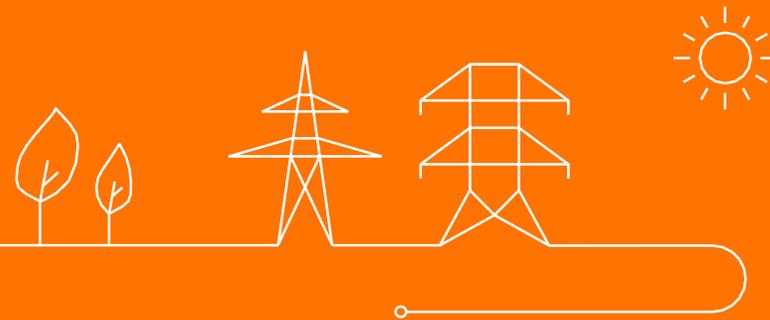


Users' Group

Plenary meeting of the Elia Users' Group

Tuesday, December 19



Agenda

1. Approval of reports 07/03 and 13/09
2. Results Stakeholder Survey
3. The Power of Flex
4. Needs for flexibility participation in market

Proposals for recommendation:

- * Flex readiness E-assets
- * Submetering requirements for flexibility

5. Elia Memorandum
6. Feedback working groups + planning 2024
 - 6.1. WG EMD-SO (incl. TF PEZ)
 - 6.2. WG CCMD
 - 6.3. WG Belgian Grid
 - 6.2. WG Balancing
 - 6.3. WG Adequacy
7. Miscellaneous



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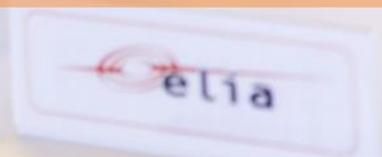
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7. Miscellaneous





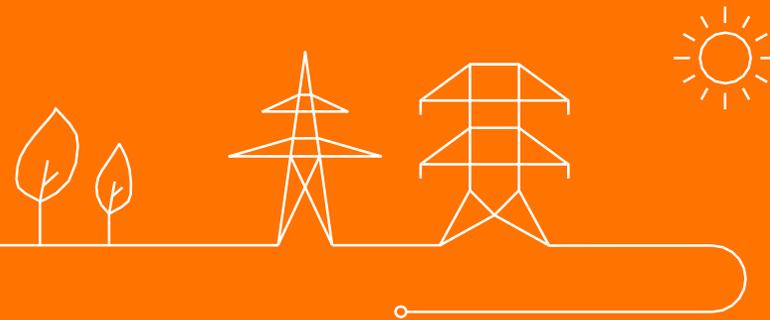
Results Stakeholder Survey 2023



Agenda

1. Research set up
2. Results
3. Action Plan

Research set up



Objectives & research design

Objectives

Every 2 years Elia measures the **customer satisfaction** level among its **key stakeholders**.

In **2023**, a similar **customer satisfaction** survey is carried out specifically regarding **the operation of the Elia Users' Group**, measuring the opinions of the **members** of the **plenary meeting**, the various **working groups** and the **task forces** within the Elia Users' Group.

The findings of this survey should allow Elia to **optimise** the way the Elia Users' Group operates.

Target group

- The survey targetted **members** of the **plenary meeting**, the various **working groups** and the **task forces** within the Elia Users' Group.
- Elia provided a **database** with **540** contact persons.

Methodology

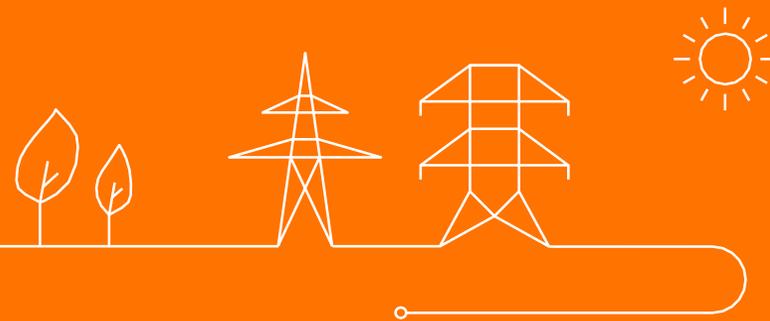
- **Online** survey from 18 to 29 september 2023.
- Elia sent an announcement e-mail to all members to introduce the survey and to motivate them to participate.
- Members received an email invitation with secure link to the online questionnaire on 18 september and a reminder on 25 september.
- Filling in the questionnaire took on average 4 min.

Sample

- **33** members completed the online questionnaire. (response rate = 6%)

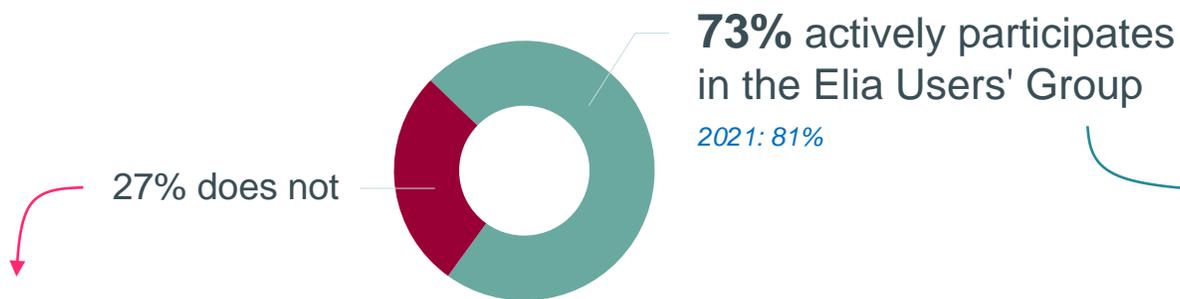


Results



Participation in the Elia Users' Group

73% of the contacts that took part in the survey confirm they actively participate in the Elia Users' Group. 38% of these participate in the plenary meeting, 95% are member of at least 1 working group or task force.



Why not ? (n=9)

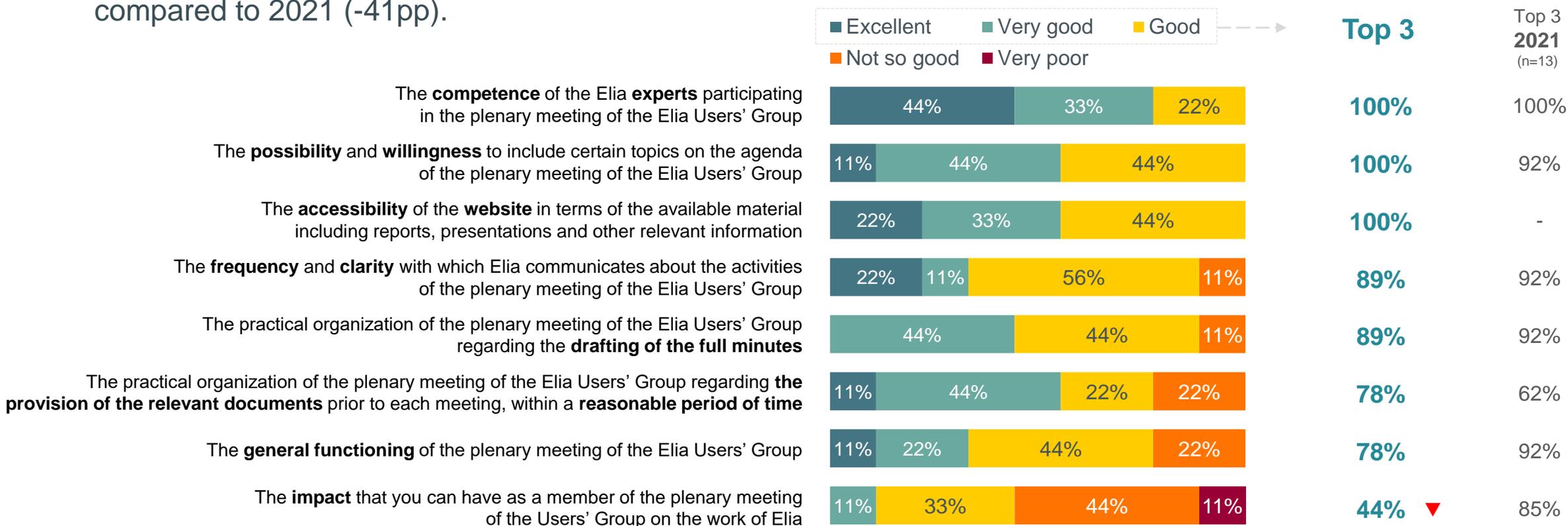
- "Tijdsgebrek"
- "geen tijd"
- "I don't join the meetings, but read the content in depth afterwards. * I don't join because the meetings are long and not all topics are always of interest to me. * I do join when topics are particularly interesting. I would join more often if the agenda and content were shared earlier."
- "Geen rechtstreekse link met mijn functie"
- "De onderwerpen sluiten niet goed aan bij mijn interesses en kennis."
- "Collega's nemen deel, ik volg in de achtergrond."
- "Collega neemt deel. Vaak te technisch."
- "I have colleagues participating in the meetings instead of me."
- "Ik volg AF werkgroep (ik lees de slides). Ik heb te veel portefeuilles en vergaderingen en moet keuzes maken."

Which meetings, work groups of task forces? (n=24)



Plenary meeting - Evaluation

Overall, members are satisfied with of the plenary meeting, with around 80% or more of the members rating most aspects as good to excellent (top 3). It is clear however that members feel that the impact that they have on the work of Elia is limited. Only 44% of the members rate this aspect as good or very good, a significant drop compared to 2021 (-41pp).

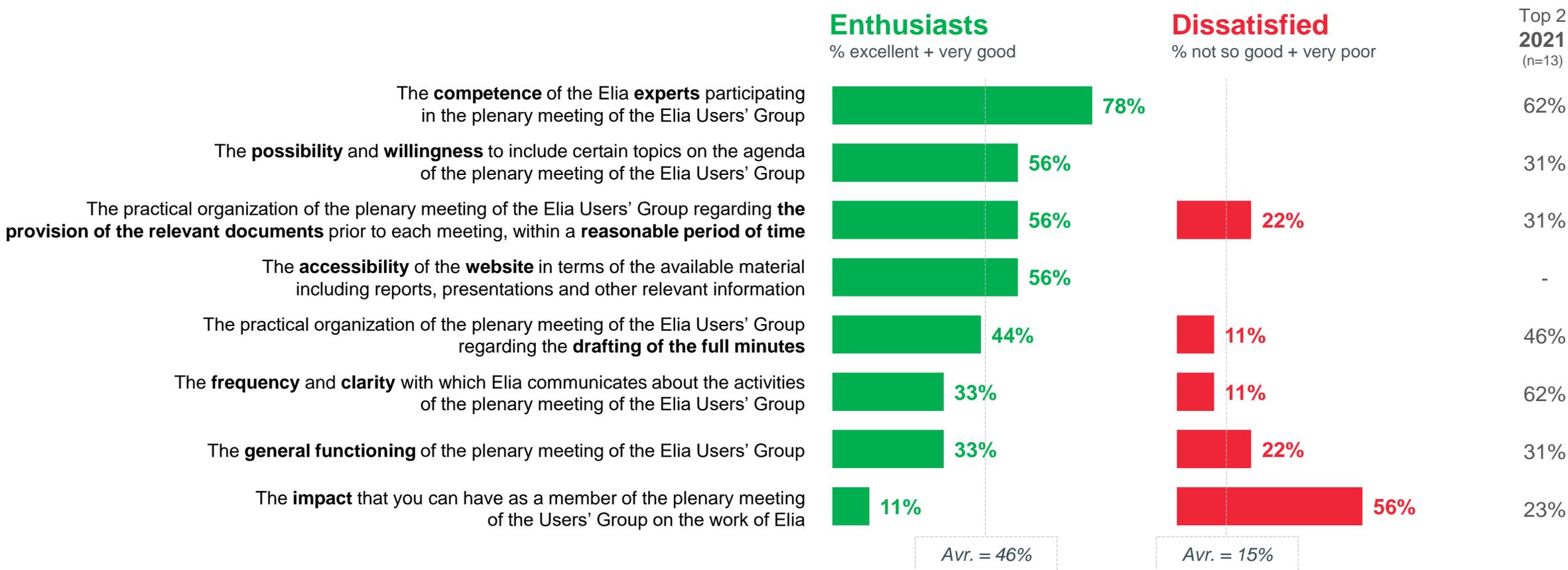


Q.2.1. How do you evaluate...?

Base: Members of the plenary meeting (n=9)

Plenary meeting - Enthusiasts vs. dissatisfied

Members are most enthusiastic about the competence of the Elia experts, the possibility and willingness to include certain topics on the agenda and the accessibility of the website. They are however clearly dissatisfied with the impact that they can have as a member on the work of Elia.

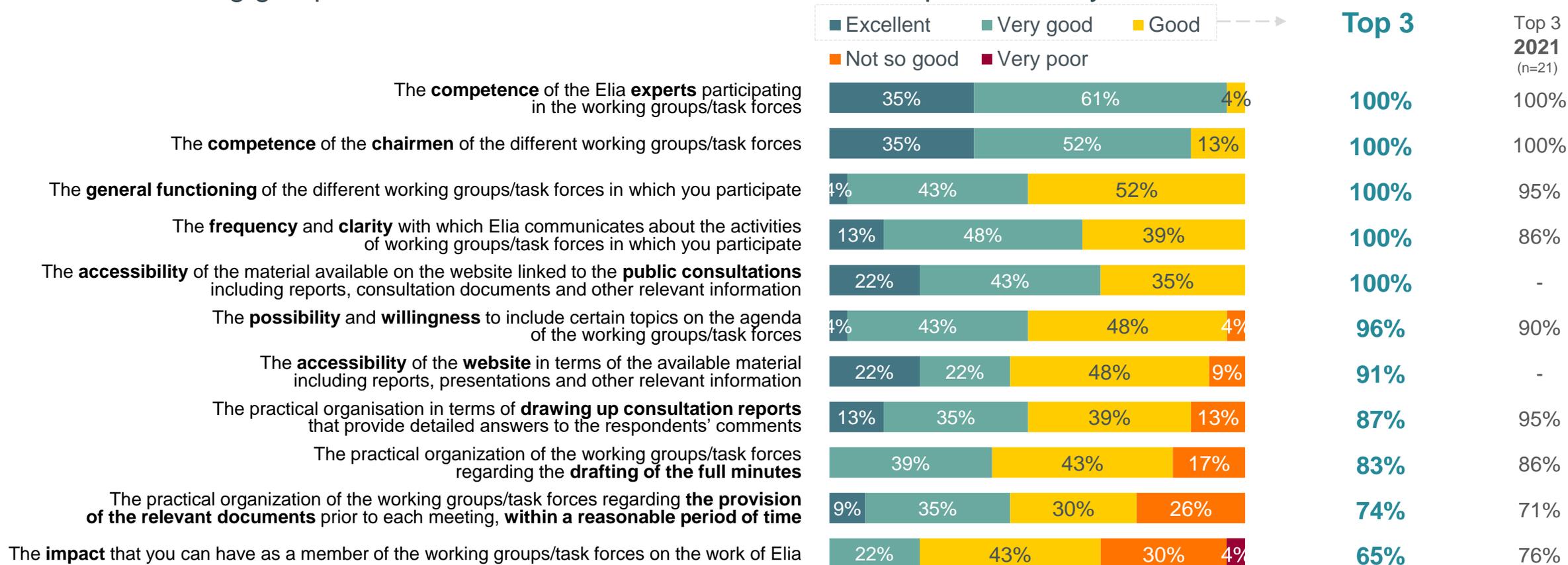


Q.2.1. How do you evaluate...?

Base: Members of the plenary meeting (n=9)

Working groups & Task forces - Evaluation

With almost all aspects being evaluated as good to excellent by 8 in 10 members or more, members are overall also satisfied with the working group or task force they participate in. As with the plenary meeting, members of the working groups or task forces are most critical about the impact that they can have on the work of Elia.

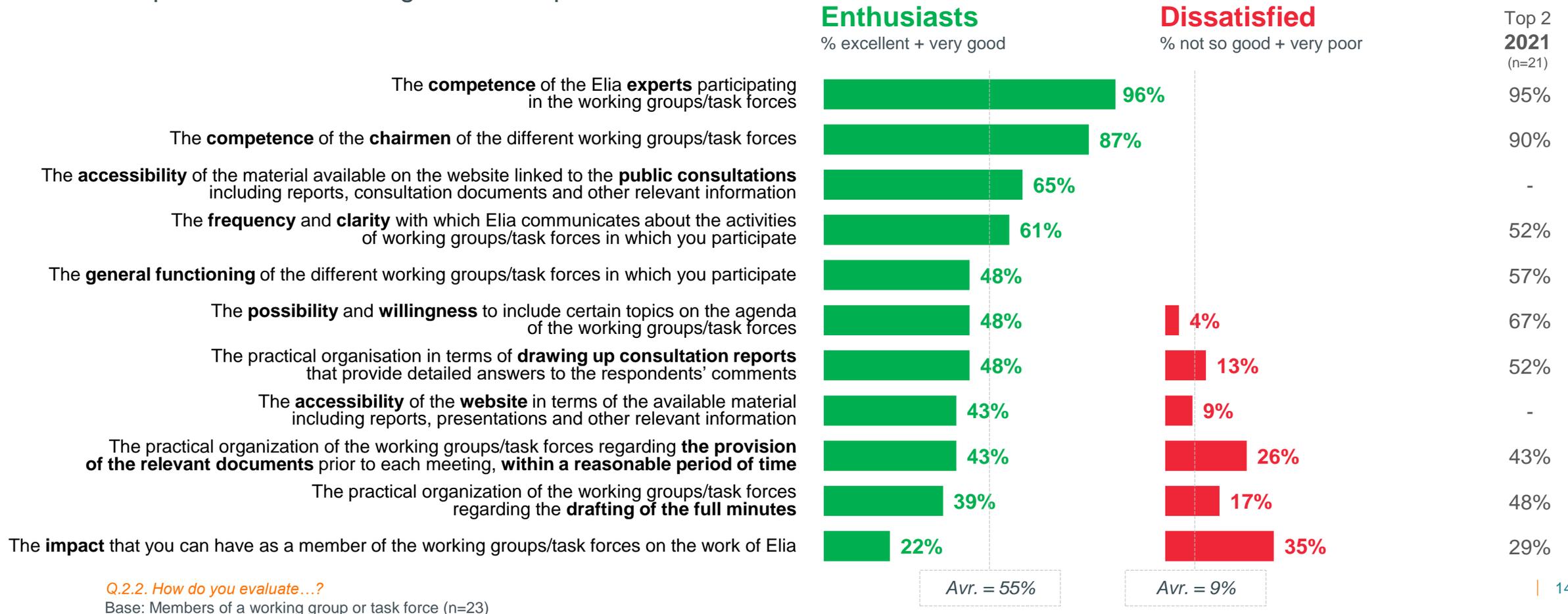


Q.2.2. How do you evaluate...?

Base: Members of a working group or task force (n=23)

Working groups & Task forces - Enthusiasts vs. dissatisfied

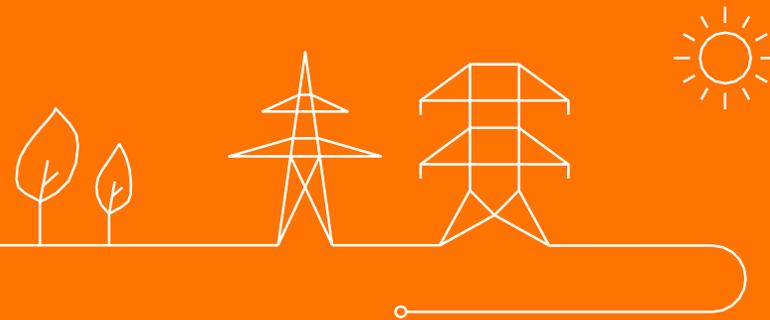
The competence of the Elia experts and the chairmen are rated very highly and also the accessibility of the material available on the website linked to the public consultations and the frequency and clarity with which Elia communicates about the activities are strengths. There's some dissatisfaction about providing documents within a reasonable period of time prior to each meeting and the impact members can have on the work of Elia.



Q.2.2. How do you evaluate...?

Base: Members of a working group or task force (n=23)

Action Plan



Actions to respond to suggestions for improvement

1. Establishment of The Horizontal Electricity System Think Tank

- ⇒ *More time for debate in the Plenary Meeting*
- ⇒ *Focus on long-term events*
- ⇒ *Separate the very technical issues (Working Group related) and the more high level topics*

2. We not longer come with finished products

- ⇒ *Members are involved in the process upfront*
- ⇒ *Always possibility of bilateral consultation*
- ⇒ *Faster ad hoc workshops (incentives, blue print, ...)*

3. Closer follow up of agenda, slides and meeting notes

- ⇒ *Agenda: D -2W, slides: D – 1*
- ⇒ *Meeting notes: D + 4W*

4. End of the year e-mail with overview Working Groups & Task Forces workplan 2024

- ⇒ *This will give the members an overview of all the available Working Groups and Task Forces*
- ⇒ *This will allow them to decide which Working Groups and Task Forces may be of interest to them*
- ⇒ usersgroup@elia.be



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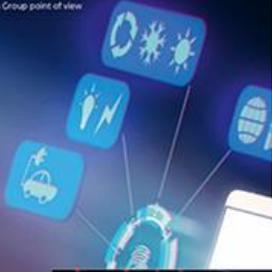
THE POWER OF FLEX

Enabling consumers to benefit
from the energy transition

2018

TOWARDS A CONSUMER-CENTRIC SYSTEM

UNLOCKING NEW ENERGY SERVICES FOR CONSUMERS THANKS TO A REAL-TIME COMMUNICATION LAYER, AN UPGRADED MARKET DESIGN AND NEW DIGITAL TOOLS
An Eia Group point of view



Accelerating to net-zero: redefining energy and mobility

ALIGNING EV DRIVER COMFORT WITH THE NEEDS OF THE POWER SYSTEM IN A NEW ENERGY VALUE CHAIN

2020

2021



TOWARDS A CONSUMER-CENTRIC AND SUSTAINABLE ELECTRICITY SYSTEM

A white paper on a consumer-centric market to unleash competition behind the

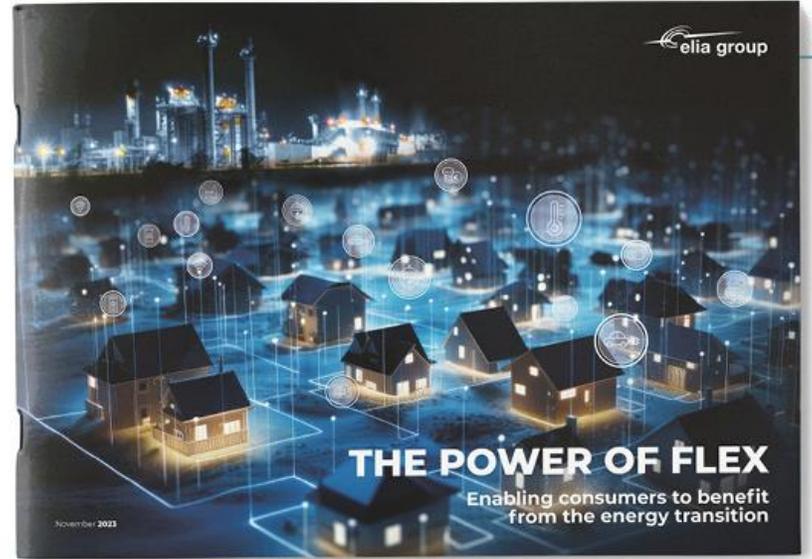
2022



POWERING INDUSTRY TOWARDS NET ZERO

Our vision on anchoring industry in Europe

2023



THE POWER OF FLEX

Enabling consumers to benefit from the energy transition

November 2023

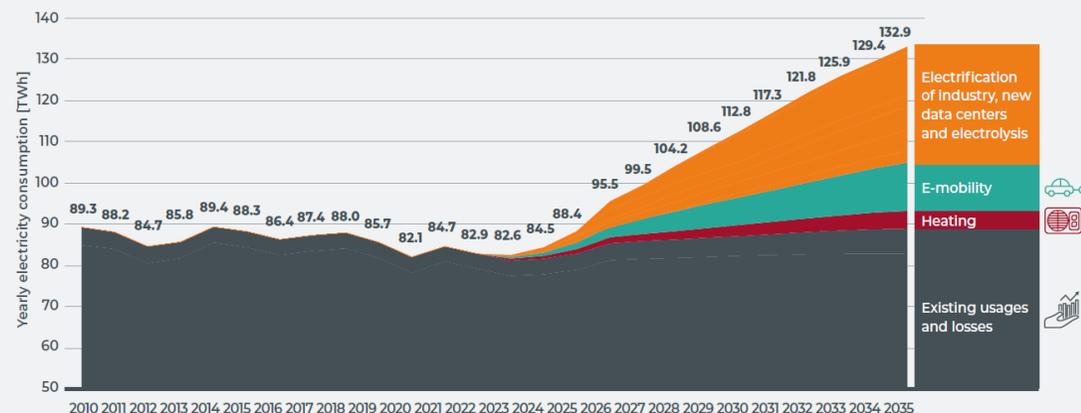
INTRODUCTION

Flexible consumption both benefits consumers and has a positive impact on the electricity system.

The increasing electrification in industry, mobility and heating carries important implications for the electricity system. To prevent the inefficient management of the system, **unlocking consumer-side flexibility is essential.**

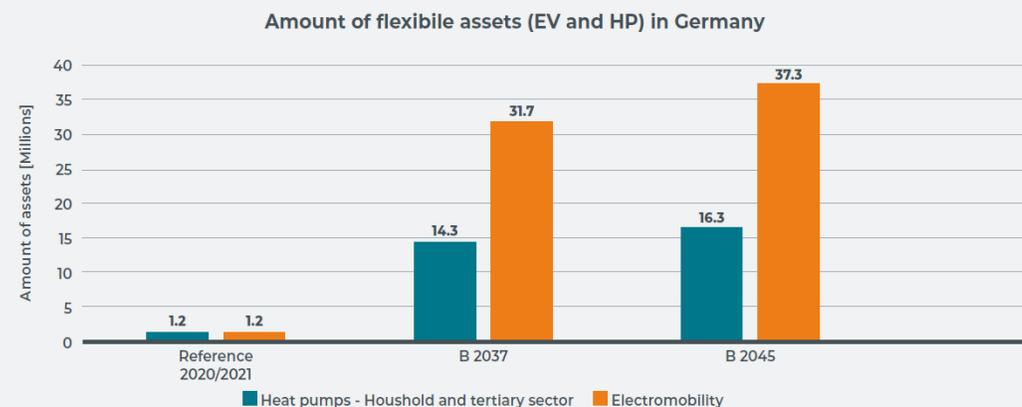
Residential and industrial customers who own electrical devices will be able to **avoid expensive price peaks by consuming energy at times** when green electricity is more abundant.

Figure 1: Changes in Belgium's electricity consumption between 2010 and 2035 (historical and estimated values)



Electrolysers and power-to-heat are an output of the economic dispatch model
Source: Elia (2023), 'Adequacy and Flexibility Study for Belgium (2024-2034)'

Figure 2: Expected evolution of decentralised flexible assets (EV and PV) in Germany (under scenario B)



Source: Germany's 2023 Network Development Plan (or 'Netzentwicklungsplan Strom 2037 mit Ausblick 2045')

It is therefore becoming urgent to focus on the barriers that are hindering the implementation of consumer-side flexibility and find solutions to resolve these barriers.

HOW DID WE CONDUCT OUR STUDY?

1 Stakeholder interviews (ESPs, suppliers, OEMs, associations, industrials, endconsumers...)

What are the barriers for unlocking end consumer flexibility today?



2 Student challenge in BE and DE

ACCESSING FRESH PERSPECTIVES ON THE TOPIC - STUDENT CHALLENGES

In order to access new perspectives relating to the topic of flexibility and barriers to unlocking it, Elia Group decided to involve university students in the preparation of this study. Elia and 50Hertz organised two 10-week challenges for university students in Belgium and Germany. 23 engineering students from the University of Leuven, Université Libre de Bruxelles and University of Ghent and 20 Master's students from the Technical University of Berlin and the Berlin School of Economics and Law took part in our challenges. They were tasked with creating a fictional start-up focused on unlocking flexibility from across the energy system. Whilst they were motivated to challenge the status quo and create value for society, the students had little background knowledge about energy markets and flexibility – which was valuable. Two winning teams were selected at the end of the challenges in Belgium and Germany.



Prof. Dr. Kai Strunk, Professor, TU Berlin



Prof. Dr. Wojciech Szilber, Professor, IWB Berlin

Our students are highly motivated to engage with the urgently needed real-world changes. Along with their knowledge of the fundamentals gained through their university course work, this challenge has helped them to design innovative and sustainable energy management solutions that consider both consumer preferences and system security.

Thanks to the cooperation with 50Hertz and Elia Group, our master's students had the opportunity to work on practice-relevant projects and were able to demonstrate their creativity and professional skills.

LUNIVERSE

LUNIVERSE was crowned as the winning idea at the end of the challenge held in Germany. A student team from the Technical University of Berlin designed it as an all-in-one app solution that tackles the issue of consumer-oriented flexibility. The app optimises households' energy use by integrating smart home devices from different manufacturers into one user-friendly app, offering customers an all-in-one energy management system. Through LUNIVERSE, customers are able to easily control and manage their household devices and optimise their electricity bills without any loss of comfort; users are even able to easily switch in between electricity suppliers.

In designing LUNIVERSE, the students realised that even if some suppliers offer dynamic contracts to consumers, their adoption rate is quite low. This is due to a lack of transparency regarding energy prices and therefore a lack of incentives. Consumers, the team concluded, have trouble using different smart home devices together as part of one approach to energy management.

Figure 19: 50Hertz CEO Stefan Kapferer and the students who took part in the challenge in Germany



CoAmp

CoAmp was crowned as the winning idea at the end of the challenge held in Belgium. Students from KU Leuven designed the solution after exploring the need to keep the grid in balance through the lens of the employer/employee relationship. Employers are having to increasingly focus on corporate sustainability reporting, both internal and external stakeholders are more and more interested in working for employers that match their environmental values. Additionally, employees, as many households, have been impacted by the energy crisis and are worrying about rising electricity bills. Many employees may well be exploring whether to invest in new assets or renovate those they already have (such as EVs, heat pumps or solar panels), meaning they are potentially facing expensive investments. Neither employers nor employees use their renewable energy resources as much as they could, since many employees are likely to be at work when their solar panels are producing electricity, whilst many employers don't make use of their offices or sites on (potentially) sunny weekends.

CoAmp provides industrial companies with a solution that aims to empower their employees to monetise their flexibility. The collaborative energy programme facilitates employee-to-employer energy trading, fosters employee engagement through gamified energy management, and enhances employee benefit packages, making behind-the-meter energy assets more accessible and affordable. CoAmp aims to bridge the gap between industrial and residential demand side aggregation by building a relationship between employers and employees to accelerate the energy transition.



At the University of Leuven, students that complete our Master of Engineering: Energy degree gain a deep understanding of the electrical, mechanical and techno-economic aspects of energy systems. Some of our more entrepreneurial students complemented their studies this year by accepting Elia's challenge and participated in its flexibility start-up competition, and they were enthusiastic about the journey they went on. They were very proud to be able to present their results to the whole of Elia Group in Berlin as well!

Prof. Dr. Geert Desmet, Professor, KU Leuven

Figure 20: Elia's deputy CEO, Frédéric Danoon, awards the CoAmp team with its prize



KEY MESSAGES



A plug-and-play approach to flexibility is essential for reaping its full benefits



The biggest impacts will be achieved when the benefits of flexible behaviour are maximally transferred to consumers



Real-time price signals, seamless data access and flex-ready devices are key levers for eliminating barriers to consumer-side flexibility

Barriers that are preventing consumer-side flexibility from taking off



A lack of digital infrastructure

- Gradual rollout of smart meters
- Market communication processes are complex in different countries
- Data access from smart meters and behind-the-meter devices is complicated
- Lack of standardisation and interoperability



Valorisation is non-existent

- Limited availability of competitive time-based energy price contracts
- Conflicting price signals limit the impact on the consumers' bill
- High entry requirements exist for new suppliers and BRPs slowing down competitive services
- Flexibility-inhibiting regulation in place



Consumers are not engaged enough to participate

- Residential consumers remain conservative when it comes to energy
- Residential consumers are concerned about their comfort and privacy due to a lack of trust
- Steering services are currently only suited for a niche audience
- Companies are often unaware of the value of flexibility and thus do not integrate it in their roadmaps

Message **1**

A plug-and-play approach to flexibility is essential for reaping its full benefits

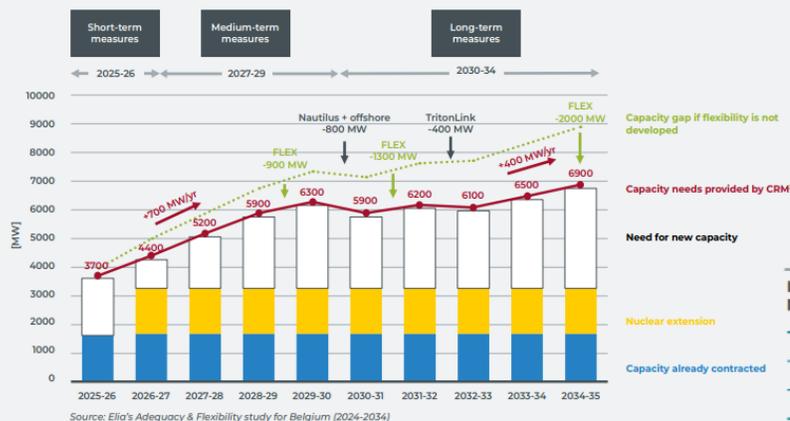
Flexibility will increasingly be provided by end consumers

The nature of flexibility is changing. Consumer-side flexibility will involve millions of smaller and dispersed assets like electric vehicles (EVs) and heat pumps. This micro-flexibility will therefore be of a very different nature than traditional forms of flexibility.

The spread of electrification in Belgium and Germany is ramping up at a faster speed and earlier than forecasted. Its implementation is gaining momentum in three key sectors: mobility, heating and industry.

Consumer-side flexibility will significantly outdo the scale of current flexibility means

Figure 3: Impact of unlocking flexibility & the timely build-out of additional HVDC interconnectors on the capacity GAP in Belgium



Source: Elia's Adequacy & Flexibility study for Belgium (2024-2034)



In Belgium, unlocking flexibility will reduce the need for additional capacity by 2,000 MW by 2034

Figure 4: Share of market-oriented flexible assets in private households in Germany

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

Source: German Network Development Plan (2023)²



In Germany, to successfully integrate 1,000 TWh of RES into the system by 2037, 50-100% of the households are expected to operate their EV's and heat pumps in a market-oriented way

Message **2**

The biggest impacts will be achieved when the benefits of flexible behaviour are maximally transferred to consumers

The impact of consumer-side flexibility will be most significant when consumers are able to maximally benefit from it. Intermediaries offering energy services to consumers will still be able to make a profit.

The bigger the benefits for consumers, the greater their level of participation will be and the more efficient the system will become.

CASE STUDY! WHAT FINANCIAL VALUE DOES YOUR EV HOLD?

Figure 15: Case Study: Savings of smart charging via a dynamic contract, compared with normal charging via a flat rate contract, based on market conditions in 2023, see annex A

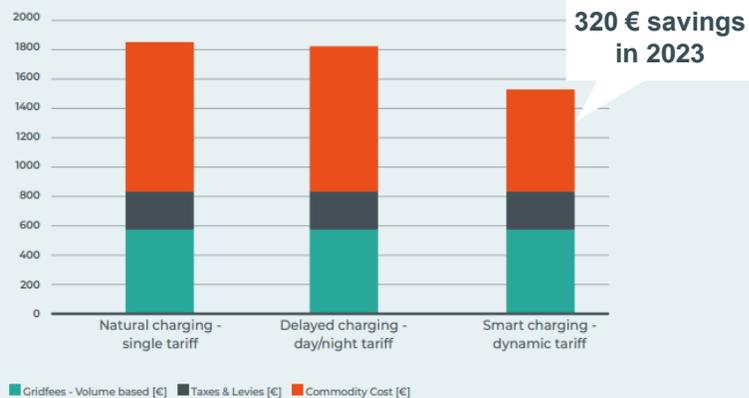
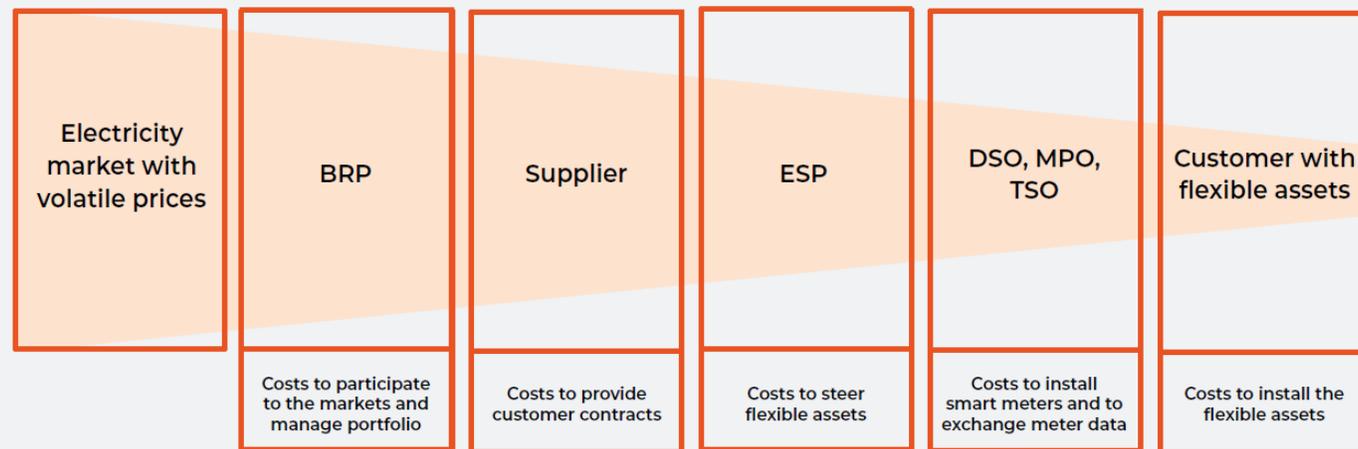


Figure 5: Decrease in financial benefits for end consumers along the value chain



> However, the value of consumer-side flexibility is blocked along the value chain due to many existing barriers

Message **3**

Real-time price signals, seamless data access and flex-ready devices are key levers for eliminating barriers to consumer-side flexibility

1 Providing consumers with access to financial incentives

- Increase efficiency of the smart meter roll out
- Set up awareness campaigns about smart meters
- Empower and educate end-consumers
- Offer and actively promote time-based electricity contracts
- Commonly evaluate and implement dynamic grid tariffs
- Shape together a consumer-centric market design



2 Enabling seamless data access for energy service providers

- Implement existing EU regulations concerning data access, sharing and management
- Build a common European energy data space
- Derogation or update of metering requirement legislation for embedded meters



3 Introducing flex-ready devices to provide flexibility in the easiest way possible

- Create a European-wide “flex-readiness” label
- Develop standards incorporating provision of flexibility
- In Germany, provide clarity on the SMGW steering obligations

Elia Group is working on a Consumer-Centric Market Design

LIMIT EXPOSURE

Multiple BRP (TSO) / Supply Split (DSO)

- ▶ Give possibility to split flexible and non-flexible load
- ▶ Increase competition for energy services behind the meter

GIVE CONFIDENCE

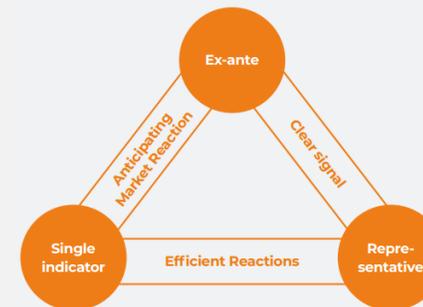
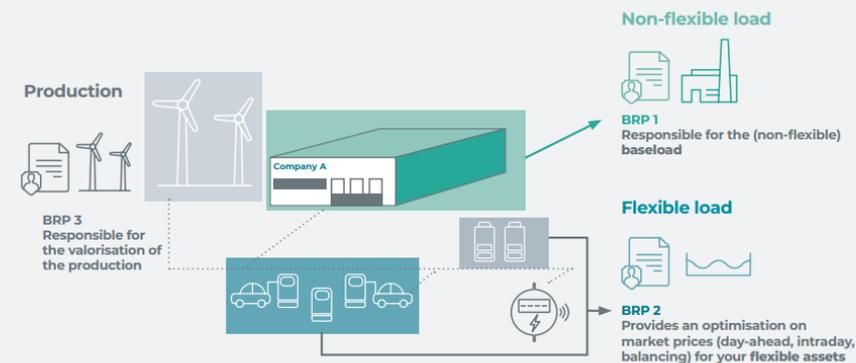
Real-Time Price (RTP)

- ▶ Decrease high volatility of the imbalance price
- ▶ Trigger right reaction in accordance with the system needs
- ▶ Single and clear ex-ante indicator for the market

EMPOWER CUSTOMER

DiMax - Direct Access to Markets

- ▶ Facilitate access to DA/ID power exchanges
- ▶ Decrease barriers to become a BRP



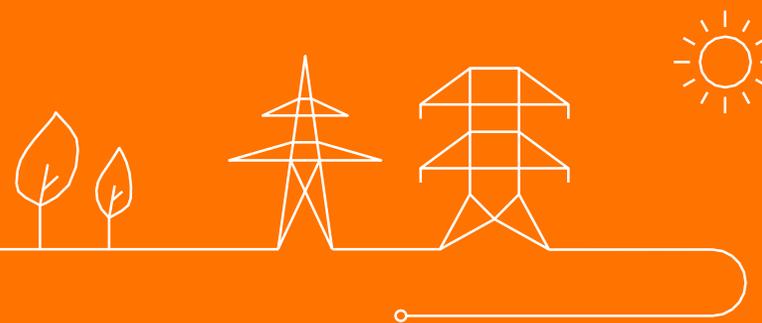
FIND OUT MORE

Study > <https://www.elia.be/en/publications/studies>

Livestreamed event > “The Power of Flex” on www.youtube.com



Thank you!



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Recommandations

Flex readiness E-assets



Submetering requirements for flexibility



Currently written in name of Elia, will be changed to the Users' Group after discussion with and approval by the members of the Users' Group



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An aerial photograph of Brussels, Belgium, taken at sunset. The city is bathed in a warm, golden light. In the foreground, a busy street with a roundabout is visible. In the background, the large, ornate dome of the Brussels City Hall (Stadhouderskerk) stands out against the sky. The overall scene is a mix of modern and historic architecture.

POWERING BELGIAN SOCIETY FOR A CLEAN AND COMPETITIVE FUTURE

BELEIDSAANBEVELINGEN VOOR DE
FEDERALE, REGIONALE EN EUROPESE
VERKIEZINGEN VAN 2024

4 BIG PRIORITIES FOR THE UPCOMING LEGISLATURE



ENERGY COMPASS 2050:
GUIDING BELGIUM
TOWARDS A
CARBON-FREE ECONOMY
AND SOCIETY



ACCESS TO CARBON-FREE
ENERGY AND
COMPETITIVE PRICES
THROUGH THE TIMELY
DEVELOPMENT
OF THE HIGH-VOLTAGE
GRID



MAKE IT EASIER
FOR EVERYONE
TO PARTICIPATE
FOR A MORE
AFFORDABLE ENERGY
TRANSITION



INSURE THE DIGITAL
INDEPENDENCE OF
BELGIUM

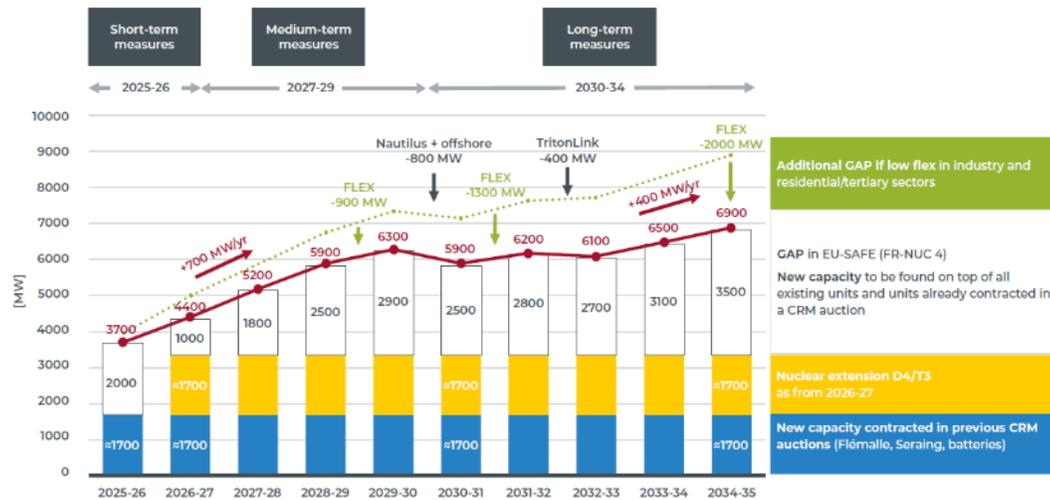


1

ENERGY COMPASS 2050:
GUIDING BELGIUM TOWARDS A
CARBON-FREE ECONOMY AND SOCIETY

ENSURING THE SECURITY OF SUPPLIE FOR THE FUTURE

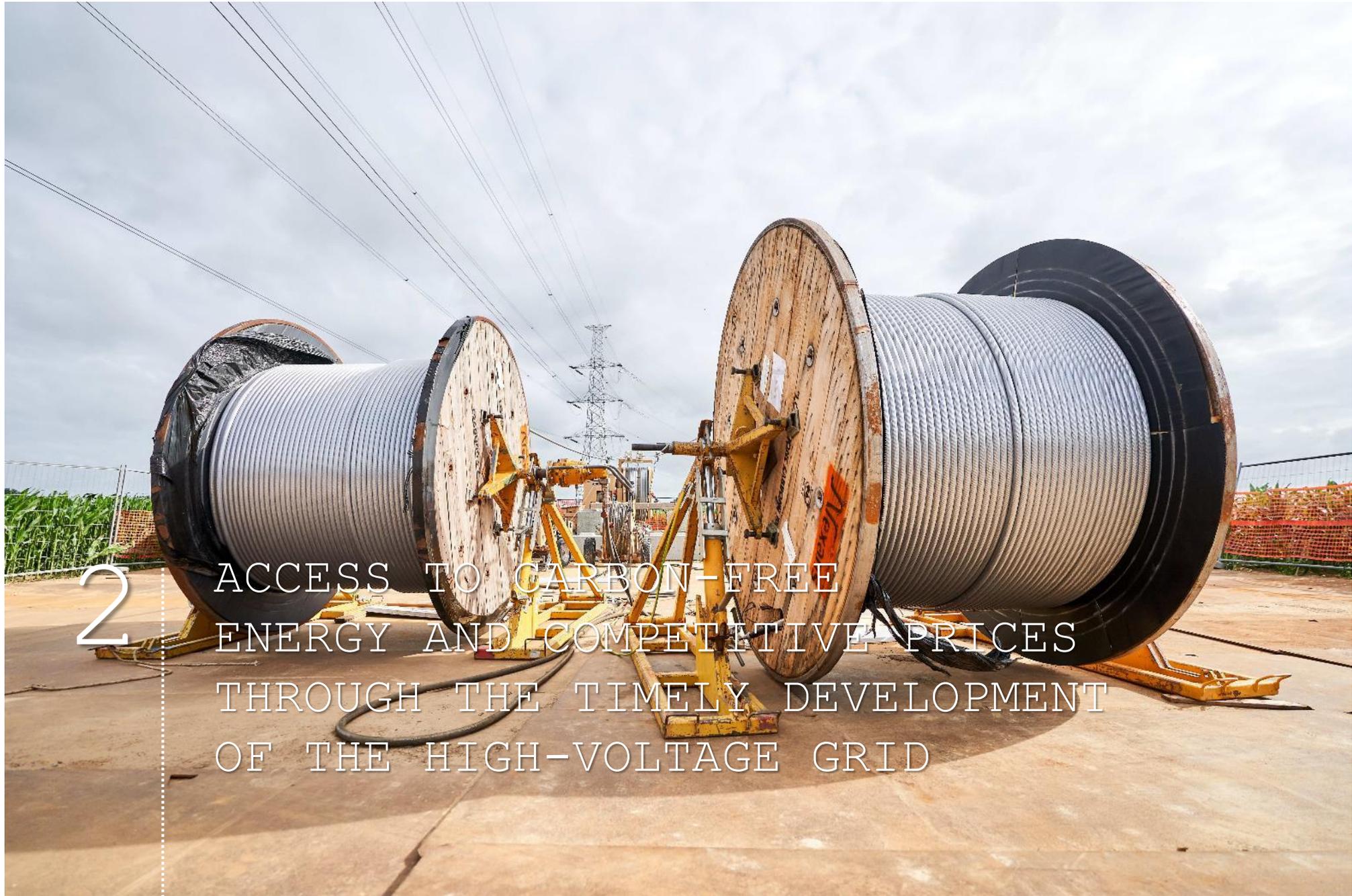
Be able to guarantee security of supply in future winters thanks to the implementation of the agreement between the Belgian state and Engie and capacity provided by CRM auctions.



CREATING A CLEAR REGULATORY FRAMEWORK

Belgium needs to implement existing and new EU legislation around energy quickly and efficiently to remain competitive within the European energy transition.





2.

ACCESS TO CARBON-FREE
ENERGY AND COMPETITIVE PRICES
THROUGH THE TIMELY DEVELOPMENT
OF THE HIGH-VOLTAGE GRID

ENSURING ACCESS TO SUFFICIENT AND RENEWABLE ENERGY

Belgium can ensure access to sufficient and renewable electricity at competitive prices by taking full advantage of its location on the North Sea and at the heart of Europe.

ENSURING SUFFICIENT MATERIALS AND LABOR

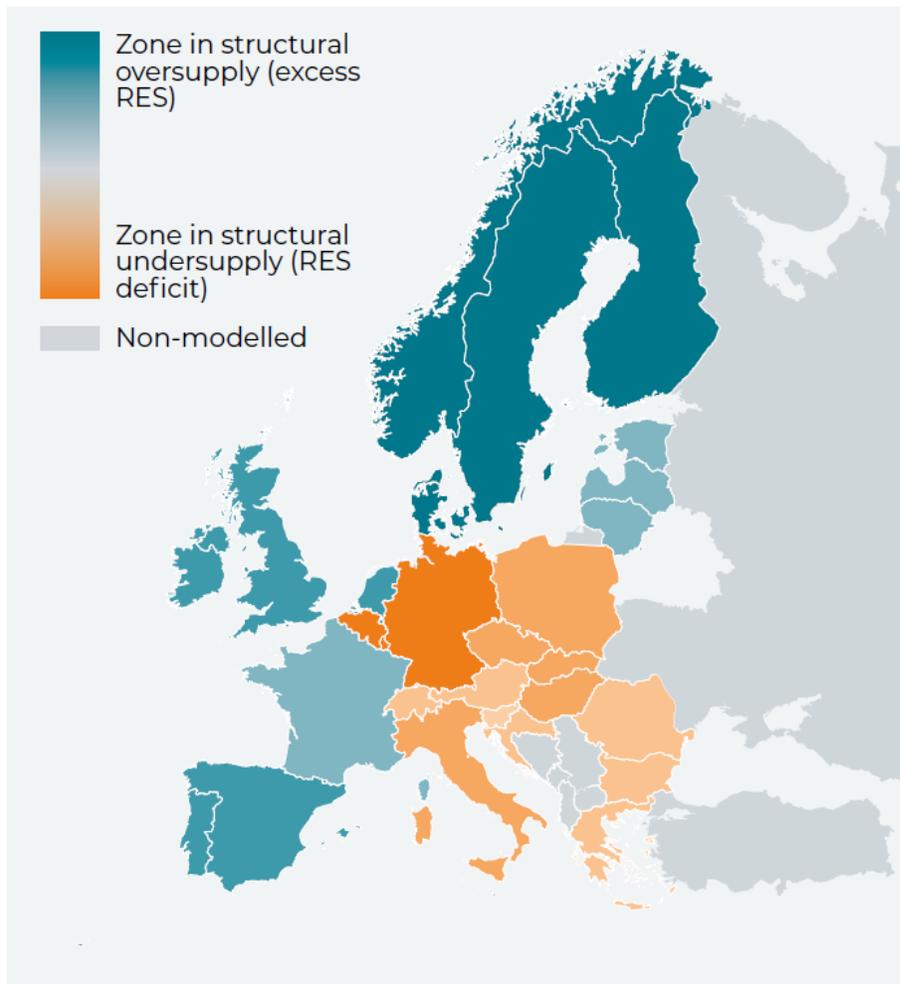
Ensure the availability of manpower and the capacity of strategic supply chains for materials and technologies to achieve timely grid reinforcements.

SPEED UP AND SIMPLIFY PLANNING AND PERMITTING PROCESSES

Simplify and speed up permitting processes to minimize lead time for the expansion and reinforcement of the high-voltage grid.

AVOID BOTTLENECKS ON THE HIGH-VOLTAGE GRID TOGETHER

Anticipate the accelerated electrification of industry and mobility to avoid congestion on the high-voltage grid and make timely investments in grid reinforcements.





3 MAKE IT EASIER FOR EVERYONE
TO PARTICIPATE FOR A MORE
AFFORDABLE ENERGY TRANSITION

ALLOWING CONSUMERS TO ENJOY THE BENEFITS OF FLEXIBILITY THROUGH CUSTOMIZED ENERGY SERVICES

Letting consumers and businesses enjoy the benefits of flexibility and valorize them through customized energy services on and behind the electric meter.

ENCOURAGE FLEXIBLE CONSUMPTION THROUGH THE ELECTRICITY BILL

Informing and encouraging end users to offer their flexibility to the energy market while allowing them to optimize their bill and improve comfort.



The Elia Viewpoint study provides an overview of all the barriers preventing us from rolling out Flexibility on a large scale today.



4

INSURE THE DIGITAL INDEPENDENCE OF BELGIUM

DEVELOP A LONG-TERM VISION THAT SUPPORTS COLLABORATION

Develop a national long-term vision and organization that can support and promote Belgium's digital sovereignty and integrate them into a European framework.

ORGANIZE THE ROLLOUT OF A STRONG DIGITAL INFRASTRUCTURE

Belgium needs to invest in rolling out a strong digital infrastructure, with adequate attention to secure access to the right data.



STIMULATE DIGITAL TALENTS, RESEARCH AND INNOVATION

Support Belgium's digital future by strengthening the digital literacy of the workforce and encouraging academic research and digital innovation.





SAVE
THE
DATE

12/03/2024
LET'S CONNECT

Elia presents its memorandum to the general public during the Belgian Stakeholder Day. A unique opportunity to look ahead to the energy challenges of the upcoming political legislature and meet key stakeholders from the Belgian energy world.

More info coming soon

An aerial photograph of Brussels, Belgium, taken at sunset. The city is bathed in a warm, golden light. In the foreground, a busy street with a roundabout and traffic is visible. In the background, the large, ornate dome of the Brussels City Hall (Atomium) stands out against the sky. The overall scene is a mix of modern and historic architecture.

POWERING BELGIAN SOCIETY FOR A CLEAN AND COMPETITIVE FUTURE

BELEIDSAANBEVELINGEN VOOR DE
FEDERALE, REGIONALE EN EUROPESE
VERKIEZINGEN VAN 2024

Agenda

1. Approval of reports 07/03 and 13/09
2. Results Stakeholder Survey
3. The Power of Flex
4. Needs for flexibility participation in market

Proposals for recommendation:

- * Flex readiness E-assets
- * Submetering requirements for flexibility

5. Elia Memorandum

6. Feedback working groups + planning 2024

6.1. WG EMD-SO (incl. TF PEZ)

6.2. WG CCMD

6.3. WG Belgian Grid

6.2. WG Balancing

6.3. WG Adequacy

7. Miscellaneous



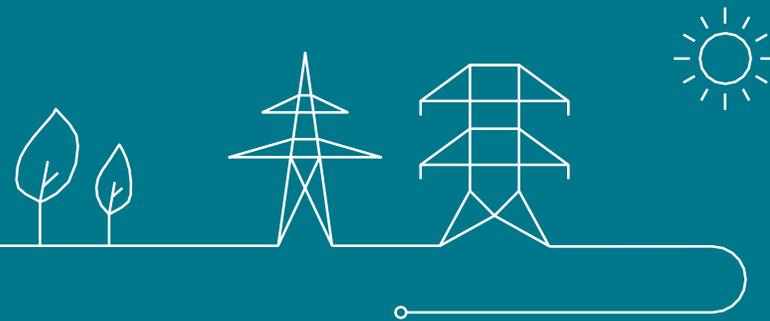
WG EMD-SO (incl. TF PEZ)

Incompressibility, Feedback & workplan

Plenary Meeting
19 December 2023

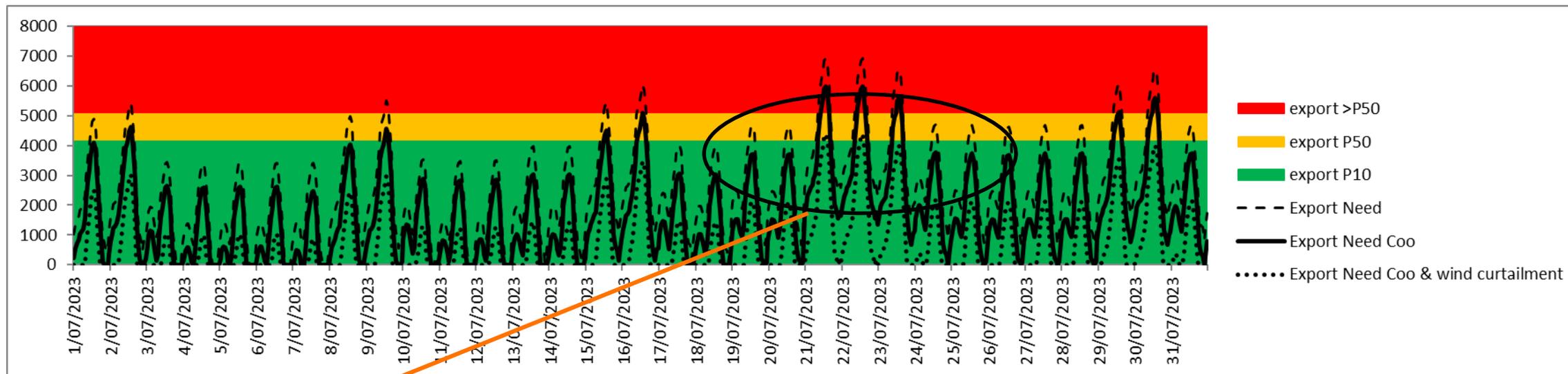


Incompressibility



Summer Outlook 2023 – Reminder from WG SO

P75 Focus on July – With pumping and wind offshore curtailment



In case of underestimation of solar forecast, difficult situation to handle in intraday since limited short term measures available (max value = 4400 MW).

-> Situation of 9/4

Feedback: Summer 2023

Spring (ex. Sunday 9th of April 2023,...) and the « Summer Outlook » indicated unneglectable incompressibility risk.,

A « Procedure High Risk of Incompressibility » was put in place for Summer 2023 and was triggered on:
08/07, 09/07, 21/07, 14/08, 15/08, 20/08, 03/09, 09/09.

For those days between 10am and 4pm,

- As published on IIP, Elia received little additional flexibility from limited coordonable/non-coordonnable units.
- Day-Ahead Price was in full price convergence or with a very little price difference with NL,DE,FR, AT.
- Elia grid was at the down limit (few MW margin)* except Reserve Sharing.
- Imbalance Price was mainly between -200€/MWh and -400€/MWh + punctual price peaks at -500€/MWh.

Typical day : See next Slide

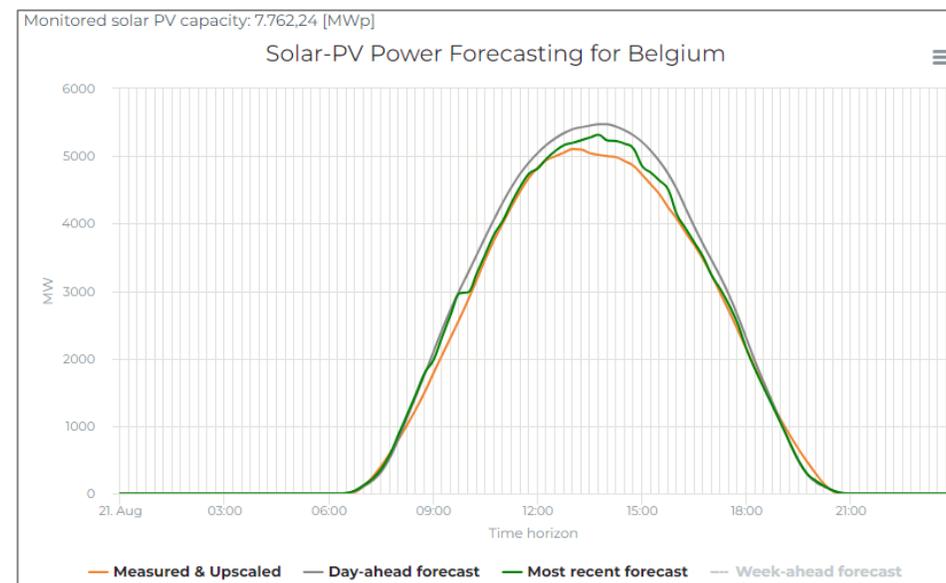
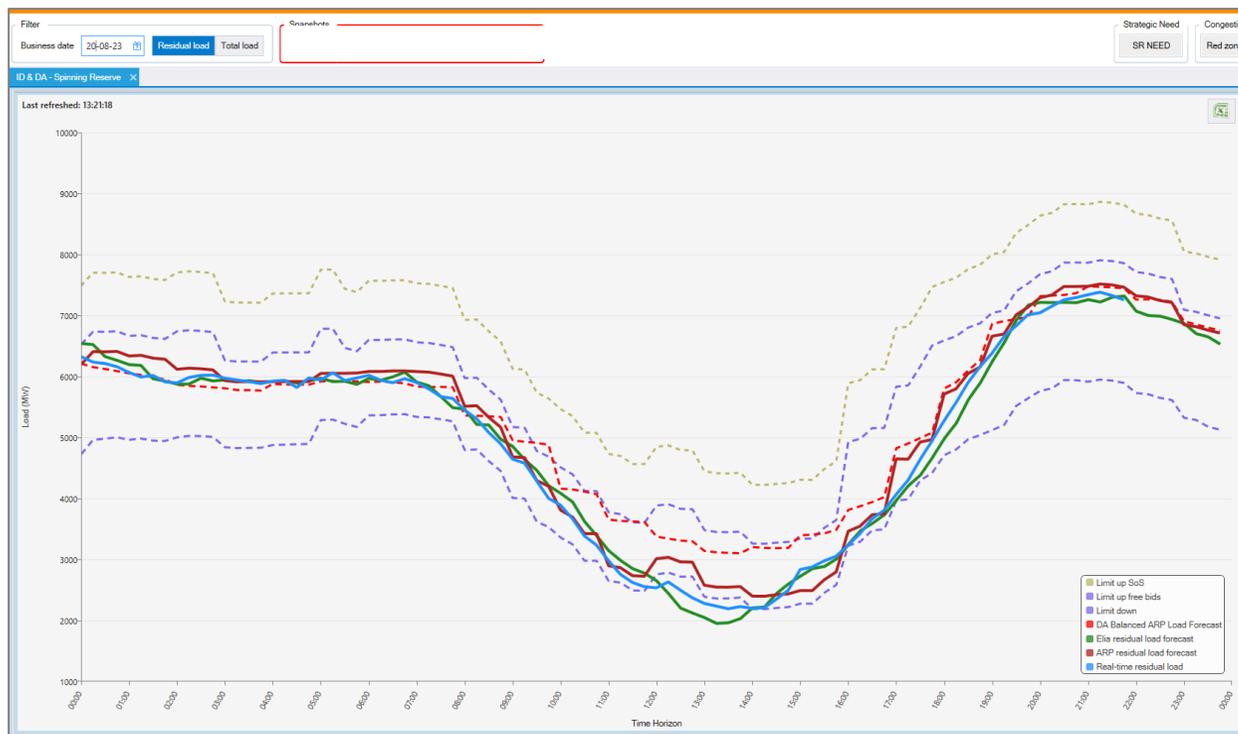
Conclusion: There was no critical situation from an incompressibility perspective, but margins were really tight.



(*) Except for those days: 08/07, 09/07, 21/07

Feedback: Summer 2023

(Typical Day)

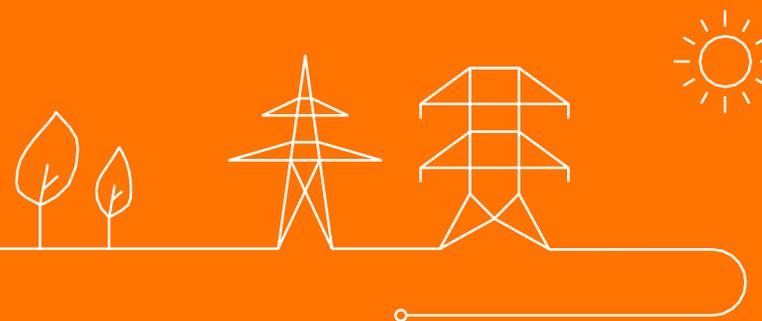


Next Step

- Continuous improvement of Forecasting (Solar, Wind, Load,...)
- Summer Outlook 2024
- Unlocking of flexibility (& flexible devices) in the grid

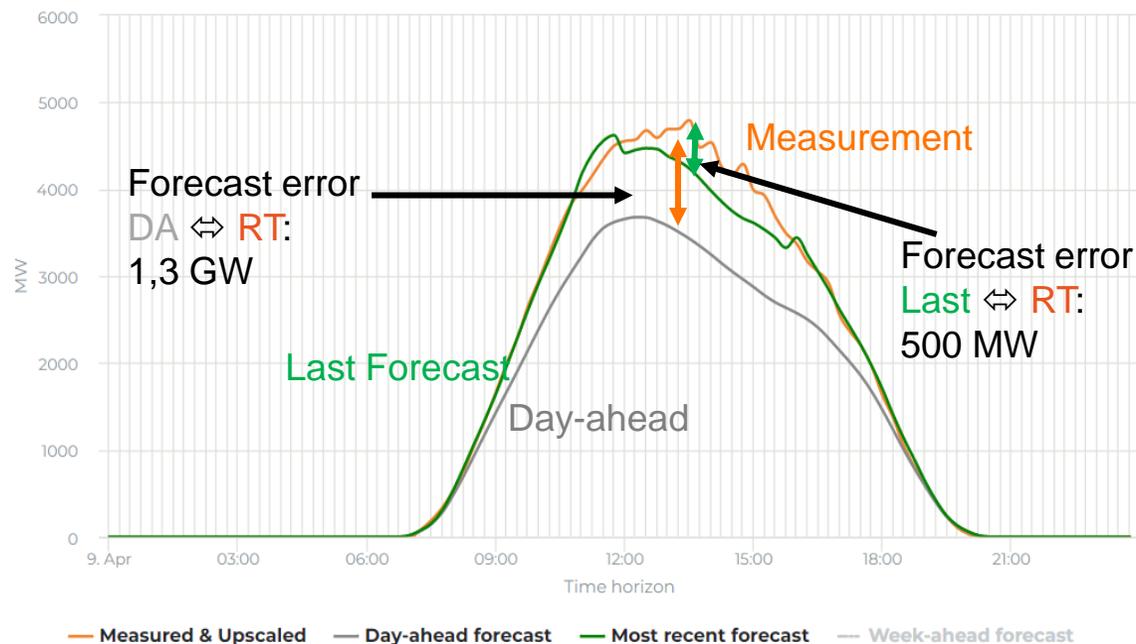


Annex with examples

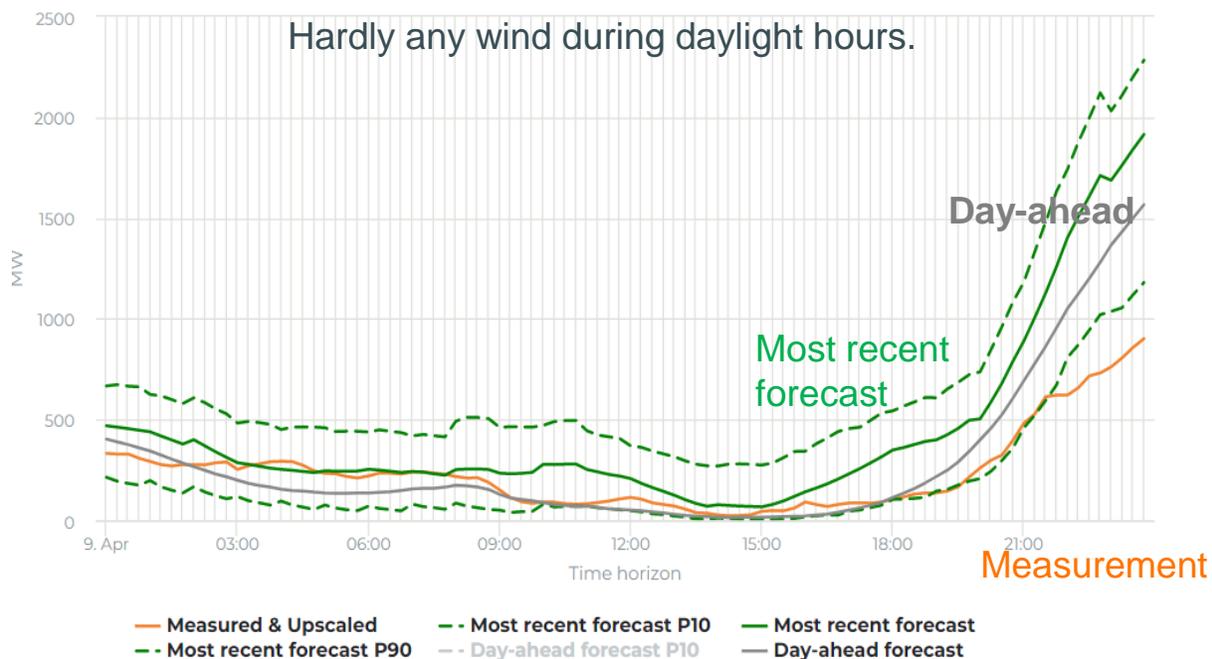


Pre-Summer 2023 - 9/4/2023 - Reminder

Solar forecast : From DA → real-time



Wind forecast : From DA → real-time



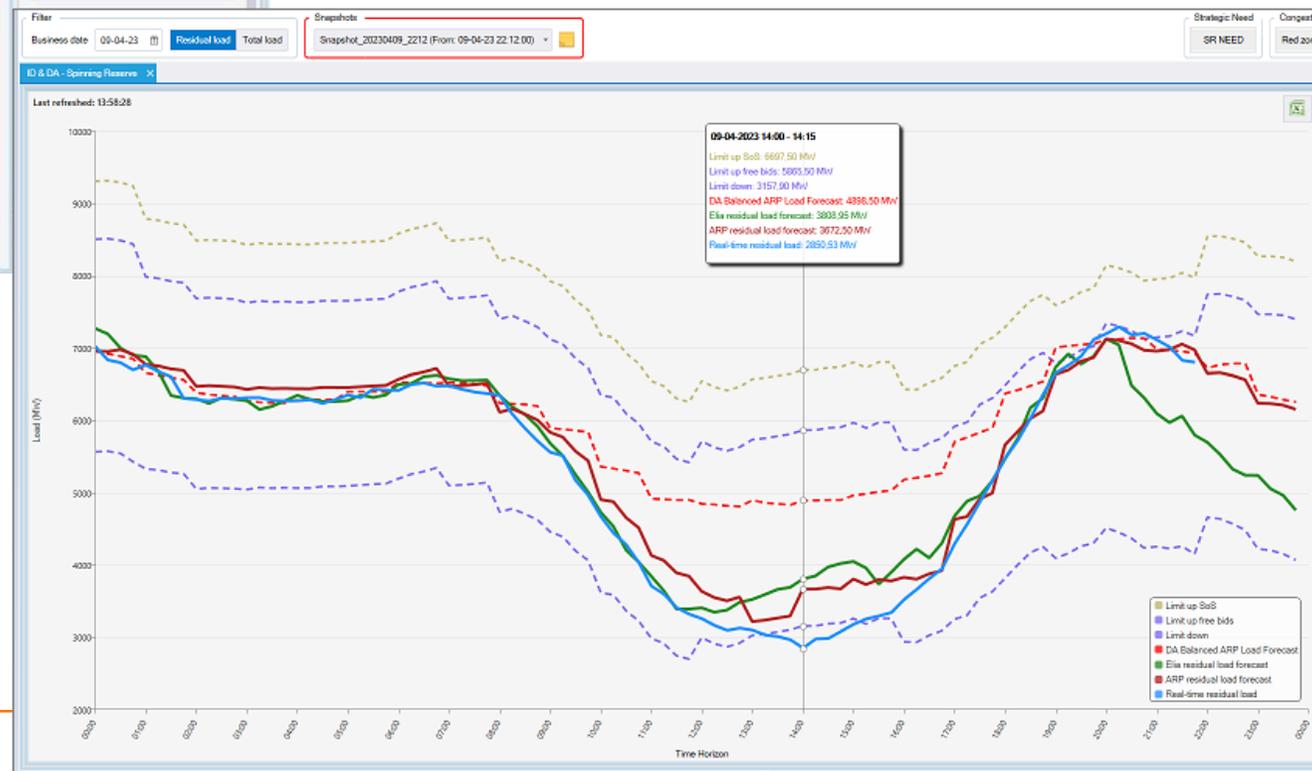
- **DA Solar forecast** has been the **key driver** of the system imbalance.
 - Forecast error of more than 1,3GW in DA compared to the measurement.
 - Even the most recent forecast (=RT-1h) shows an underestimation of 500MW.
- **Wind forecast** is **not** a root cause of the system imbalance.



Pre-Summer 2023 - 9/4/2023 - Reminder

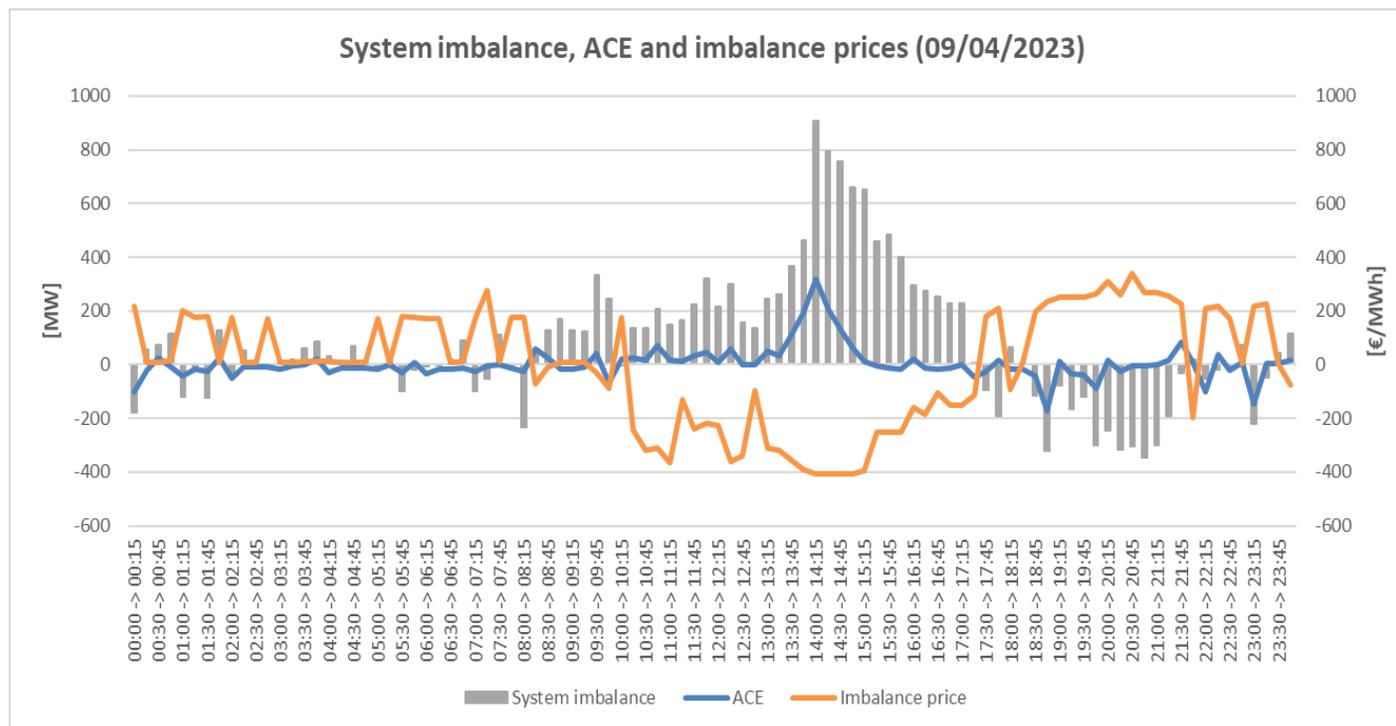


Large Incompressibility in real-time due to Large forecasting error from/In Day-Ahead



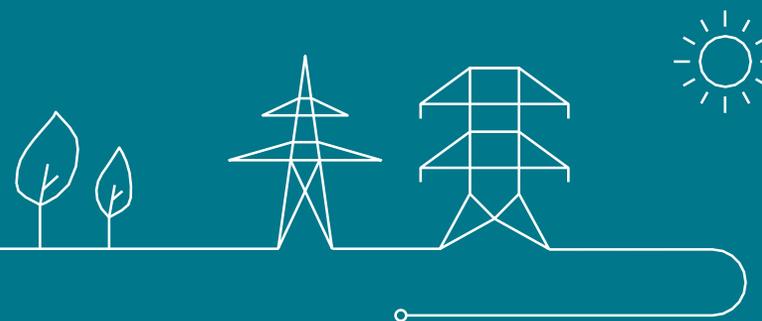
Pre-Summer 2023 - 9/4/2023 - Reminder

Real-Time system indicators showing significant incompressibility



- **System imbalance (SI)** was long most of daylight hours (08:00 → 17.00)
- Peak at almost 1GW in the afternoon.
- Moreover, **ACE** peaks at 350MW in the afternoon during some QHs
- **Imbalance price** up to -400€/MWh during several QHs

Feedback WG EMD-SO



Highlights WG EMD-SO (Q4 2023)

European Market Design

1. Core Intraday Capacity Calculation project

- Info on the regulatory escalation leading to postponement of go-live and on the status of parallel run publications

2. Core 3rd amendment of DA CCM

- Info on the BE relevant topics (eg Alegro) that are included

3. CEP 70 status for Belgium

- Info on the need for submitting also a derogation in 2024
- Elia shared its view on today's shortcomings of CEP 70 and the need to find something better which brings markets and physics closer together

4. BE-GB Market Coupling

- MRLVC: Presented scope of the 2023 report and Elia's concerns on MRLVC
- CBAM: overview & expected impact of CBAM on UK-BE border

5. SDAC 15 min MTU go-live

- Impact on local nomination deadlines in BE

Highlights WG EMD-SO (Q4 2023)

System Operations

1. Summer review & winter outlook

- Elia shared the insights of the past summer period on the risks of incompressibility & stressed the importance of demand response in such situations
- Outlook for upcoming winter is more positive than last year due to lower revision volumes power plants and better situation in neighboring countries

2. Emergency & restoration

- Overview on status and planning of the System Defense & Restoration Plan (including LFDD) for 2023/2024

Calendar

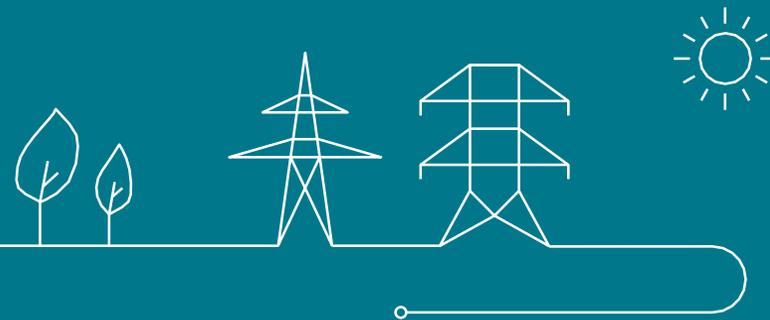
- Next WG EMD-SO meeting to be scheduled in Q1 2024
- A workshop on CEP 70 will be organized with WG EMD-SO members (Q1/Q2 2024)

Roadmap 2024 WG EMD-SO

Elia proposes following topics for the 2024 roadmap

European Market Design	System Operations
<ol style="list-style-type: none">1. Core: go-live ID capacity calculation2. Core & European DA and ID market coupling: follow up of operations + ongoing developments (e.g. IDA, 15' MTU in SDAC)3. Follow-up CEP70 implementation4. EU market reform & CACM 2.05. Follow-up Brexit: capacity calculation & allocation with UK6. Evolutions on Long Term Allocation	<ol style="list-style-type: none">1. NCC Year report (Q1)2. Summer outlook, winter review (Q2)3. Winter outlook, summer review (Q3/Q4)4. Implementation status of Low Frequency Demand Disconnection Plan (LFDD)5. Digital Operator: automate system operations to manage complexity (Q4)

Feedback TF Princess Elisabeth Zone



Scope of the public consultation

A public consultation is organized from 20th of November until 20th of January on topics presented in the framework of the Task Force PEZ:

- **Connection requirements:** summary of technical aspects presented during TF/workshops
- **Dynamic & harmonic:** clarification of amendments foreseen for the technical specifications for the PEZ tenders triggered by Dynamic & Harmonic phenomena
- **Market design:** Offshore Bidding Zone market implication and process
- **Balancing design:** impact on balancing, recommended mitigation measures and Offshore Bidding Zone balancing market implications

Planning





Overview main topics foreseen in the public consultation report

1

Connection requirements

1. Grid design
2. Grid infrastructure
3. Phasing of works
4. Island concept
5. Cable routing and pull-in
6. High voltage systems
7. Secondary systems
8. Marine and works coordination
9. Operations & maintenance

2

Dynamic & Harmonic

1. Requirement for voltage control
2. Requirement for stability and robustness
6. Requirement for quick resynchronization and island op.
4. Requirement for active power forced oscillation
5. Requirement for conformity process
6. Requirement for data & model exchange

3

Market design

1. Target market design for PEZ
2. Implications of target market design
3. Implementation of the OBZ
4. Details on market topology and pricing of OBZ under AHC

4

Balancing design

1. General assumptions
2. Offshore generation profiles
3. Impact on Elia's reserve requirements
4. Impact on Elia's system operations
5. Impact on Elia's exceptional measures
6. Impact of an offshore bidding zone
7. Implementation roadmap

USERS' GROUP



WG CCMD

Feedback & workplan

Plenary Meeting
19 December 2023





Feedback WG CCMD

19.12.2023 | Brussels | Elia

3 key products to bring financial incentives directly to customers

Limit exposure

Multiple BRP (TSO) / Supply Split (DSO)

- ✓ Give possibility to **split** flexible and non-flexible load
- ✓ Increase competition for energy services behind the meter

Give confidence

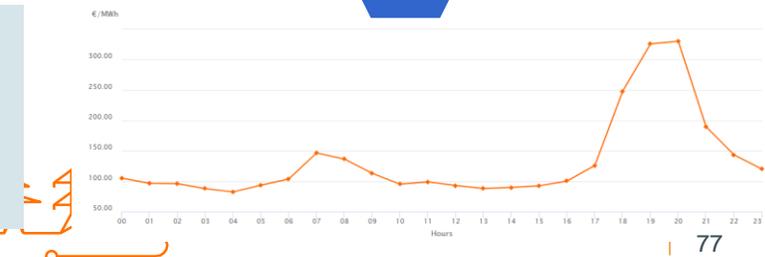
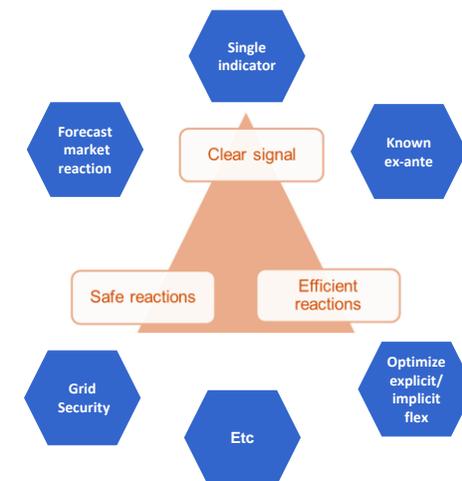
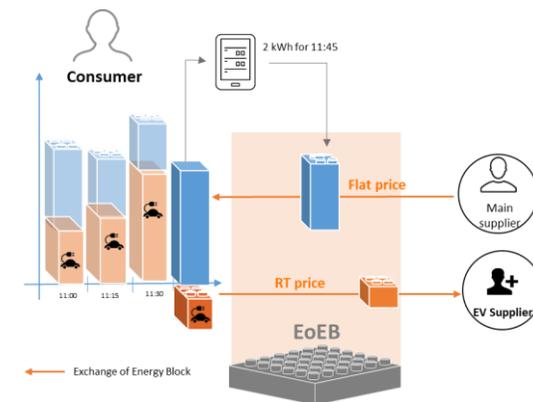
Real-Time Price (RTP)

- ✓ Decrease high volatility of the imbalance price
- ✓ Trigger right reaction in accordance with the system needs
- ✓ Single and clear ex-ante indicator for the market

Empower customer

MPx - Direct Access to Markets

- ✓ Facilitate access to DA/ID power exchanges
- ✓ Decrease barriers to become a BRP



A solid orange horizontal bar on the left side of the slide.

Multiple BRP – Go-live



DiMaX - feedback of the public consultation

DiMaX design note – update on public consultation

- Consultation period of 1 month (25/10 – 24/11)

- 8 reactions received



Confidential party

Overall trend in the reactions

- **Welcoming the initiative** to unlock more flexibility, but **request for more clarity** (especially on implementation)
- Request to go for a **full implementation for all BRP portfolios** (TSO and DSO delivery points at one time)

DiMaX – Next Steps

Wave 1 – Q1 & Q2 2024

- Close collaboration with team working on CREG incentive on faster settlement for BRPs
- Discussion with market parties to reshape the T&C BRP followed by public consultation
- Digital onboarding of BRPs in EPIC client portal
- Continue investigations with power exchanges

Wave 2 – Q3 & Q4 2024

- T&C BRP revision for faster imbalance settlement
- Implementation of facilitation tools for BRP services
- Continue investigations with power exchanges

Exact timings will come in 2024



Real-Time Price - design note (part 1)

Timeline

Start public consultation 1st design note

Dec 22

End public consultation 1st design note

Jan 31

2023



2025

Public consultation 1st design note Dec 22 - Jan 31

Feedback integration Feb 1 - Feb 29

Deep-dive 'how' + open design questions Feb 2 - May 31

Public consultation 2nd design note (TBD) Jun 14 - Aug 31

Final design note Sep 1 - Dec 31



Stakeholders are invited to provide comments and suggestions on the 1st design note that will be consulted from **22nd December 2023** to **9th February 2024**.



Structure of the 1st design note





**YOUR
FEEDBACK
MATTERS!**

The stakeholders are kindly requested to provide their comments and suggestions on the 1st design note RTP.

The reactions can be provided to Elia via the online form that will be published on Elia website on **Friday 22nd December 2023**.

The feedback is expected at the latest by **Friday 9th February 2024**.



WG Belgian Grid

Feedback & workplan

Plenary Meeting
19 December 2023

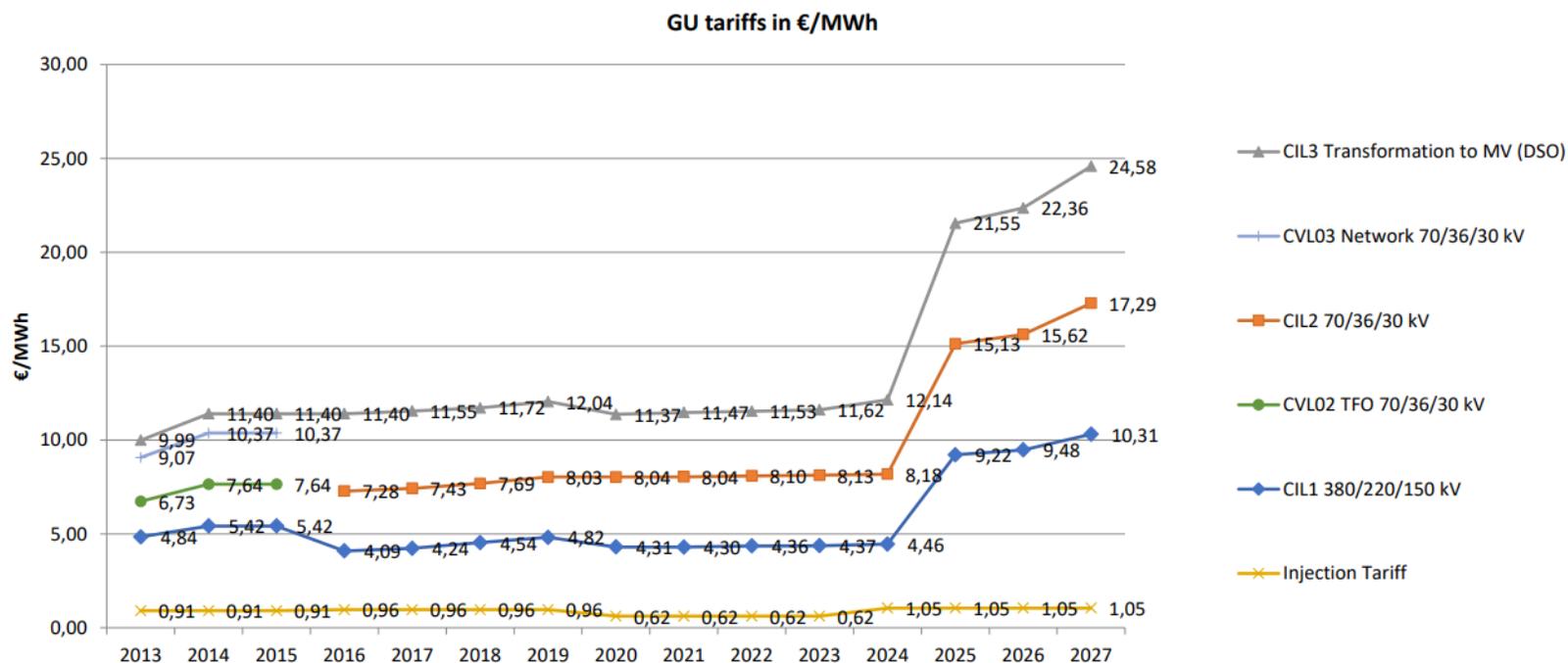


Belgian Grid meetings since September 13th

15/11/2023 – ad-hoc meeting regarding the tariffs 2024 -2027

Evolution Access Tariffs Graph

Representative Profiles for tariff Evolution	CIL1 380/220/150 kV	CIL2 70/3/30 kV	CIL 3 Transformation to MV (DSO)
Power Put at Disposal (MVA)	90	13	21
Yearly peak (MW)	75	7	20
Monthly peak (MW)	55	6	17
Net Offtake (GWh)	420	38	90
Utilization (h)	5.600	5.300	4.500



Belgian Grid meetings since September 13th

07/12/2023 – flexible access, incentives, process EDS/EOS/reservation capacity, connection contract

Flexible access – results of the consultation & next steps

- 5 answers received; answers clustered in 3 topics:
 - Fundamental principles,
 - Connection & contracting
 - Operational aspects
- **Dedicated workshops will be organized between January and April 2024 for the topics above**

Incentives

- **Hosting Capacity Maps:** website is launched [Grid Hosting Capacity \(elia.be\)](https://www.elia.be/grid-hosting-capacity)
- **CBA for generators:** conclusion of survey
 - Case-by-case quantitative CBA analysis is not possible based on the few quantitative inputs received and the specific situation of each existing PGM
 - No generalisation possible to all existing type B units based on the received inputs to all type B (requirements considered as impossible to implement may differ from one answer to the next and dependant to the age of the unit)
 - **Proposal to perform a “qualitative +” CBA analysis**
- **MVAr:** conclusion of survey
 - Remarks marked parties were answered during WG BG
 - **Next steps: Implementation of modifications to the MVAr T&C mid Q3 2024 – mid Q2 2025**

Belgian Grid meetings since September 13th

07/12/2023 – flexible access, incentives, process EDS/EOS/reservation of capacity, connection contract

Process EDS/EOS/Reservation of capacity

- Current process was briefly presented
- Call for suggestions of improvement from market parties by mid January 2024
- Continuation of the topic during the working groups Belgian Grid of 2024

Connection contract

- Presentation of the main changes (LFDD, leveringspunt, markttoegangspunt,...)
- Consultation from mid December 2023 until start of February 2024
- Topic again foreseen in WG BG of end of January

Roadmap WG BG 2024

Contracts

1. **Connection contract**
 - large revision
 - Consultation Q4 2023 – Q1 2024
 - final Q4 2024

2. **Access contract**
 - alignment with Connection
 - integration multiple BRP

European Network codes

1. **Requirements for Generators - RfG**
 - currently under revision
 - voting EU commission est. Q2 2024
 - est. start implementation Q3 2024

2. **DCC and HVDC**
 - est. 6 months after RfG

Grid codes and code of conduct

1. **Code of conduct**
 - Amendment book 2 – EDS/EOS/capacity

2. **Federal grid code**
 - analysis needs to amend the technical requirements

3. **Regional grid codes**

Projects/Incentives

1. **Flexible access**
 - workshops on specific topics
 - finalization Q4 2024

2. **Methodology grid losses**

3. **Grid user flex for congestion mngmt**

WG Balancing

Feedback & workplan

Plenary Meeting
19 December 2023





27/09 & 14/11 WG BAL

This is what the potential subhead looks like

Date | First name Surname



– EU & BE Balancing Program Update

– In 27/09 WG BAL

- Elia explained that the latest version of the T&C aFRR, including changes on the **aFRR Capacity Auction** (TCO degradation cap), has been approved by CREG on 10/08 and has entered into force as of 28/09
- Elia reminded the PCs held in summer for both **MARI & iCAROS** projects, and the organization of an info session on 12/10 to go through the main feedbacks received, list the impacts on the T&C OPA, SA & mFRR as the Balancing Rules and/or the Coordination Rules, and explain why certain requests have not led to document adaptations
- Elia reminded the scope and planning of the **aFRR design evolutions foreseen in 2024** (possible local mitigation measures for PICASSO, 5' FAT, move aFRR capacity auction to D-1, RT baseline, activation method, and CCMD (correction model & opening LV))

– In 14/11 WG BAL

- Elia explained it submitted the consultation report and final version of T&C BSP and balancing rules, and the T&C OPA & SA to CREG on 20/10 and 30/10 respectively
- Elia shared **the list of key focuses for 2024** and Elia presented an update of the roadmap:
 - local go-live of the **new mFRR bidding and iCAROS phase 1 mid-February 2024**, connection to EU mFRR balancing platform **mid-April 2024**. A follow-up of the progress of the implementation, testing, and dry run will be done to ensure the readiness for local mFRR/iCAROS phase 1 go-live
 - **connection to EU aFRR balancing energy platform (PICASSO) beginning of October 2024.**
- **CREG informed Elia by letter that decisions will be taken in February, instead of December as initially planned.**

- **PfA T&C BRP in the context of connection to the EU balancing platforms**
 - In 27/09 WG BAL, Elia presented the answers received on the PC in the framework of the amendment of the T&C BRP in the context of connection to the EU balancing platforms; Elia presented the imbalance price formula (no objections from market parties to start with this one)

- **T&C BRP – Evaluation of the impact of the relaxation of the DA balance obligation**
 - The maximal authorized DA imbalance will remain at 100%, except if a significant negative impact on the reliability, safety or efficiency of the grid would be detected resulting from the relaxation of the DA balance obligation.

- **Summary of yearly reporting on FRR dimensioning**
 - In 27/09 WG BAL, Elia reminded the dynamic dimensioning methodology used for FRR. Elia explained that Upward FRR needs remain set by dimensioning incident (largest nuclear generation unit), while Downward FRR needs are more frequently determined by Nemo Link
 - Elia explained that for upward compliance, FRR means cover FRR needs for 99.8 % of the time, while FRR means cover SI for 99.99% of the time. For downward compliance, FRR means cover FRR needs for 98.83% of the time, while FRR means cover SI for 99.42% of the time. Periods in which the needs were not covered are related to periods with limited sharing availabilities and non-contracted balancing energy bids

- **REX on incompressibility during spring / summer '23**

CREG's decision on the T&C BRP includes a RFA

- CREG approved **article 30.2** and introduced a **RFA** (Request for Amendments) regarding articles 2.2, 29, 30.1, 30.3, 30.4, 30.5, 30.6 and 30.7
- **Two elements will require further discussion:**
 - **CREG requires a change in BRP balance obligation:** in real-time, BRP must strive to be balanced or help balance the **Belgian-total European electricity** system
 - CREG requests ELIA to submit imbalance price formulas that **strictly comply with art. 55 of EBGL**, meaning that the **dead band has to be removed** and that the **aFRR component formula** that was **supported and validated by CREG in July 2022 has to be reverted back** to a formula to which many stakeholders (including CREG) were reluctant in 2022.
- Elia will **continue discussing** those two problematic elements with CREG and will **submit an amended version in due time** (either integrating CREG's requests, or justifying if some aspects cannot be integrated in the T&C BRP)

Roadmap 2024

Roadmap WG BAL PICASSO - iCAROS – MARI (PIM)

- Local go live of the new mFRR bidding and iCAROS phase 1 Mid May 2024
- Connection to EU mFRR balancing energy platform June 2024
- Connection to EU aFRR balancing energy platform October 2024

Roadmap WG BAL Other initiatives

aFRR Design Evolutions – Q4 2024

FCR Design Evolutions – Q4 2024

aFRR Dimensioning – Q4 2024

iCAROS #2

Incentives 2024

Amélioration de la mise à disposition de données par Elia

Vision et roadmap sur la flexibilité pour la gestion des congestions et communication transparente sur l'activation de la flexibilité dans le cadre des contrats avec accès flexible

Etablissement des exigences en termes de stratégie de gestion de la charge pour les points de fourniture disposant d'un réservoir d'énergie limité et offrant plusieurs services d'équilibrage simultanément

Processus de facturation des BRP

Implémentation de tests intelligents de la disponibilité des réserves

[Décision sur les objectifs à atteindre par la SA Elia Transmission Belgium en 2024 dans le cadre de l'incitant à la promotion de l'équilibre du système visé à l'article 27 de la méthodologie tarifaire | CREG : Commission de Régulation de l'Électricité et du Gaz](#)

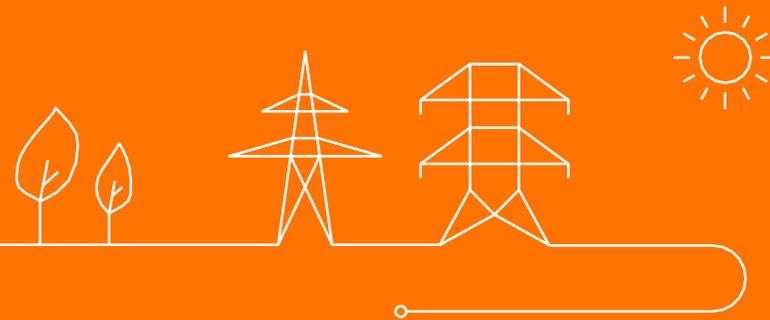
WG Adequacy

Feedback & workplan

Plenary Meeting
19 December 2023



Main Topics from the Last Meetings



WG Adequacy – Overview of last Meetings



Main Topics (1/2)

- Update on design topics
 - Elia presented its proposals on different topics such as Availability Monitoring, Payback Obligation & Secondary Markets
 - Elia presented its roadmap to integrate iCAROS data in the CRM
- Presentations of several studies regarding the parameters of the CRM auctions
 - A study by Compass Lexecon on the Net Balancing Revenues
 - A study by Entras on the Cost of Capacity
- The Cabinet of the Minister of Energy has given updates about the regulatory framework evolutions
 - The introduction of a Y-2 auction in combination with a revision of the 200h rule
 - Notification at the European Commission
- Cross-Border participation to the CRM
 - Elia presented updates on the design & implementation of the Cross-Border participation

Main Topics (2/2)

- Go-to-Market Plan – Availability Monitoring & Payback
 - Elia made a call for experts from the market to collaborate in the framework of Availability Monitoring & Payback Obligation
- Calibration reports on Y-1 26/27 and Y-4 28/29 were presented following publication on 15th of November '23
- Reporting on regulatory framework evolutions discussed in CDS
 - Improvements to 200h rule, Y-2 auction volume split & changes to the Art. 4bis
- Elia presented results of the Y-4 27-28 auction

Y-4 27/28 auction results

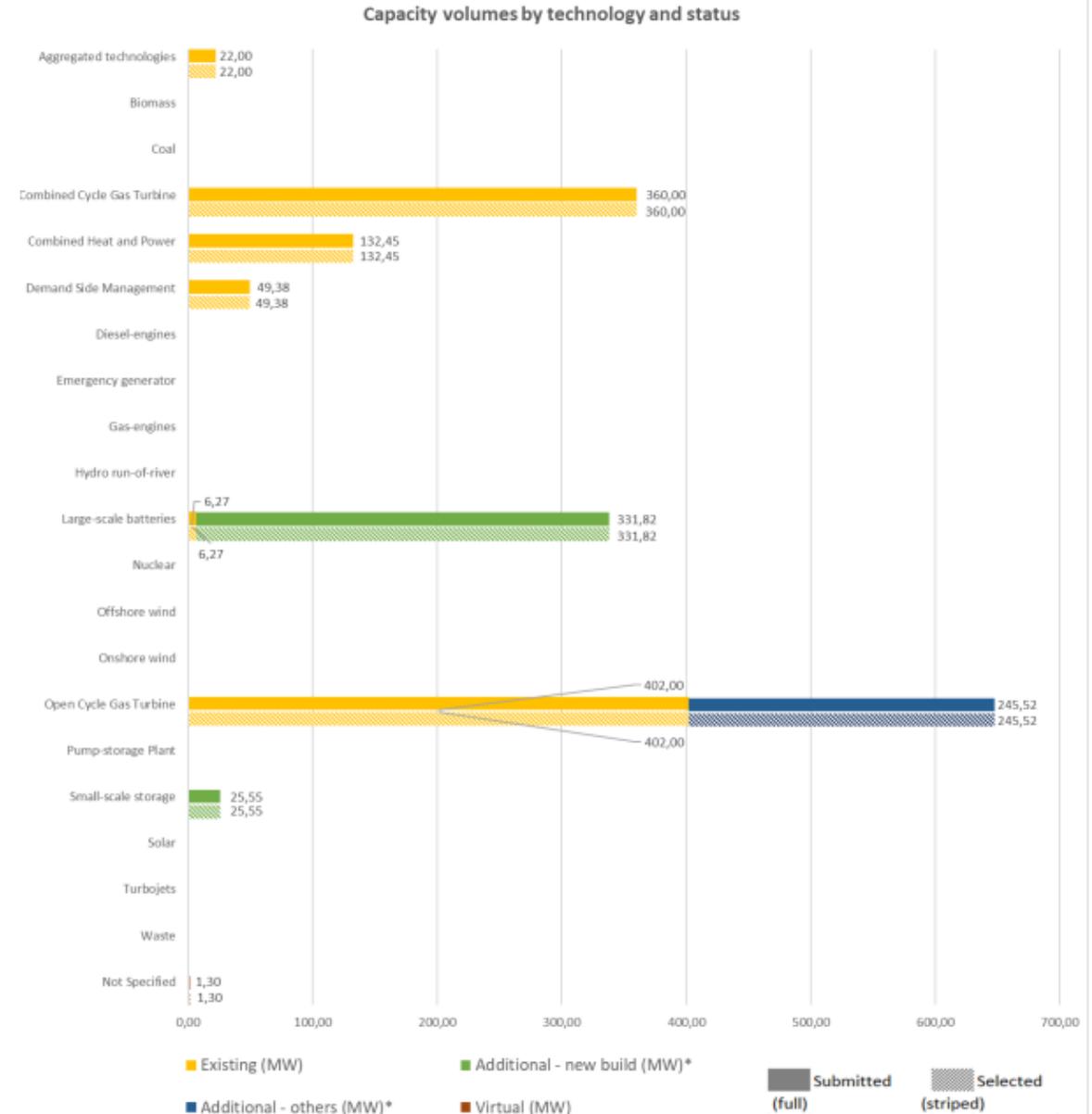
Key take-aways

Volumes (after application of derating factor):

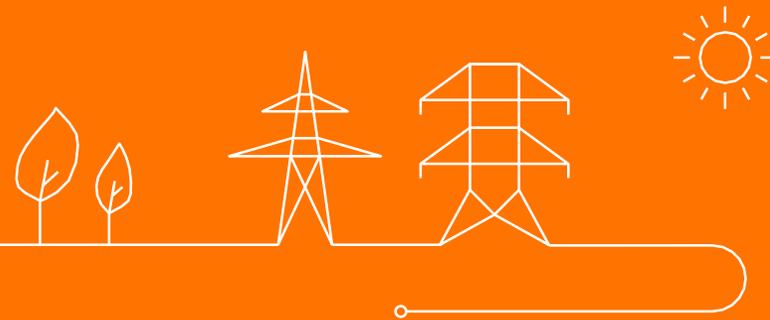
- All offered capacity was retained
 - 1576 MW ↔ 1719 MW point B of demand curve
 - Remaining 143 MW to be found in later auctions for '27 – '28 → Y-1 & Y-2(tbc) still to come
- Existing capacity participated to the auction amounting to **972 MW**
- New battery projects selected in the auction for a total of **357 MW**, spread over 7 different projects and 5 different market parties
- Service life extension of existing OCGT equal to **246 MW**
- Virtual CMU participated to the auction amounting to **1,3 MW**

Prices:

- Bid volume weighted average bid price = **€ 36 372,88 €/MW/year**



Roadmap 2024



Upcoming topics in 2024

WG Adequacy

CRM Functioning Rules for the auctions Y-1/2025-26 & Y-4 2028-29

- Public Consultation of the CRM Functioning Rules v4
- Public consultation on the Capacity Contract

CRM calibration

- Scenario determination and calibration for the auctions Y-1/2026-27, Y-2/2027-28 & Y-4/2029-30

CRM design

- General & detailed sessions
- Update on external studies
- CRM design evolutions including Cross-Border CRM

CRM operations

- Update on Go-to-Market timelines
- Running two auctions: Y-1 25/26 & Y-4 28/29



Overview of Public Consultations in 2024

WG Adequacy

**01/12/2023 to
05/01/2024**

- Public consultation on the **CRM Functioning rules** (ongoing)

Q2 2024

- Public consultation on the **CRM Scenarios for Auctions Y-1/2026-27, Y-2/2027-28 & Y-4/2029-30**

Q1 2024

- Public consultation on the **CRM Capacity Contract**

Q4 2024

- Public consultation on the **Adequacy & Flexibility 2026-2036**



Agenda

1. Approval of reports 07/03 and 13/09
2. Results Stakeholder Survey
3. The Power of Flex
4. Needs for flexibility participation in market

Including proposals for recommendation:

- * Flex readiness E-assets
- * Submetering requirements for flexibility

5. Elia Memorandum
6. Feedback working groups + planning 2024

6.1. WG EMD-SO (incl. TF PEZ)

6.2. WG CCMD

6.3. WG Belgian Grid

6.2. WG Balancing

6.3. WG Adequacy

7. Miscellaneous



Miscellaneous

Estimated consultations 2024 and Planning 2024

Plenary Meeting
19 December 2023



Scope:

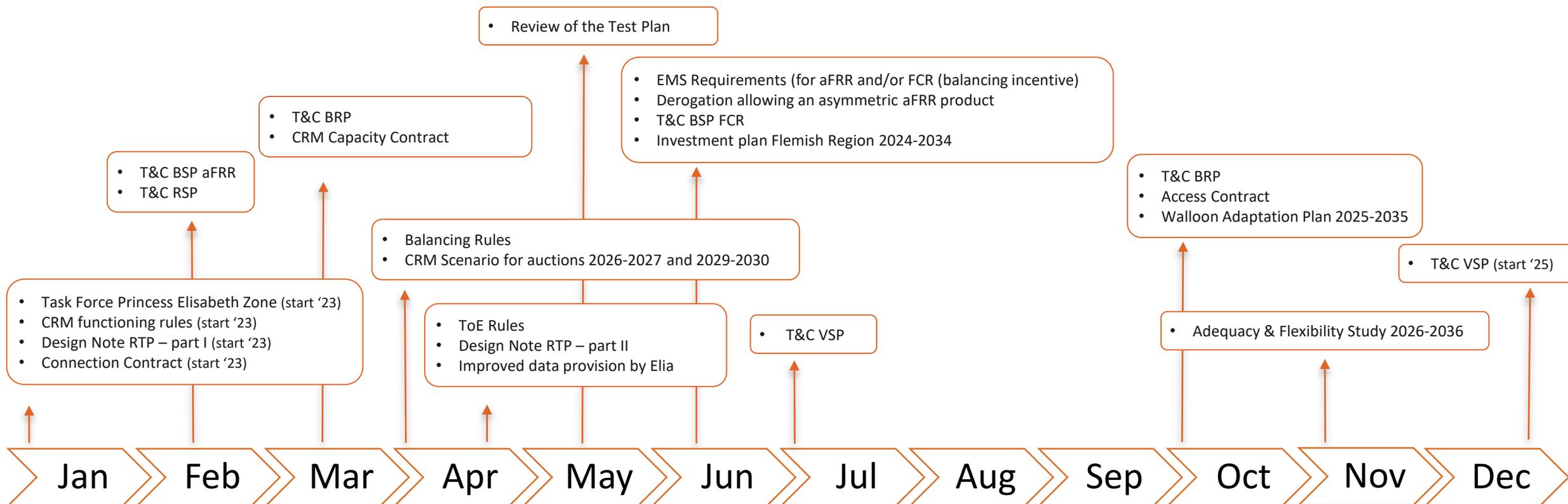
In 2024 around **26 public consultations** will be launched → Around the same amount of last year. 2023 = 28

Disclaimer:

- This high level overview is based on the legal deadlines included in the electricity law, FGC, the EU network codes and guidelines or requests by the regulator(s).
- However final planning still needs to be discussed with the regulator and as such can be modified in accordance with their views and requests.
- The arrow indicates the start time, the block does not indicate the duration of the consultation period.

Best effort

- Elia tries to spread the launch of the public consultations as much as possible and foresee sufficient time (≠ public consultations periods) for stakeholders to respond to the public consultations.
- Where possible we will also try to combine/cluster topic.



Regional/EU

ENTSO-E public consultations

Disclaimer: at this stage a detailed overview of the ENTSO-E public consultations for 2024 is currently not yet available.

Plenary meetings 2024

Friday, 1 March	16:15 – 18h
Monday, 10 June	16:15h – 18h
Monday, 23 September	16:15h – 18h
Monday, 25 November	16:15h – 18h

