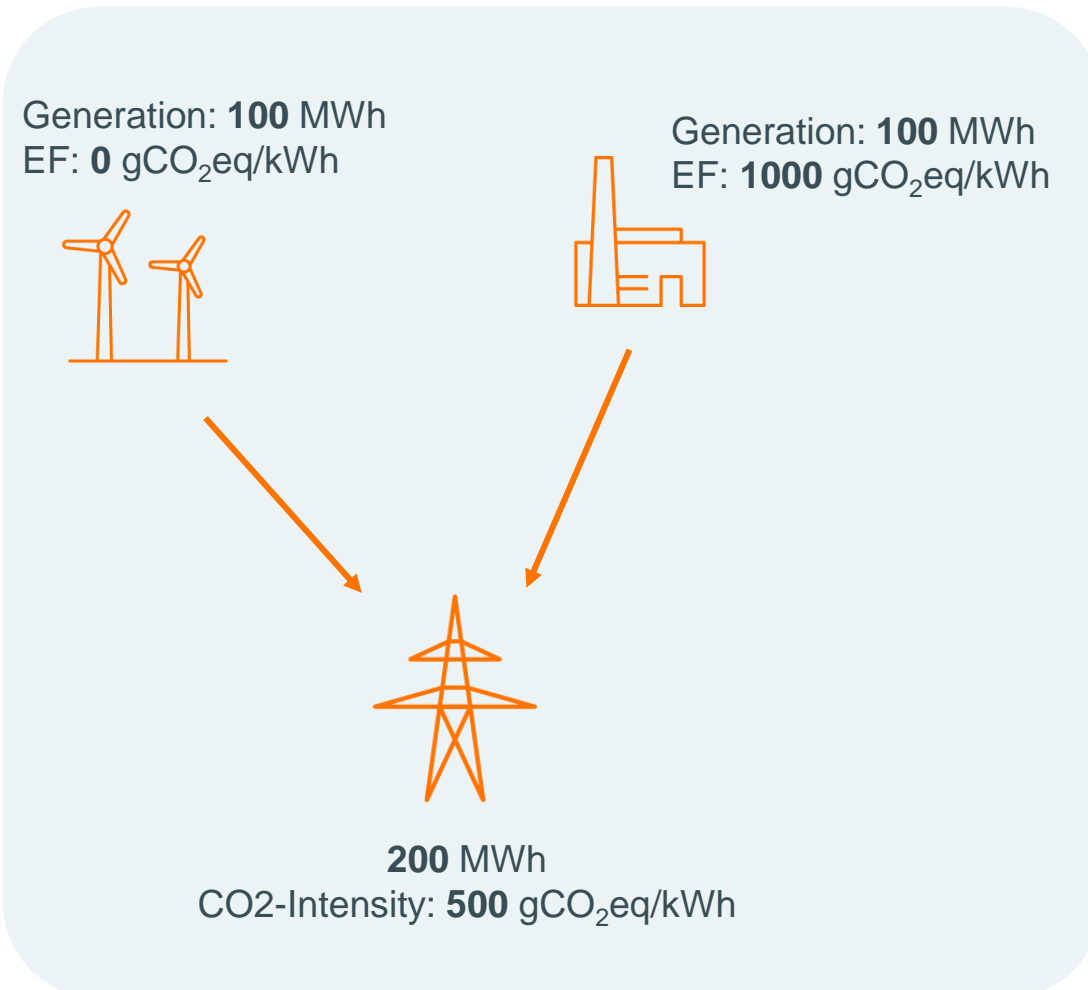
The carbon intensity depends on the amount of **electricity produced by a power plant** and the **specific emission factor**

→ **Input data we need:**

- Hourly electricity generation, ideally per power plant

- Emission factors (EF) of all power plant

→ **Various input sources are used:**

- mainly ENTSO-E transparency platform,

- but also Eurostat, info of GO issuing bodies, …

Calculation and complexity: Production vs. consumption based

Production based: Taking into account all the production that has taken place within the bidding zone

Zone A
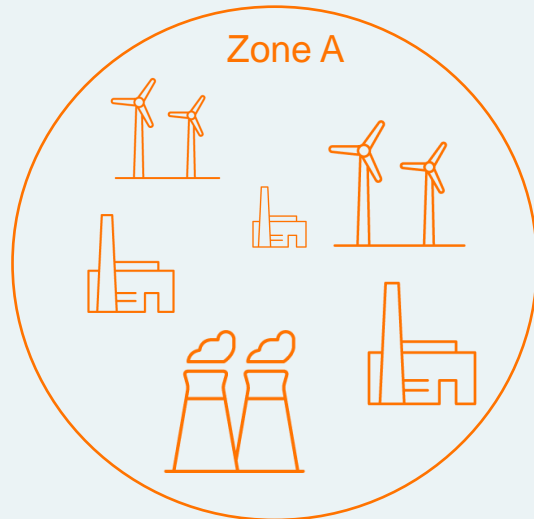
Consumption based: Additionally taking into account the electricity imported from neighboring countries, and their neighbors, and their …

Zone B   10 MWh @ ?   Zone A   Zone C   Zone E

50 MWh @ ?   Zone D
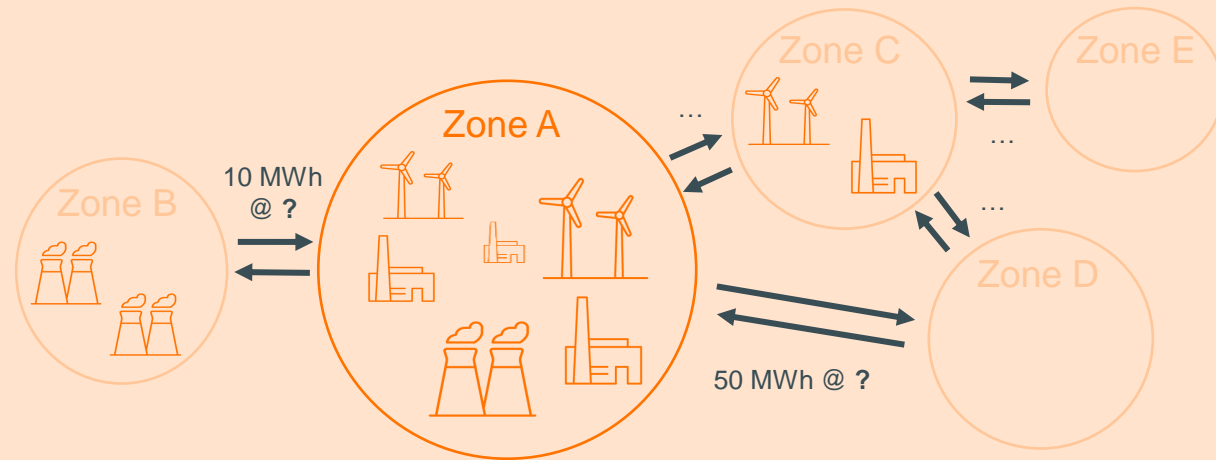
→ We need to know the carbon intensity of the imported/exported electricity – setting up and **solving a system of equations** is necessary

→ Correct and complete data for **all zones** necessary

GreenGrid Compass is displaying the info both production-based and consumption-based.
The information in EPIC Insights in consumption-based.

Calculation and complexity: Forecasting
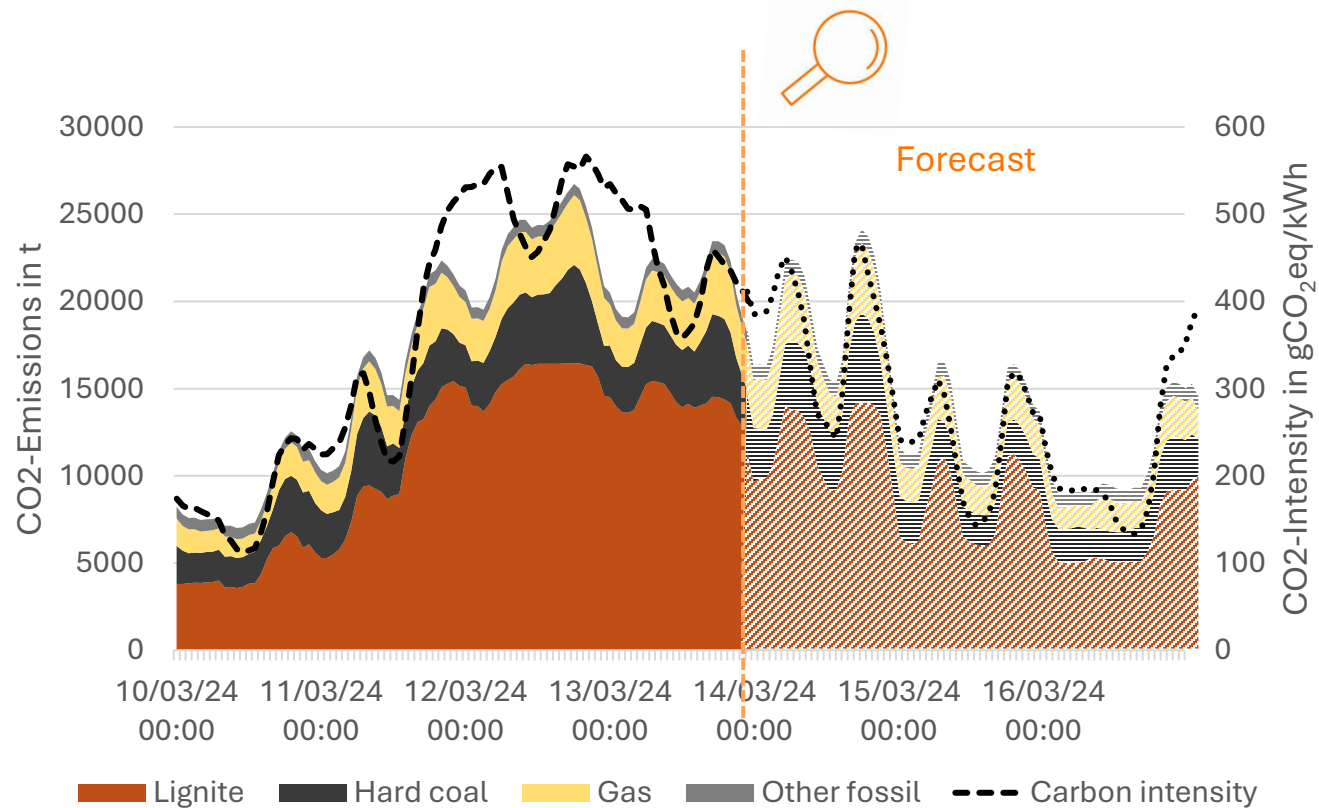
For a forecast over the next 24 hours, we would need the same data as for the calculation of historical values. However, much of this data is not available.

Machine learning is one approach to predict the CO2-Intensity based on various data, such as forecast values for wind and solar power.

Calculation and complexity: Certified Methodology in line with Regulation

REDIII Art. 20a

Guidance Paper

GreenGrid Compass

TÜV Certification

- ✓ Fulfills the requirements of **REDIII Art. 20a**

- ✓ In line with the EU Commission's **Guidance Paper**

- ✓ **External** validation of the methodology by independent audit center (TÜV)

- ✓ **Scientific advice** by research institute FfE (Forschungsstelle für Energiewirtschaft e.V.)

- ✓ Detailed **methodological report**

EPIC Sustainability Insights multiplies CO2 intensity data with consumption data, to provide a first customized insight

CO2 intensity calculator (model)
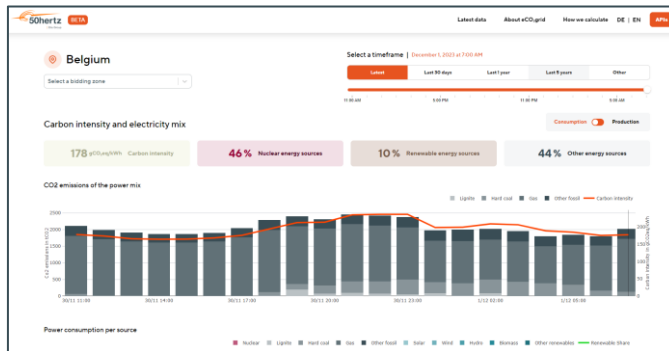
Load curve

EPIC sustainability dashboard
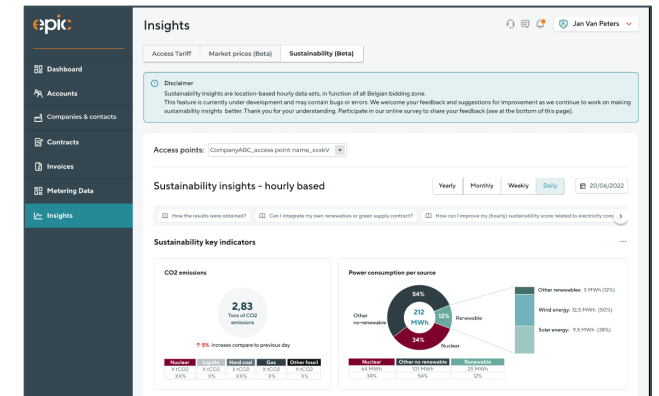
Carbon intensity Hour 1	✖	Grid user consumption Hour 1	=	CO2 emissions Hour 1
Carbon intensity Hour 2	✖	Grid user consumption Hour 2	=	CO2 emissions Hour 2
…	✖	…	=	…

SUM = CO2 emissions per day / week / …

More info about the calculations is available on the webpages, and detailed 'calculation guidance documents' will be provided soon

More info on the calculation methodology online

**+ calculation deep dives (10+ pagers) available in December '24:**

Annex –
What GreenGrid Compass and EPIC Sustainability Insights are about

For reading
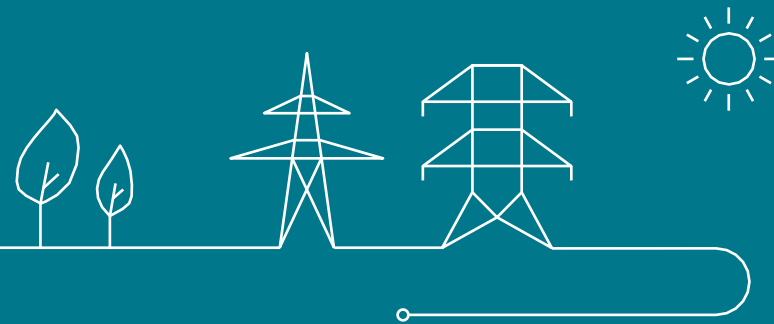
GreenGrid Compass (former Eco2Grid)

GreenGrid Compass is a calculation model providing information on the **carbon intensity** and the **share of renewable energy**, for every bidding zone in Europe, up to hourly level. This information is provided for the past, the present, and the future.
It is publicly exposed and freely accessible via a **dashboard** and/or via an **API** (in Traxes).
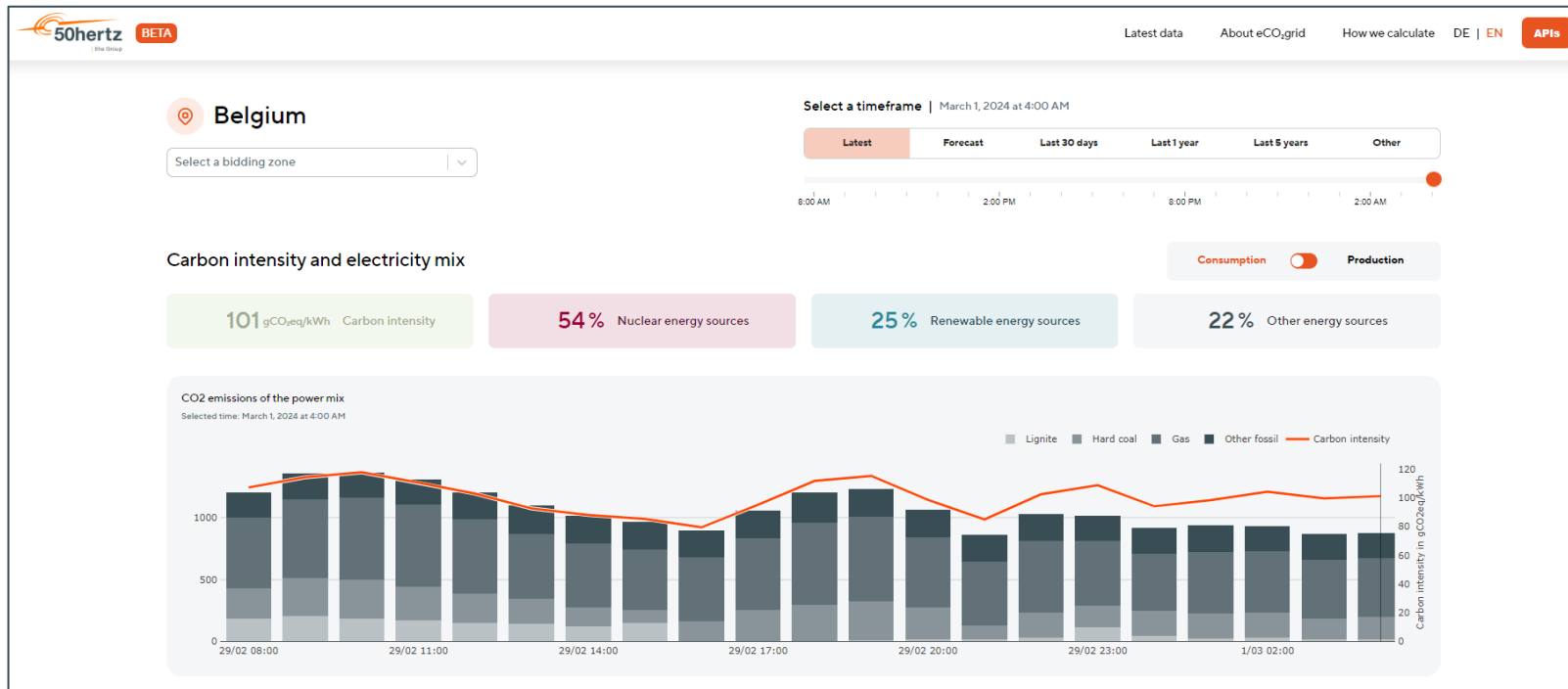
Printscreen of the "Eco2Grid" website, with info on the Belgian bidding zone

For who?

- Any interested party or individual

Why should I care?

- Interesting information as citizen or as company
  - *For example: Input source for carbon accounting and reporting*

- Access via API unlocks new opportunities for innovative use cases
  - *For example: Flexibility used to reduce emissions (e.g. smart charging based on CO2 data)*

How to get more info (and get started)?

https://eco2grid.50hertz.com/

GreenGrid Compass contains information on all bidding zones in Europe, though with a dedicated focus to Belgium and Germany

elia
| Elia Group

⊙ **Europe**

Select a bidding zone ⌄
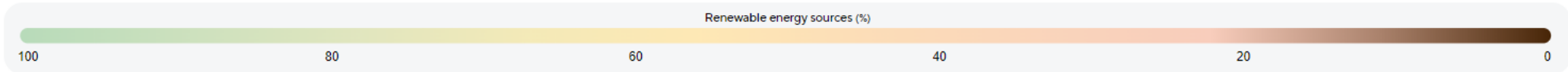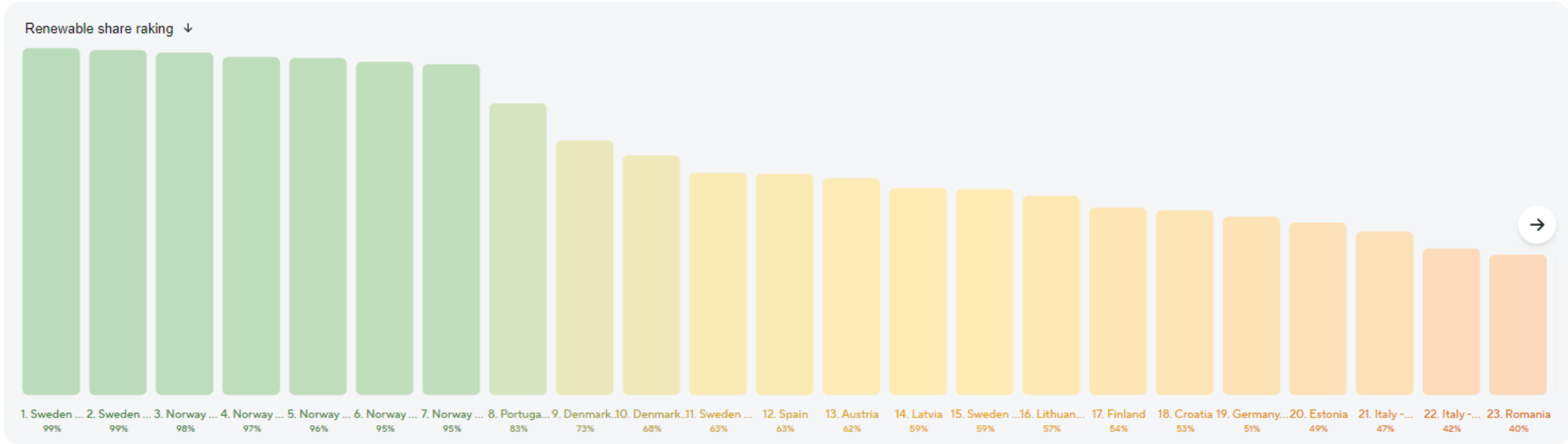
Select a timeframe | March 21, 2024 at 5:00 AM

| Latest | Last 30 days | Last 1 year | Last 5 years | Other |

9:00 AM   5:00 PM   11:00 PM   5:00 AM

Emission overview

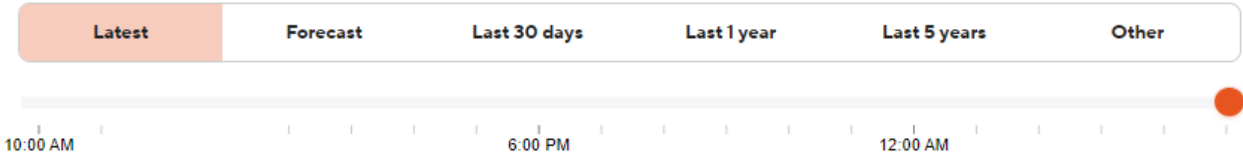Change view   Renewables ⬤ CO2 Ranking   Consumption ⬤ Production

Renewable share raking ↓

→

| 1. Sweden ... | 2. Sweden ... | 3. Norway ... | 4. Norway ... | 5. Norway ... | 6. Norway ... | 7. Norway ... | 8. Portuga... | 9. Denmark... | 10. Denmark... | 11. Sweden ... | 12. Spain | 13. Austria | 14. Latvia | 15. Sweden ... | 16. Lithuan... | 17. Finland | 18. Croatia | 19. Germany... | 20. Estonia | 21. Italy -... | 22. Italy -... | 23. Romania |
| 99% | 99% | 98% | 97% | 96% | 95% | 95% | 83% | 73% | 68% | 63% | 63% | 62% | 59% | 59% | 57% | 54% | 53% | 51% | 49% | 47% | 42% | 40% |

Renewable energy sources (%)

100   80   60   40   20   0

Carbon intensity (of electricity) is the number of grams of carbon dioxide (CO2) emitted during the generation of one unit of electricity (kWh).

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| Elia Group

Belgium

Select a bidding zone ⌄

Carbon intensity and electricity mix

Consumption ⬤ Production

| **74** gCO₂eq/kWh Carbon intensity | **40 %** Nuclear energy sources | **44 %** Renewable energy sources | **16 %** Other energy sources |

CO2 emissions of the power mix
Selected time: March 15, 2024 at 5:00 AM

Legend: ▪ Lignite ▪ Hard coal ▪ Gas ▪ Other fossil — Carbon intensity
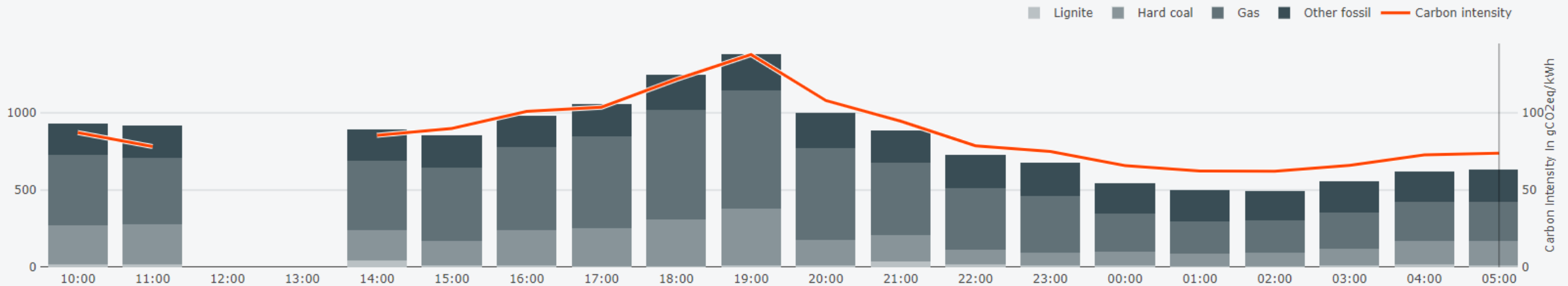
Source: _eCO₂grid_

The renewable share (of electricity) refers to the proportion of total electricity that is generated using renewable energy sources

elia | Elia Group

Belgium

Select a bidding zone ▼

Select a timeframe | March 15, 2024 at 5:00 AM

| Latest | Forecast | Last 30 days | Last 1 year | Last 5 years | Other |

10:00 AM   6:00 PM   12:00 AM

Carbon intensity and electricity mix

Consumption ⬤━ Production

| **74** gCO₂eq/kWh Carbon intensity | **40 %** Nuclear energy sources | **44%** Renewable energy sources | **16%** Other energy sources |

Power consumption per source
Selected time: March 15, 2024 at 5:00 AM

■ Nuclear　■ Lignite　■ Hard coal　■ Gas　■ Other fossil　■ Solar　■ Wind　■ Hydro　■ Biomass　■ Other renewables　━ Renewable Share
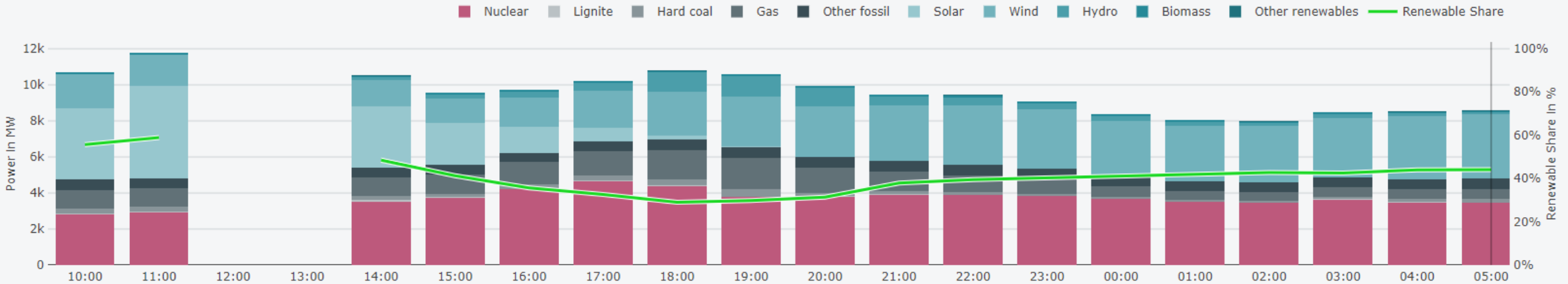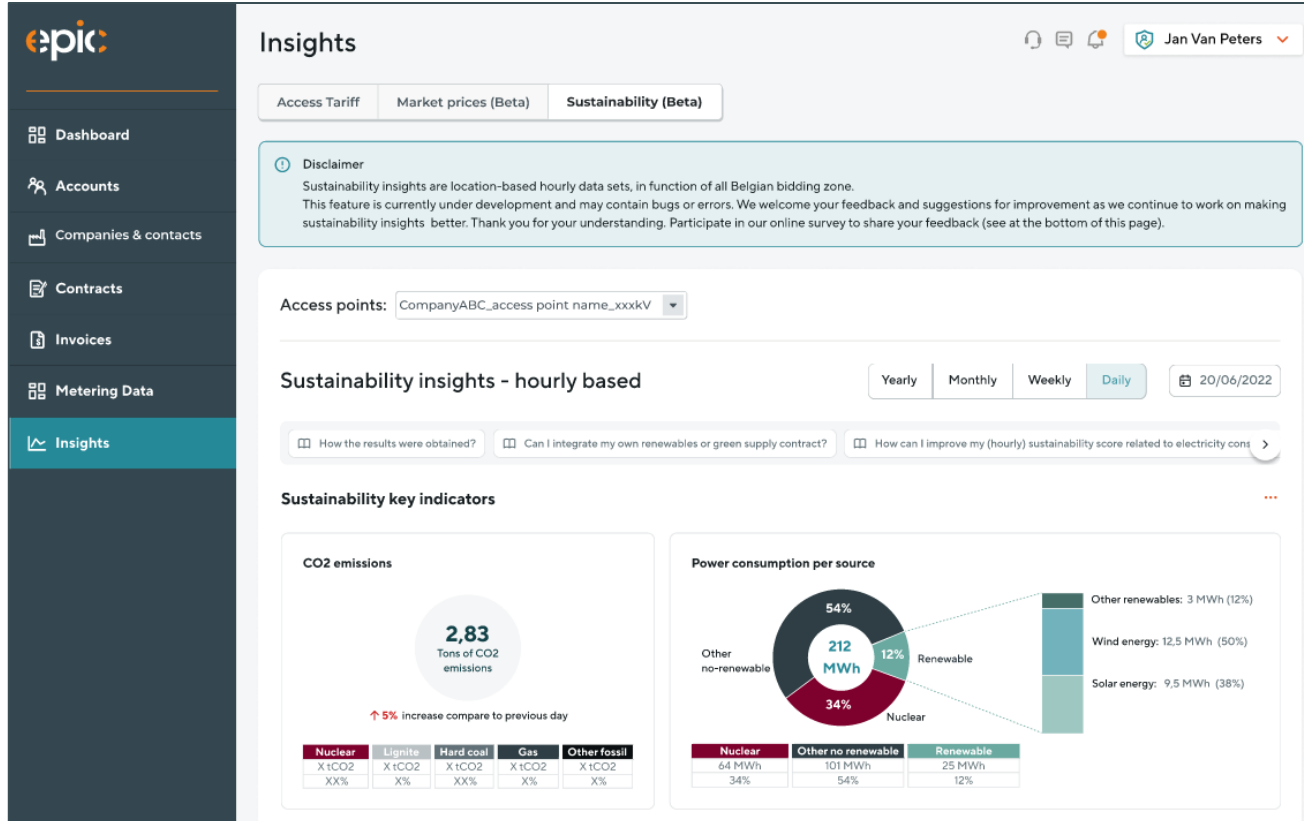
Source: eCO₂grid

EPIC sustainability Insights

The sustainability insights page in EPIC specifies, the CO2 emissions and source of energy, **in function of the load curve of the grid user,** and based on the input coming from GreenGrid Compass. It considers data at access point level, wherein local energy production is not (yet) considered. The Insights page is available in EPIC since Q2 2024.

For who?

- Elia grid users

Why should I care?

- Get awareness on your company's carbon footprint based on an hourly level.
- Use the information as input for detailed sustainability reporting

How to get more info (and get started)?

https://epic-portal.io/insights

Sustainability key indicators, summarizing the main information
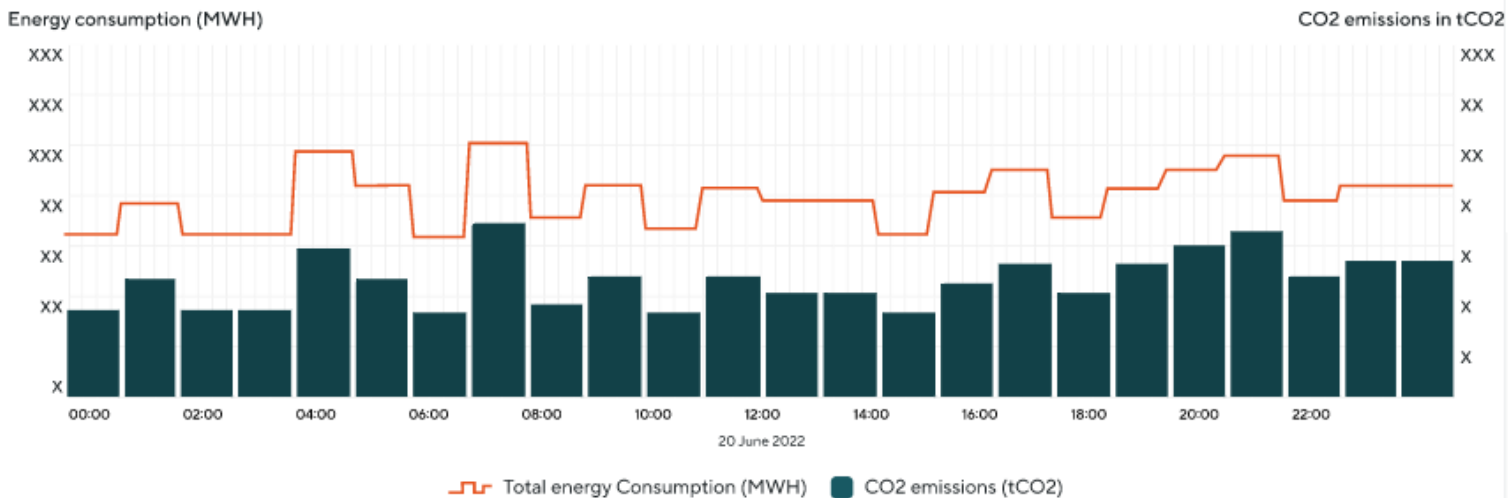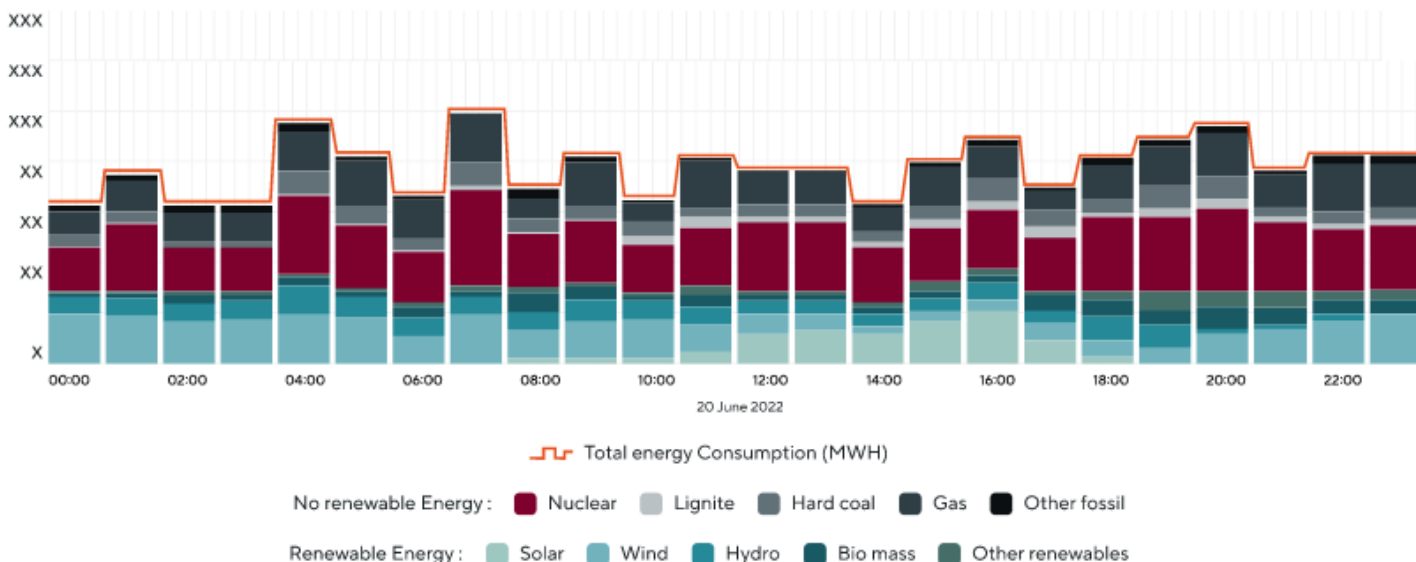
Graphs with
"CO2 emissions" and
"power consumption per source"

Touchpoint Parallel run RTP

Elodie Ciciriello
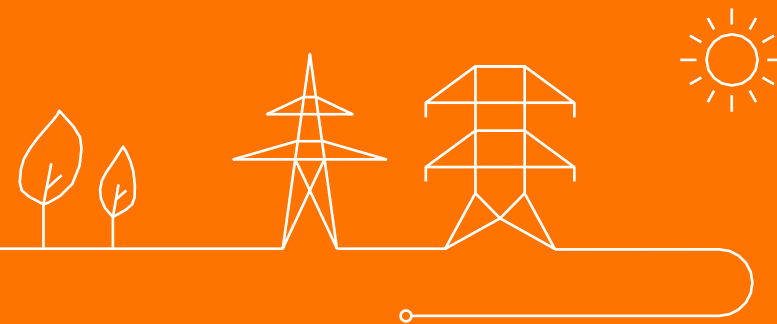
The trial publication of the imbalance price forecast has ended

- The trial publication of the **imbalance price forecast** has ended on the 23rd of November.

- Results will be presented during the Working Group Energy Solutions of December 2024.

- **Next steps and priority** will be defined based on your **feedbacks.**

2024

Trial publication of the imbalance price forecast

Agenda

10:15 – 10:25: Welcome and approval MoM

10:25 – 11:10: Update on the upcoming changes and public consultations to the T&C BRP

11:10 – 11:30: Sustainability Insights & Eco2Grid

11:30 – 11:45: Touchpoint Parallel run RTP

11:45 – 13:00: Lunch

13:00 – 13:20: EU & BE Balancing program update

13:20 – 13:35: Incentive 2025: BSP Faster Settlement

13:35 – 14:05: Action plan incompressibility

14:05 – 14:25: Feedback from the market parties on the public consultation of availability testing in the market

14:25 – 14:45: AOB

EU & BE Balancing Program Update

Nicolas Pierreux / Thomas Van der Vorst
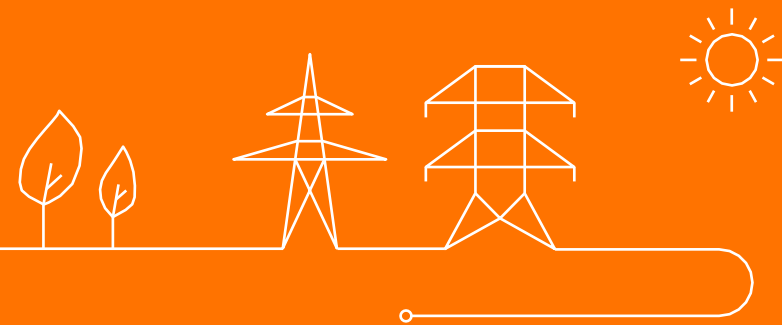
Agenda of today's presentation

- PIM Roadmap & Incentives 2025
  - Status on aFRR Design Evolutions & PICASSO Connection
  - Workplan 2025 : process
  - Incentives 2025

- Derogation separate procurement upward and downward aFRR Capacity

- Coming stakeholder management interactions

PICASSO

Balancing Rules & T&C BRP

MARI & iCAROS phase 1

Other initiatives

PIM Roadmap & Incentives 2025
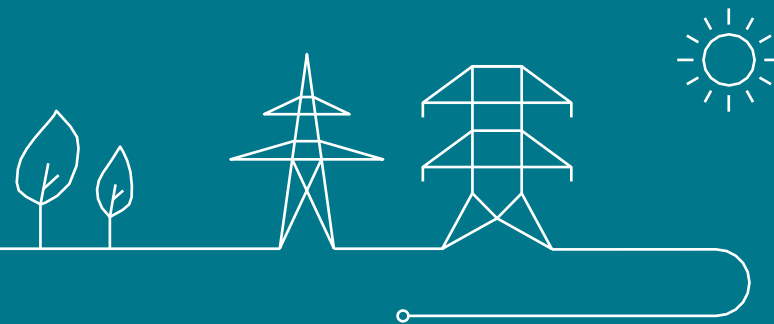
Updated PIM Roadmap

More precisely, based on the identified feasibility & risks and taking into account the importance of our connection to PICASSO, the roadmap has been adapted as follows:

- **Go-live of aFRR dynamic dimensioning & shift of aFRR Capacity auctions from D-2 to D-1** remains unchanged and foreseen for 1st of October

- A go live in November for **PICASSO Connection & aFRR Design Evolutions** is targeted subject to the confirmation of:
  - The appropriate, qualitative & stable implementation at EU level
  - The qualitative & stable interfacing between ELIA and the aFRR platform
  - The qualitative & stable implementation of the new functionalities within ELIA Real-Time applications and in the complete chain of tools

  An update of the status will be done end of September when we'll have a better visibility.

- Change of **aFRR FAT (7,5 to 5 minutes)** will happen in the same time window as PICASSO Connection considering the limited time remaining before the legal deadline and end-of-year constraints for IT implementations

- **MARI connection** will be planned a quarter after PICASSO Connection (meaning end Q1 2025 if PICASSO connection takes place end Q4 2024)

aFRR Design evolutions & PICASSO Connection

USERS' GROUP

Dear Market Party,

Elia would like to inform you of the following go-lives:

- On **19th of November 2024**, the go-live related to the **aFRR design evolutions** (including among others the possibility for BSPs to use a (de-)activation period shorter than the default Full Activation Time (FAT), the possibility for BSPs to use an aFRR real-time baseline and the amendments related to the participation of low-voltage delivery points) will take place;
- On **26th of November 2024 at 11am**, conditionally to the final European approval *, the amendments in preparation of **Elia's connection to the European Platform for the exchange of Balancing Energy from Frequency Restoration Reserves with automatic activation** (including an evolution from paid-as-bid to paid-as-cleared remuneration of aFRR energy bids and a relaxation of the bid price limit for non-contracted aFRR energy bids) will go live and the connection to the aFRR Platform will be established;
- On **4th of December 2024**, conditionally to the effective connection to the aFRR Platform **, the go-live related to the **evolution of the default Full Activation Time (FAT) from 7,5 to 5 minutes** will take place.

In the context of these go-lives:

- new versions of the T&C BSP aFRR will enter into force ([link](#)); and
- a new version of the Balancing Rules will enter into force ([link](#)).

Dear Market Party,

Elia would like to inform you that the final approval for the connection to the European Platform for the exchange of Balancing Energy from Frequency Restoration Reserves with automatic activation (aFRR Platform), in accordance with the accession process at European level, has now been obtained.

Therefore, Elia is pleased to confirm that the amendments related to Elia's connection to the aFRR Platform (including an evolution from paid-as-bid to paid-as-cleared remuneration of aFRR energy bids and a relaxation of the bid price limit for non-contracted aFRR energy bids) will effectively go live on 26th of November 2024 at 11am. At this moment, the effective connection to the aFRR Platform will start to be established.

Outlook 2025 – Energy Solutions

An integrated outlook for the further development of **flexibility** as an enabler for the energy transition will be provided in a 2 steps approach, allowing market parties to provide feedback.:

KEY DIMENSIONS
Operational Process **digitalization** BRP - BSP
Increase liquidity and competition in **explicit** balancing and foster ToE at all voltage levels
Lower barriers for participation in **implicit** (balancing) markets through evolution of real-time price and foster multiple BRP/supply split at all voltage levels

WG Energy Solutions 16/12

Working Plan 2025

Opportunity for feedback

Beginning 2025

High Level Roadmap 2025-2028

Lookback 2024

Incentives 2025

Incentives	Will be followed in
Optimisation économique de l'utilisation des produits d'équilibrage par Elia	WG Energy Solutions
Analyse de la faisabilité de la reconstitution du système, en tenant compte de l'évolution du mix énergétique	WG Grid
Monitoring de la qualité du CRI	WG Grid
Gestion et diffusion des connaissances	WG Energy Solutions
Etude portant sur le processus de préqualification et les exigences de mesure et de communication pour les unités à basse tension aux services d'équilibrage et les évolutions possibles pour simplifier la participation de ces unités	WG Energy Solutions
BSP settlement and invoicing process	WG Energy Solutions
Mise en oeuvre de la data roadmap pour l'amélioration de la mise à disposition de données par Elia	WG Energy Solutions
Incitant à la promotion de la liquidité sur les marchés d'équilibrage aFRR	WG Energy Solutions

Others
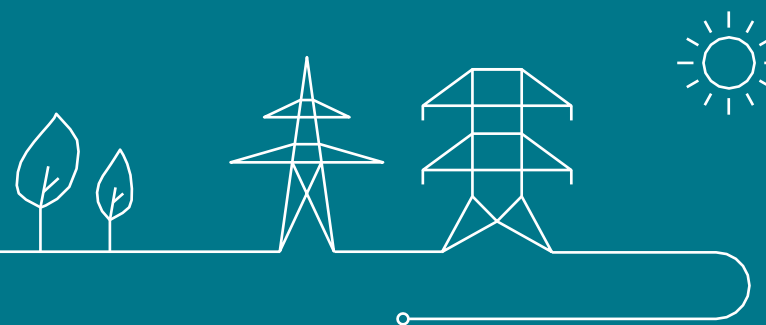
Public consultation on the proposal to request a derogation to procure upward and downward aFRR capacity separately

Context

- Elia currently procures both upward and downward balancing capacity for aFRR on a daily basis in a single capacity auction.

- Article 32(3) of EBGL and Article 6(9) of Regulation 2019/943 provide that the procurement of upward and downward balancing capacity for the frequency restoration reserves shall be carried out separately.

- In accordance with Article 59 of Directive 2019/944, each TSO may however submit a proposal to the relevant regulatory authority requesting the exemption to this requirement.

- Such an exemption from the obligation to procure upward and downward balancing capacity for aFRR separately has been requested by Elia and approved by CREG in 2021. The current exemption is valid until 15 December 2024.

In this context, **Elia has launched a public consultation to extend the derogation to procure upward and downward balancing capacity for aFRR separately** until 15 December 2027, with an evaluation of the need for the exemption at the latest 18 months before the end of the exemption (link to consultation page)

Feedback public consultation & CREG Decision

- Overview of the main feedbacks received during the public consultation:

Respondent	Feedback
All respondents	All respondents did express their support for the proposed derogation
BSTOR	BSTOR does however call for a procurement process that would be fully compliant with the CEP/EBGL as of 2028 and a roadmap towards such process.
FEBEG	FEBEG does not see an urgency in moving towards a fully separate procurement of upward and downward aFRR Capacity as the current methodology is minimizing procurement costs and does not hamper the participation of BSPs.
Febeliec	Febeliec supports the proposal as it remains (under the current conditions) the most efficient way to procure aFRR.

- Considering the overall positive feedback, **no changes have been made to the proposal before Elia submitted the proposal to the CREG** on the 22nd of October 2024.

- **CREG approved via Decision (B)2902 the proposal for the derogation** of the separate procurement of upward and downward aFRR Balancing Capacity.

- The **current derogation hence remains of application until 15th of December 2027**. An evaluation will be foreseen at the latest 18 months before the end of the exemption (so before 15th of June 2026). Depending on the outcome of this evaluation, a new derogation might be requested or not.

Others
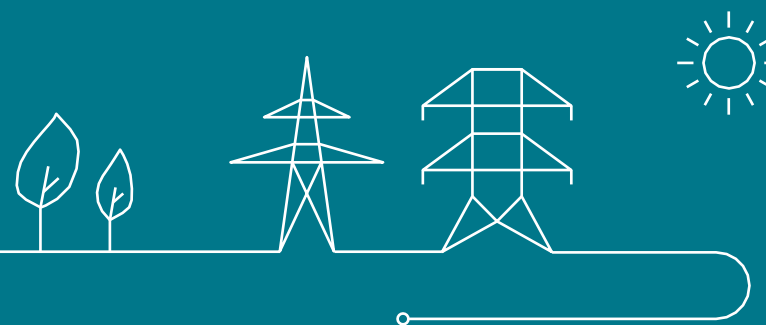
Coming stakeholder management interactions

- Next interactions

  - Signature of the updated T&C aFRR

  - (Last) announcements & communication linked to the aFRR Design evolutions & PICASSO connection go lives

  - 11/12/24 - Balancing platforms stakeholders' workshop

    MARI, PICASSO, TERRE and IGCC are the TSOs' projects for establishing the European mFRR and aFRR, RR and imbalance netting platforms, the key deliverables of the European regulation establishing a guideline on electricity balancing (the 'EB Regulation'). These European platforms will enhance the efficiency of balancing in Europe and integrate balancing energy markets, promoting the possibilities for exchanging balancing energy while contributing to operational security.

    All TSOs via ENTSO-E aim to keep stakeholders informed of the evolution of the European platforms while gathering their feedback for future developments. Therefore, the balancing projects in collaboration with ENTSO-E are organising a public online workshop on 11 December 2024 from 1:00 PM - 4:00 PM GMT+1.

    The 2024 Balancing platforms stakeholders' workshop agenda can be accessed here.

    Presentation materials for PICASSO, IGCC, MARI and TERRE will be available for your reference following the workshop.
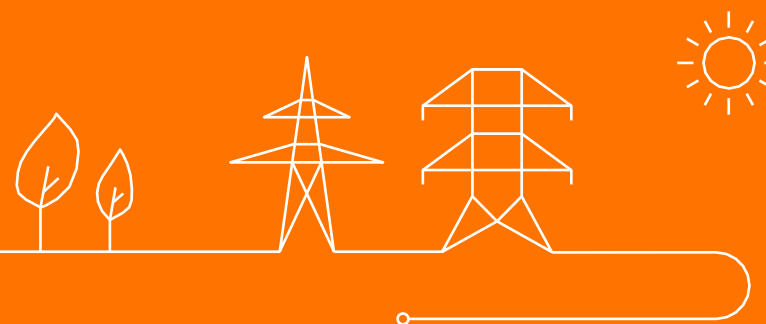
Contact persons

KAM Energy

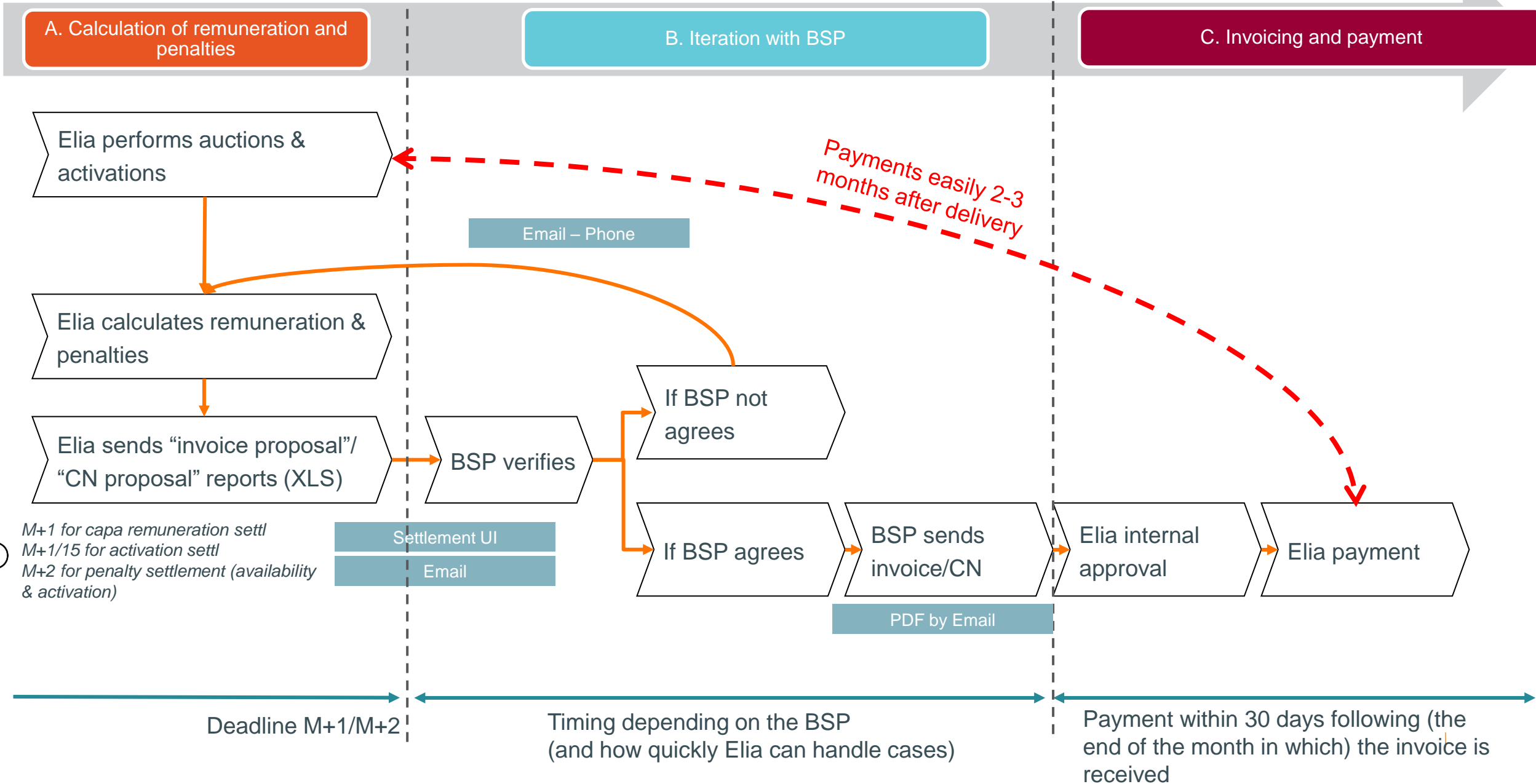Nicolas Koelman / Sybille Mettens / François Jadoul

Incentive 2025 : BSP Faster Settlement

Martine Verelst

Current Ancillary Services settlement process

| A. Calculation of remuneration and penalties | B. Iteration with BSP | C. Invoicing and payment |

Elia performs auctions & activations

Elia calculates remuneration & penalties

Elia sends "invoice proposal"/ "CN proposal" reports (XLS)

M+1 for capa remuneration settl
M+1/15 for activation settl
M+2 for penalty settlement (availability & activation)

Email – Phone

Settlement UI

Email

Payments easily 2-3 months after delivery

BSP verifies

If BSP not agrees

If BSP agrees

BSP sends invoice/CN

PDF by Email

Elia internal approval

Elia payment

Deadline M+1/M+2

Timing depending on the BSP (and how quickly Elia can handle cases)

Payment within 30 days following (the end of the month in which) the invoice is received

BSP Faster Settlement – proposed future process

Internal ELIA tool

Elia calculates remunerations & penalties

Elia publishes settlement reporting

BSP verifies

If BSP not agrees: Ticketing System

Approval by BSP

Elia publishes invoices/self-bills

Launch of self-billing and invoices process

Payment by Elia
Payment by BSP

Portal & API

SAP
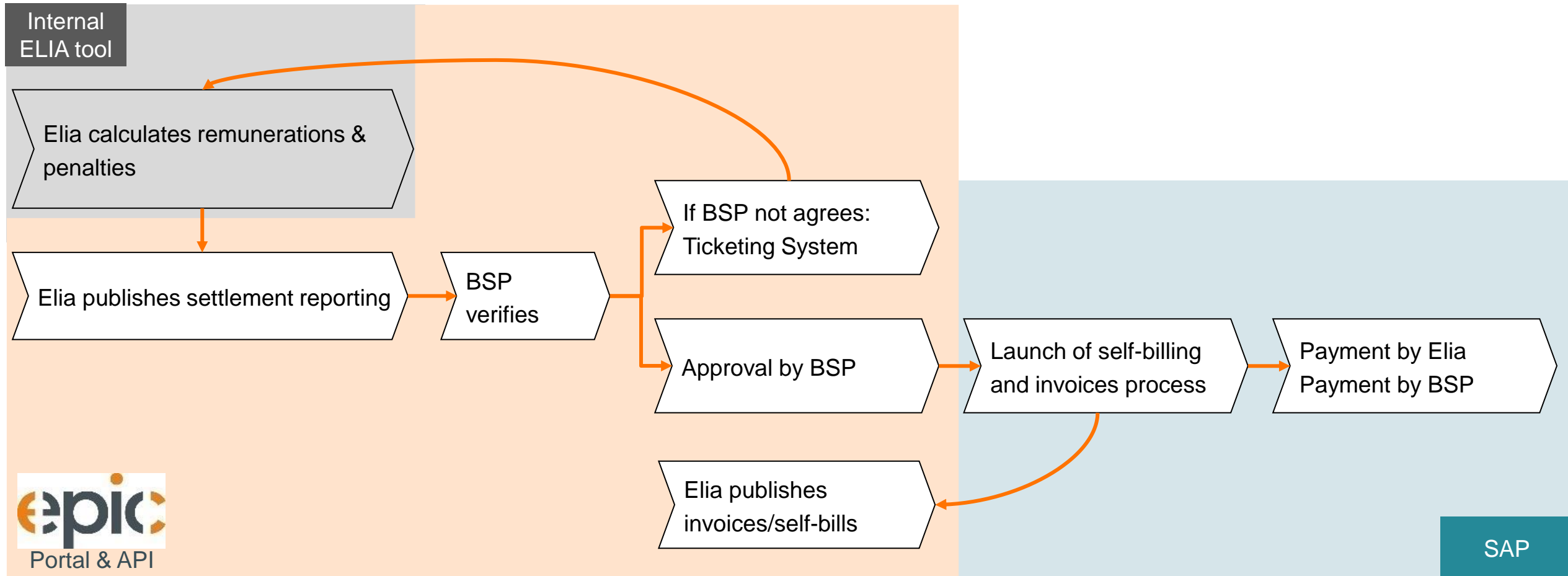
Scope of incentive 2025 "BSP faster settlement"

final decision CREG October 2024

- **Faster processes for the 4 types of settlement reporting for FCR, aFRR and mFRR**
  - Renumeration of awarded capacity
  - Remuneration of activations (*not applicable for FCR*)
  - Penalties for availability/obligation control
  - Penalties for activations control

- **Proposed improvements**
  - An accelerated calculation and provision of the settlement reportings to the BSP (at the latest end M+1)
  - The publication of the settlement reportings and invoices on a unique communication platform (= EPIC)
  - The switch from traditional billing process to a self-billing process (i.e. self-bills for remuneration and invoices for penalties)

- **Deliverables**
  - **Part 1 :** after discussion with BSPs, the following should be provided to CREG by 30.06.2025 :
    - Reports/MoM from meetings with BSPs
    - Implementation plan of 4 types of settlement reporting for FCR, aFRR and mFRR in the go-live window

  - **Part 2 :** a go-live window between mid 2025 and mid 2026
    - with at least the go-live of the settlement reporting for remunerations of awarded capacity and activations in Q4/2025

Scope of incentive 2025 "BSP faster settlement"

final decision CREG October 2024

	FCR	aFRR	mFRR
Remuneration awarded capacity	< 31/12/2025	< 31/12/2025	< 31/12/2025
Remuneration Activations	n/a	< 31/12/2025	< 31/12/2025
Obligation Control	< 30/06/2026	< 30/06/2026	< 30/06/2026
Activation Control	< 30/06/2026	< 30/06/2026	< 30/06/2026

Invitation to specific workshop on BSP faster settlement incentive
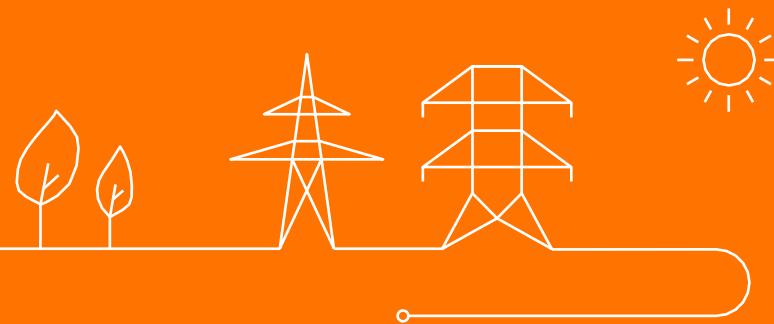
Thursday 5 December 2024 10h-12h

Draft agenda of the Workshop

- Explanation of the scope of the incentive

- Open discussion on the proposed solution (publication on the communication platform & switch to self-billing)

- Open discussion on the proposed go-live window and roadmap

Action plan incompressibility

Roxanne Vande Zande

Mapping and first prioritisation – Consolidated action plan 2025

2024   **2025**   **2026**   **2027**

- Interactions with regulators
- Identify barriers for implicit participation on MV level
- Fix Game Plan ToE

EXPL: CONNECT TO EU and OPEN IN MV AND LV
IMPL: CREATE AWARENESS IN LV & BRING MV FLEX VOLUMES ON THE MARKET

Market Monitoring & Awareness

Market Measures
Development driven based on Market Parties interaction & Market Monitoring

Technical Measures (Telecontrolled)

Intra-Day Market
WG Grid

ID Capacity Calculations in line with DA Security Analysis

ID Capacity Calculations Study on Improvements

Analysis flow-based allocation ID market

Implicit

Imbalance price signal
Real Time Price – design & regulatory framework
WG ES

With DSOs

Supply Split

Ambitionned shared target model Supply Split

(Starting Point: Position Paper MV/LV 2022)
WG DSO

Supply Split per region

(cfr regional Roadmap)

EVLIA   WG ES

With DSOs & BRP

Customer involvement & trust

Price Sensitivity

SMR3 BXL & WAL

Contract Split behind the meter MV/LV

Big Switch   WG ES

Explicit

Coupling to MARI and PICASSO
WG ES

Start analysis on possible downward procurement FRR
WG ES

Start analysis BSP Bidding Obligation for units 1MW-25MW
WG ES

- **ToE-alternative for HV**

With DSOs

- ToE aFRR HV/MV (*) & mFRR HV/MV
- POC ToE for aFRR in LV
- ToE for mFRR on LV Head Meter (Q4/25-Q1/26)

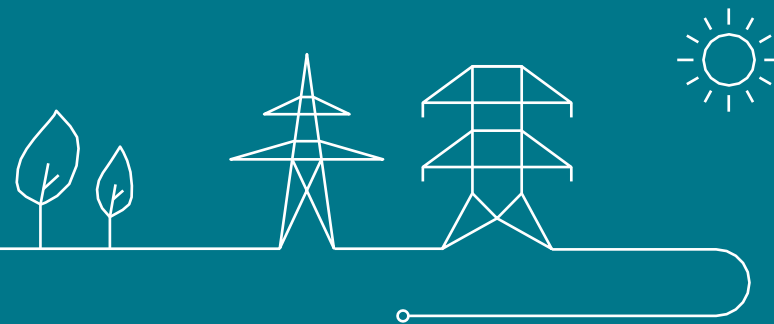(*) Conditionned by assumptions on R&R 4"-values
PDG Synergid

Improve robustness of the technical solutions
WG ES

○ Formalization of the agreements with DSOs for the years to come (via SOK)

○ Consultation LFC BOA, T&C BRP and SoK foreseen December 2024

Implicit

Evlia and Big Switch

EVLIA: Reducing the company electric fleet TCO through flexibility

With a significant pool of company EV's, Elia wants to unlock flexibility from these EV's to reduce the fleet TCO.

Context

Company cars offered by company to a group of employees, including a home EV chargepoint.

At least **80% of the EV charging happens at home or at work**.

EV charging sessions at home are paid by the company. Employee is **reimbursed for the charged energy** at home at a **proxy price (CREG price).**

As most employees have a fixed or variable supply contract at home, **no incentive to shift charging** outside of peak periods. CPO data confirms that _many home charging sessions start at the evening peak_.

How can employer **pay a fair & legally correct price** for home charging of their fleet (not a proxy price & allowing VAT deduction)?

EVs have a big flex potential that – if activated - would allow to **reduce the fleet's Total Cost of Ownership (TCO)**

There must be more convenient ways to enable home charging without the administrative burden for the home owner.
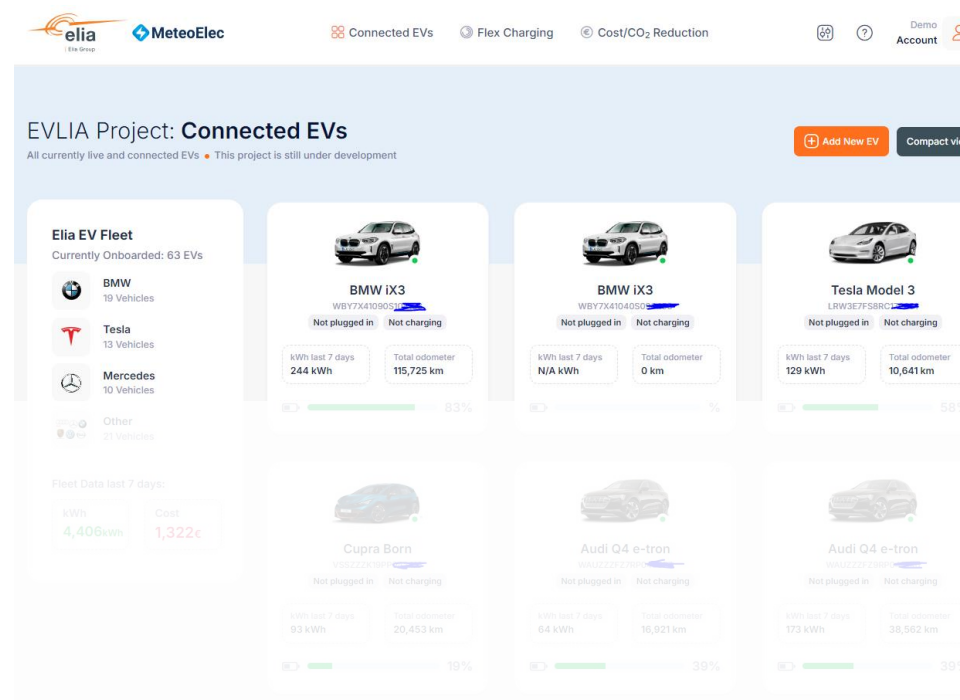
Use case formulated:

Supply behind-the-meter EV chargers with a **near-realtime dynamic contract** (with employee as contract holder),

incentivizing the EV to optimize up to imbalance prices, hence unlocking cost reductions for the fleet, while ensuring the driver's comfort needs are met.

Elia has a approx. 350 EVs in their fleet. A subset of the fleet will be onboarded in the project, later extending it to the whole fleet.

How a "Big Switch" trial in Belgium contribute to mitigating the incompressibility risk?

Bridging the gap

99,8% of the consumers

0,2% of the consumers

Level of market engagement & exposure

No exposure to negative price peaks

Technical curtailment of (part of the) PV

Event based and voluntary price exposure

Dynamic contract based on exposure to day-ahead prices or TSO balancing products

Exposure to a real-time price

INCOMPRESSIBILITY RISK

- Steep increase of renewable development in the coming years (especially residential PVs)

- Similar situation in neighboring countries, resulting in limited export options

- Resulting in excess electricity supply, and (extreme) negative prices…

➔ **How to mitigate the risks (while waiting for an uptake of market-based contracts)?**

➔ **Can system operators & market actors co-create short-term solutions?**
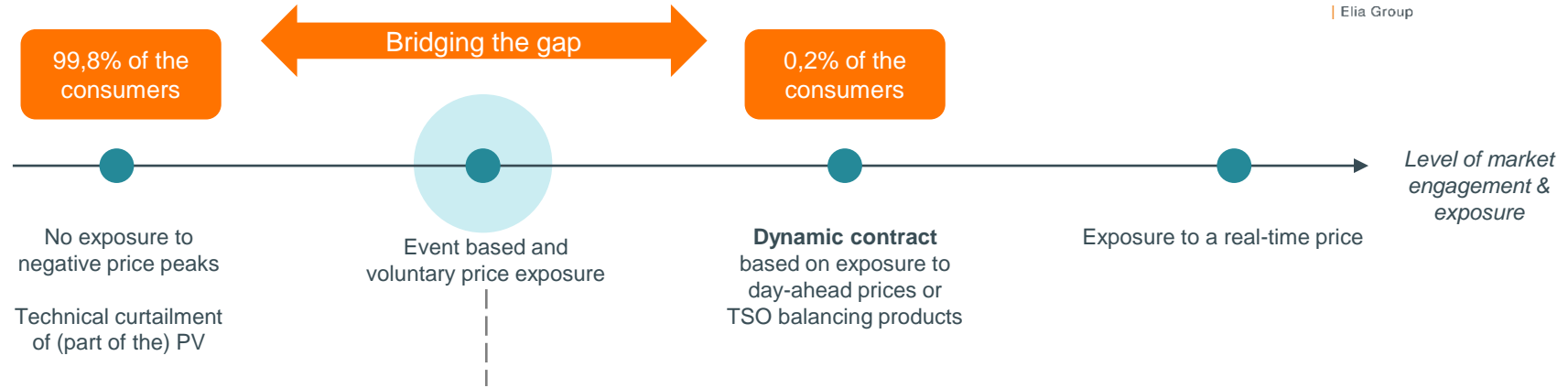
A market trial co-created between market actors and system operators, to concretely unlock value for society, and provide learnings along the whole end-to-end chain of actors.

Status:

Supplier/BRP

DSO

Elia

Elia contacted a number of market actors to poll for interest in cocreating a market trial, as well as verifying the feasibility. This revealed that:
- In some cases, market actors are already developing their own products to incentivize flexibility from end-consumers.
- The business case for products like the Big Switch is not obvious and some market-wide barriers should be further alleviated.
Examples: digital meter rollout, low-barrier SMR3 entry, grid tariffs not limiting flex reaction (eg: capacity tariff).
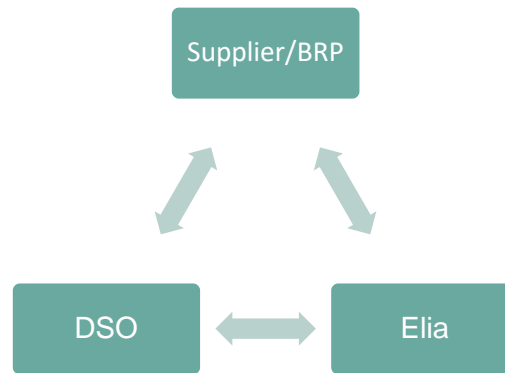
Elia will further coordinate and investigate with stakeholders whether certain barriers could be alleviated as part of the trial.
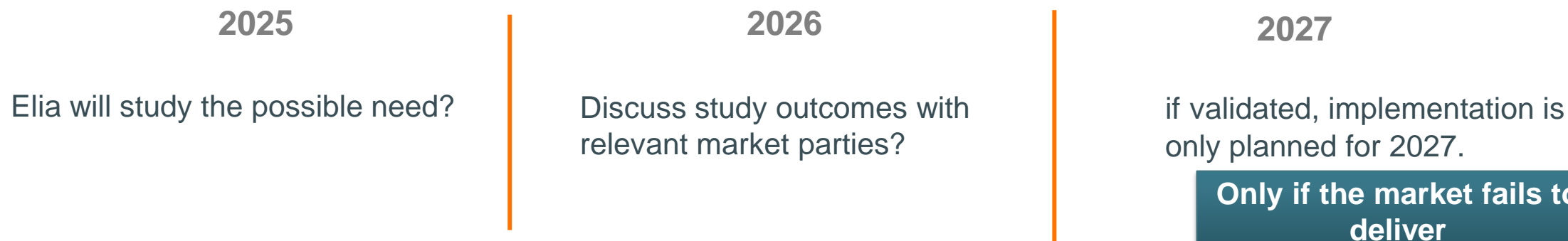
Explicit – mitigation measures
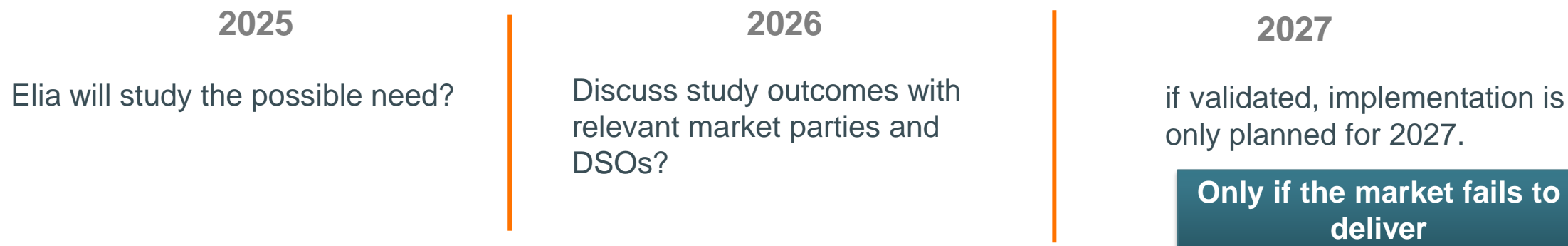
Downward FRR and bidding obligation
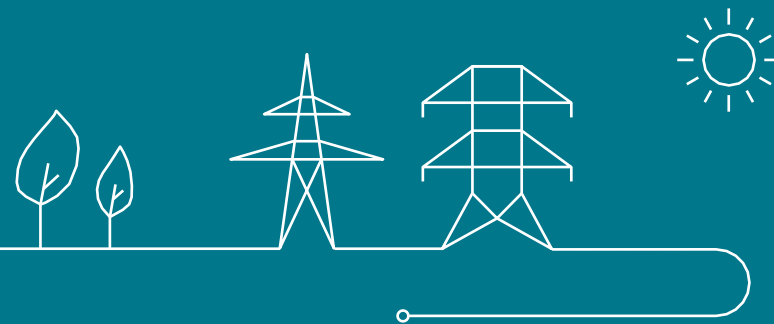
Possible Downward procurement FRR

- **Study**: Assess need for ELIA to procure additional downward frequency restoration reserve with manual activation.

- **Study focus**:

  o Short-term benefits and downsides of downward procurement.

  o Additional market volume from downward procurement.

  o Mid- and long-term impacts and benefits.

  o Business cases for existing and new units.

  o Expected balancing costs and sensitivity to procurement granularities.

  o Mechanism design and impact on regulated documents.

- **Timeline:**

2025	**2026**	**2027**
Elia will study the possible need?	Discuss study outcomes with relevant market parties?	if validated, implementation is only planned for 2027.

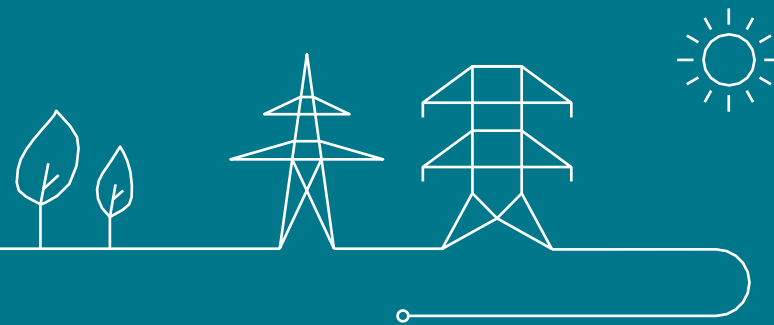**Only if the market fails to deliver**

Analysis Bidding obligation 1MW

- **Study:** Determine the necessity and feasibility of extending the bidding obligation to assets of 1MW and more.

- **Study focus:**

  - Market benefits & downside: Short-term and long-term effects.

  - Additional flexibility: Volume from smaller units located at HV and MV (1MW to 25MW).

  - Economic feasibility: Business case for existing and new unit participation.

  - Operational impact: costs and complexity for grid users and BSPs.

  - Regulatory considerations: Changes required in regulated documents.

- **Timeline:**

2025	**2026**	**2027**
Elia will study the possible need?	Discuss study outcomes with relevant market parties and DSOs?	if validated, implementation is only planned for 2027.

Only if the market fails to deliver

Technical measure

Lack of alignment among regulators on the formalization of the technical measures

Competence	Request per regulator			
	CREG Letter CREG 17/10/2024	**VREG** Decision VREG SOK Letter VREG – Fluvius (31/10/2024)	**BRUGEL** Decision BRUGEL SOK	**CWaPE**
① LFC BOA **To approve:** CREG	• Should provide further details on the **technical measures** in accordance with EU legislation • Should include description of a cost-based compensation to DSOs.	–	–	–
② T&C BRP **To approve:** CREG & VREG	• Must include formalization of the BRP perimeter correction	–	–	–
③ SOK **To approve:** CREG, VREG & BRUGEL **To inform:** CWaPE	• Formalise coordination and communication process between network operators in case of technical modulation	VREG requests the inclusion of the following elements linked with incompressibility in the SOK: • Context & legal framework • Activation principles • Framework agreement regarding the grid user compensation – according to the terms specified in the Energy Decree (~ technical flexibility), including calculation, payment and settlement between network operators • Reporting obligations • Liability arrangements	• BRUGEL urges SYNERGRID to revise the SOK with regulators' feedback for harmonized Belgian regulations • The SOK must include procedures for technical intervention in decentralized production during balance risks, used only as a last resort.	**NO FORMAL REQUEST BUT NEED FOR TRANSPARENCY**

Modifications in the LFC BOA as requested by the CREG

1. **Formalize the possibility to curtail PV, wind and cogenerations in the TSO and DSOs grid**

2. **Detail the activation criteria**

3. **Detail the target allocation of curtailed volumes among DSOs**

4. **Define the reporting to be done in case of technical measures activations**

5. **Describe how Elia will compensate the DSOs for their related cost**

Consultation to be launched in December.
Details will be shared during the next WG Eenrgy Solutions

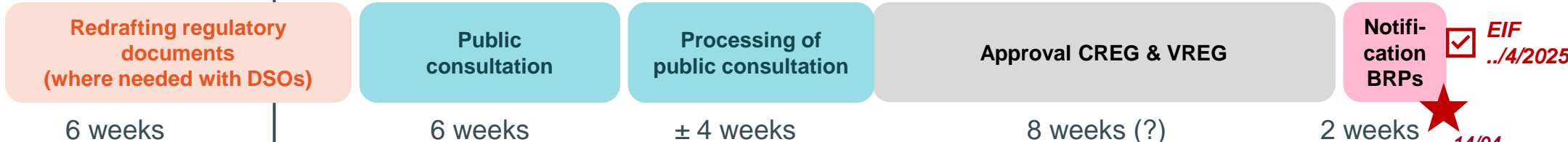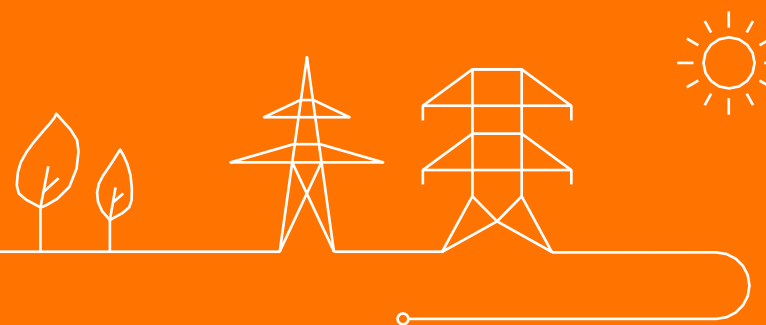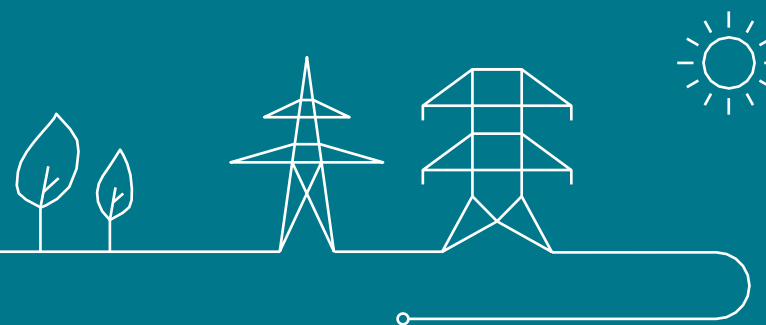# Potential timeline related to the formalization on technical measures

Feedback from the market parties on the public consultation of availability testing in the market
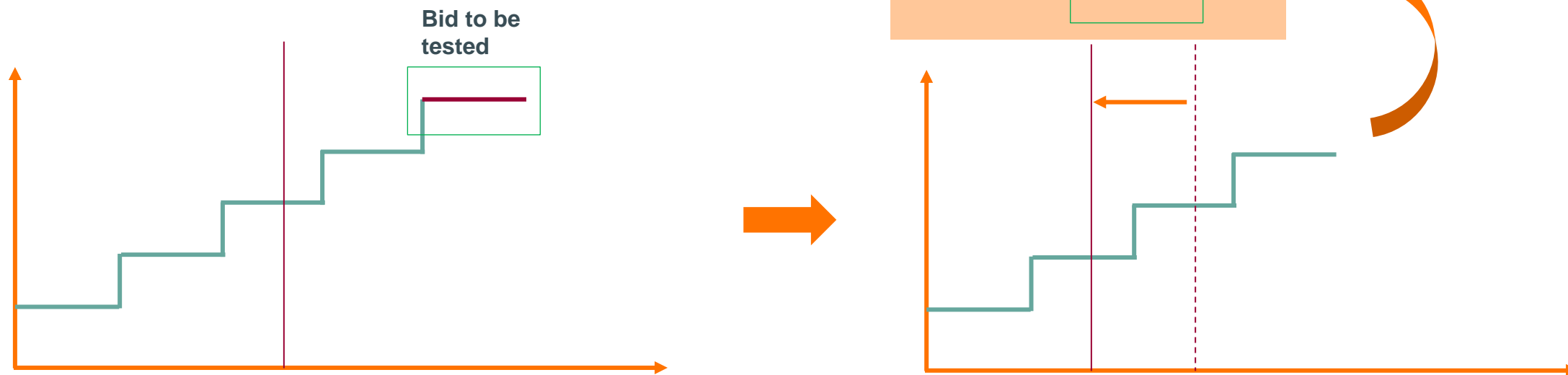
Carsten Bakker

Summary

Price setting of the bid to be tested (option 0)

Example

The bid to be tested is taken out of the merit order and activated out of market. The total imbalance is changed based on this activation (in this example reducing the imbalance).
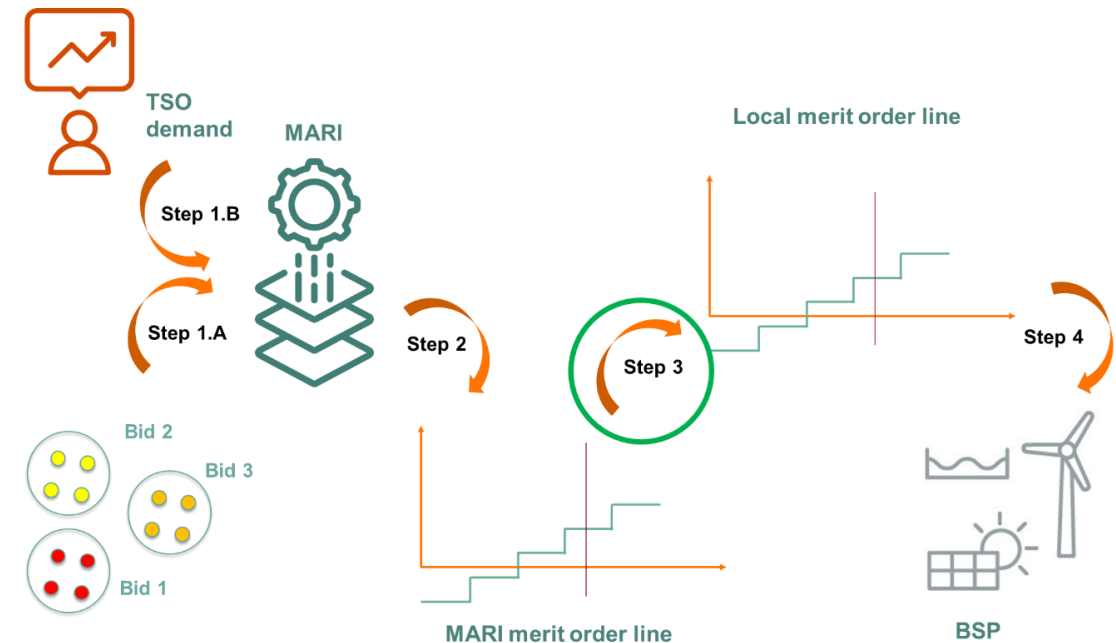
Availability testing in the market : Integration in the MARI merit order (option 1)

Instead of activating a bid for an availability test and then compensating the volume with an aFRR/mFRR activation (if needed), we **move the position of the to be tested bid towards the beginning of the merit order** (and thus modifying the price of the bid). This way the bid remains in the market, but at a different price. In case the bid is activated for an availability test, it is remunerated at the CBMP.
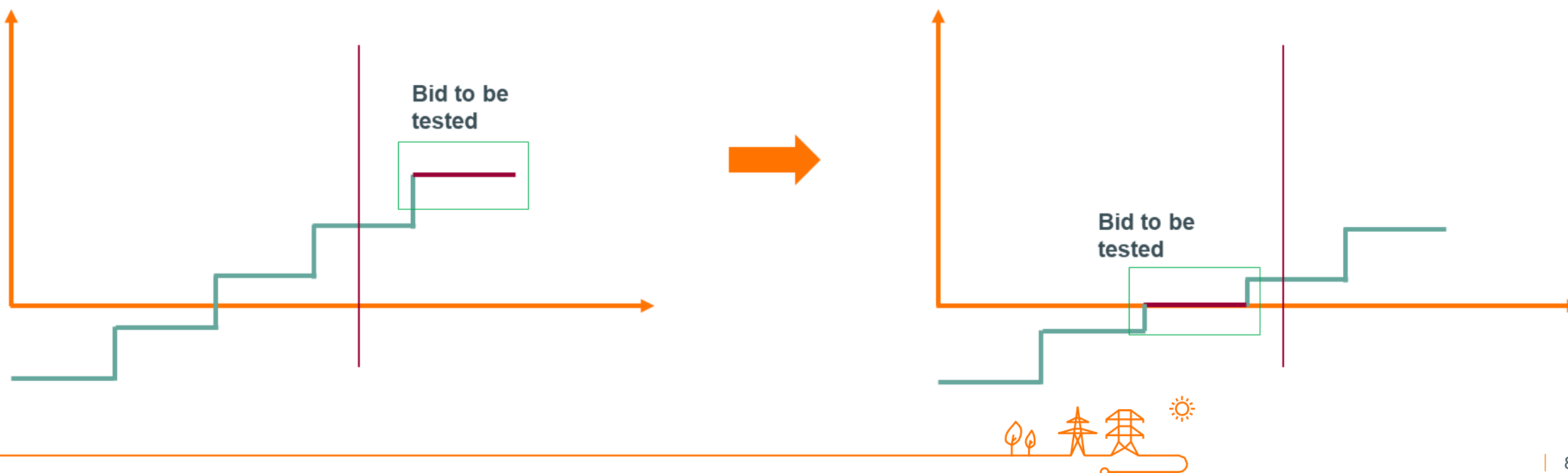
Availability testing in the market : Integration in the local merit order (option 2)

The way to achieve it slightly differs in comparison with the first option. Instead of changing the position of the bid before sending the information towards the Mari platform, Elia would **integrate the bid in the local merit order**. This avoids the issue with the current legal framework to allow for Elia to modify the price of a bid, but introduces new legal challenges. In addition, additional operational actions need to be performed in a very short timeframe which leads to a complex implementation.

TSO demand

MARI

Step 1.B

Step 1.A

Bid 2

Bid 3

Bid 1

Step 2

Step 3

Local merit order line

Step 4

MARI merit order line

BSP

Availability testing in the market : Modifying TSO demand (option 3)

In this option Elia would perform a netting between the TSO demand and the bid on which Elia would like to perform an availability test. If this netting is not possible, the test will be cancelled.
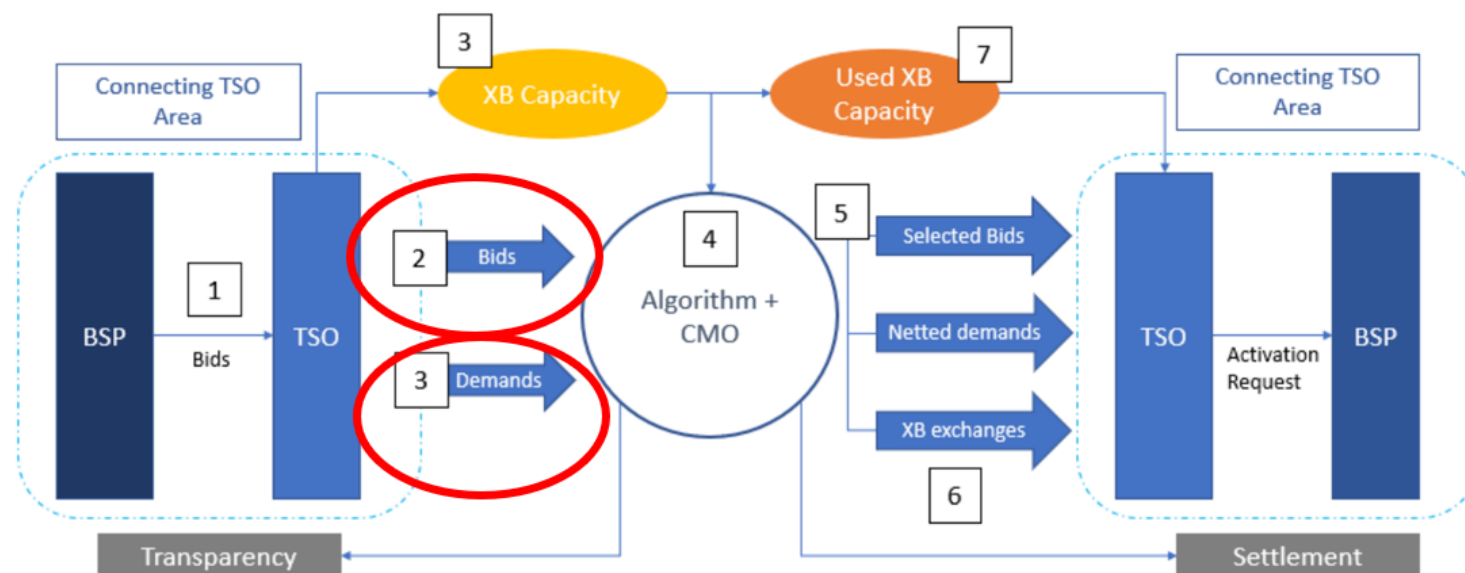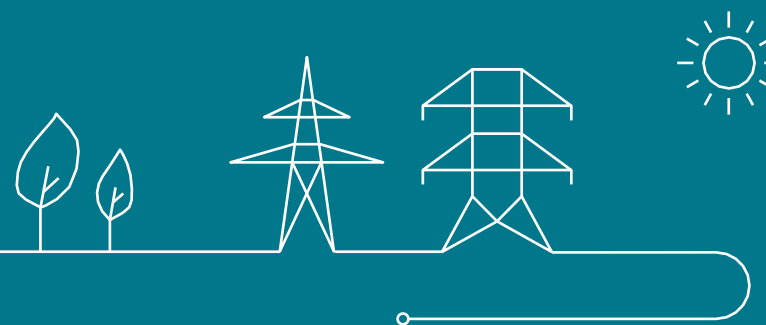

Figure 9:Area of modification to the MARI process in option 3

Conclusion

Conclusion

1. Doing availability tests in the market has some advantages in comparison to doing availability testing out of the market

    1. BSPs can be remunerated at CBMP

    2. The imbalance can only decrease when executing an availability test

2. There is the downside that the execution of an availability test is not always feasible.

3. **However,** depending on the implementation there are additional downside(s):

    1. Operational implementation is difficult

    2. Legal framework needs to be modified

	Ease of implementation	Current legal framework	Brings desired improvements	Price setting of the bid
Option 0	++	++	--	/
Option 1	++	--	++	+
Option 2	--	+	++	++
Option 3	++	++	-	+

Feedback market parties
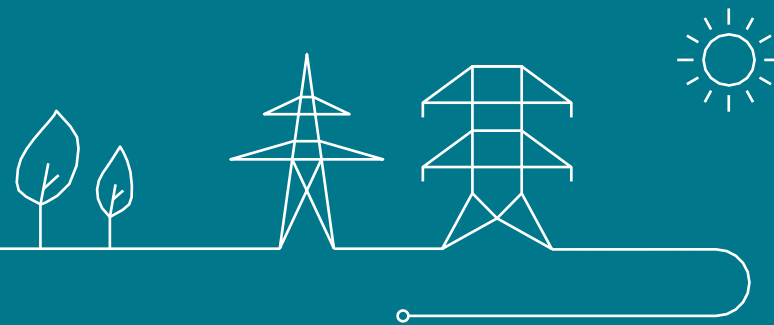
Availability testing in the market : Feedback Febeliec

1. Febeliec mentions that it is hesitant about introducing a remuneration for availability testing in order to avoid increased costs for the Grid Users. However, they are in favor of reducing the impact on the system imbalance.

   RESPONSE ELIA: The costs would not increase in all of the options because the availability test replaces an mFRR activation. So, there is a shift in remuneration but no increased costs.

2. The proposals from Elia seem optimized towards the BSPs, but not towards the reduction of the system costs. This additional element should be analysed before implementation.

   RESPONSE ELIA: See previous comment.

Availability testing in the market : Feedback FEBEG

1. FEBEG appreciates the efforts from Elia, since the introduction of these costs into the capacity bids is complex.

   RESPONSE ELIA: Elia thanks FEBEG for its feedback.

2. FEBEG believes that Elia can anticipate the evolution of the system imbalance and thus can trigger an availability test when this does not aggravate the system imbalance.

   RESPONSE ELIA: Elia has indeed some capabilities to anticipate the evolution of the system imbalance. However, there is a process behind the selection of the availability tests that takes more time and Elia has no view on the system imbalance at that time. In addition, this could reduce the unpredictability of availability tests

3. Problems with Option 1:

   1. There is still a difference between the CBMP and the bid price. This still needs to be taken into account in the capacity bids.

      RESPONSE ELIA: This gap is indeed still present. However, remunerating the full bid price is not the goal, since this will lead to unwanted incentives.

   2. FEBEG has reservations on modifying bid prices .

      RESPONSE ELIA: In case this option would be chosen, a clear framework would be introduced. This would only be allowable for the execution of availability tests.

Availability testing in the market : Feedback FEBEG

4. Problems with Option 2:

    1. Creation of paradoxically rejected bids

        RESPONSE ELIA: Elia agrees with this point.

    2. The activation of bids not present in the MARI merit order would lead to additional unclarities for the BSP.

        RESPONSE ELIA: Elia indeed considers that this could be detrimental for the transparency in the market which creates additional questions for the BSP.

5. FEBEG proposes option 0 with slight modifications:

    1. Availability testing outside of MARI but with a remuneration equal to the energy bid price
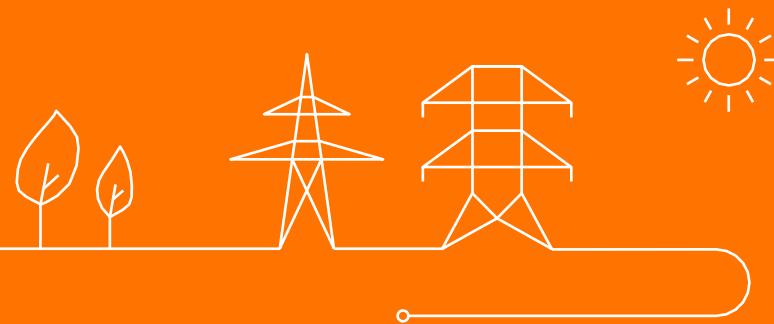
        RESPONSE ELIA: There are 2 issues with this proposition:

        1. Remuneration at bid price creates an incentive to put high bid prices to receive this remuneration when an availability test is executed (unwanted incentive).

        2. A netting with the TSO demand would need to be performed to be able to activate the bid. This leads to inefficiencies when the overall TSO demand is in the other direction.

AOB – Next WG Balancing

Thomas Van der Vorst

Next WG Energy Solutions

- **Dates for 2024:**

  - WG Balancing 07/02/2024 09:00 – 13:00

  - WG Balancing 02/04/2024 09:00 – 13:00

  - WG Balancing 21/05/2024 09:00 – 13:00

  - WG Balancing 28/06/2024 13:30 – 17:30

  - WG Energy Solutions 30/09/2024 09:00 – 17:00

  - WG Energy Solutions 26/11/2024 09:00 – 17:00

  - WG Energy Solutions 16/12/2024 09:00 – 17:00

2025 WG Energy Solutions

- **Dates for 2025 confirmed:**

  - Thursday 06/02/2025 09:00 – 17:00

  - Friday 04/04/2025 09:00 – 17:00

  - Thursday 19/06/2025 09:00 – 17:00

  - Thursday 25/09/2025 09:00 – 17:00

  - Thursday 13/11/2025 09:00 – 17:00

  - Thursday 18/12/2025 09:00 – 17:00