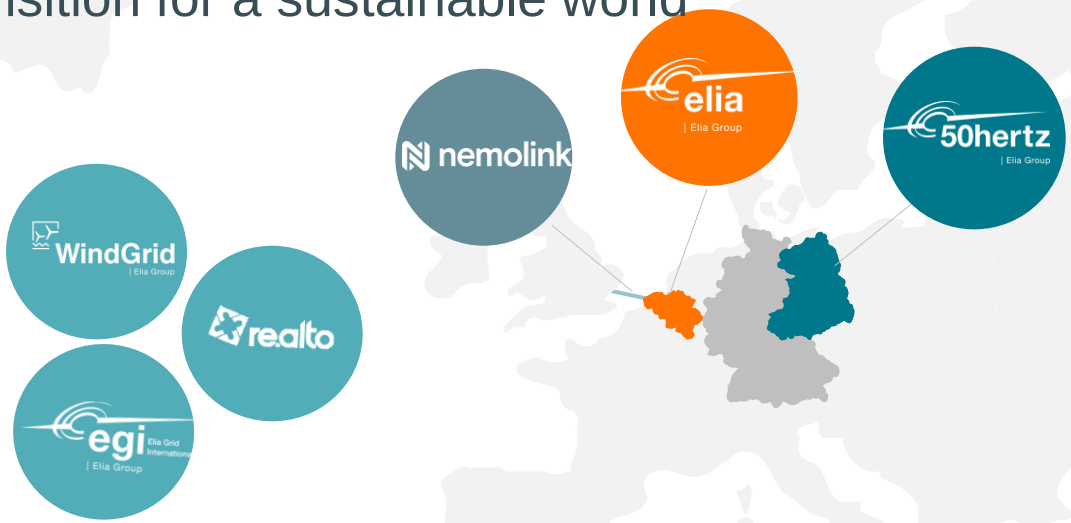
FULLY CHARGED FOR CHANGE

Josephine Delmote
Smart Energy Academy
19/11/2024

This is Elia Group

For a successful energy transition for a sustainable world



energyRe

From key European player to valuable global partner, driving the energy transition

01. Leading TSO Group in Europe

02. Access to North and Baltic sea

03. RAB[1] of €12.2bn (CAGR of ~ 19% 2024-2028)

04. Publicly listed company

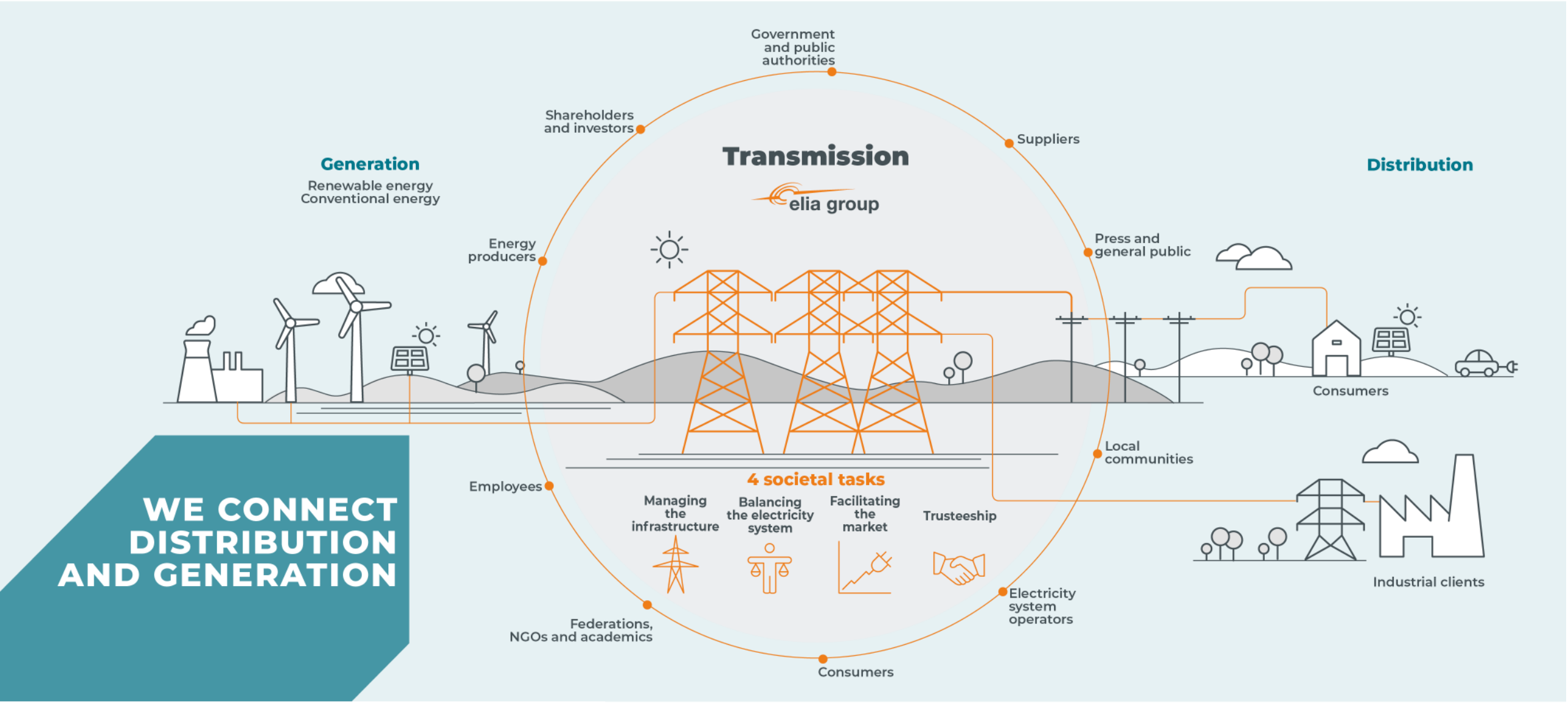
Regulated utility building & operating on-and offshore transmission infrastructure

- **Monopolistic position** in Belgium and Northeast Germany
- Established and stable regulatory frameworks
- Diversified regulatory risk
- Very high network reliability (> 99%)

Activities to shape growth opportunities that increase our societal relevance

- International offshore transmission
- Digitalisation of the energy system
- International energy market consultancy and engineering services

[1]Regulated Asset Base. Amount as of FY23.



WE CONNECT DISTRIBUTION AND GENERATION

Clear ambitions

2021

FIT FOR 55

Increased decarbonisation

-55%

in 2030 (compared with 1990)

2022

REPowerEU

More renewables

Accelerated expansion of renewable energy resources & infrastructure

2023

Green Deal Industrial Plan

More investments

Anchoring Europe's net zero industry

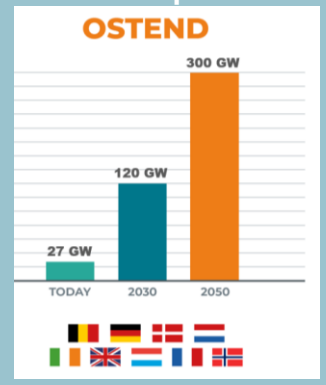
The North Sea Summit

Ostend, 24th of April 2023

2023

North Sea Summit

More offshore development



significant increase in expected electricity demand

accelerated integration of renewable energy sources in Belgium

Consumption

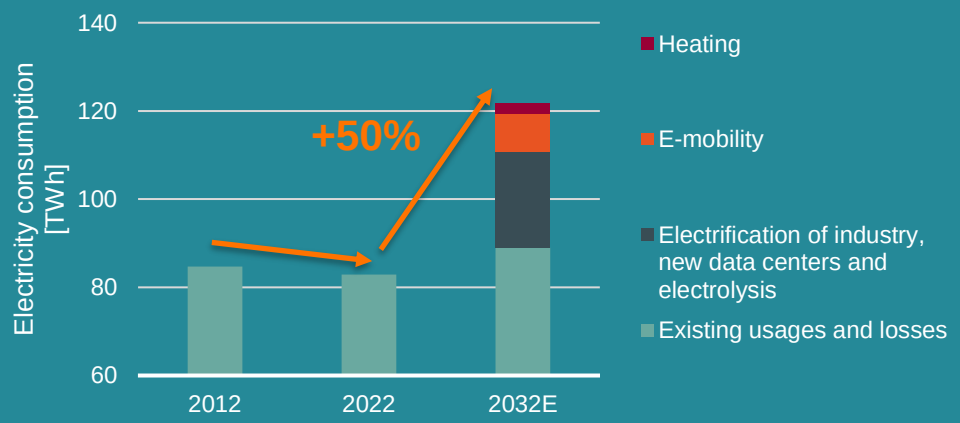
+10TWh

+20TWh

+10TWh

READY FOR **50%** INCREASE **BY 2032**

Expected electricity consumption in Belgium



Production

Solar PV

x2.4

In 2034

18 GW

Onshore Wind

x2.4

In 2034

6,9 GW

Offshore Wind

x2.5

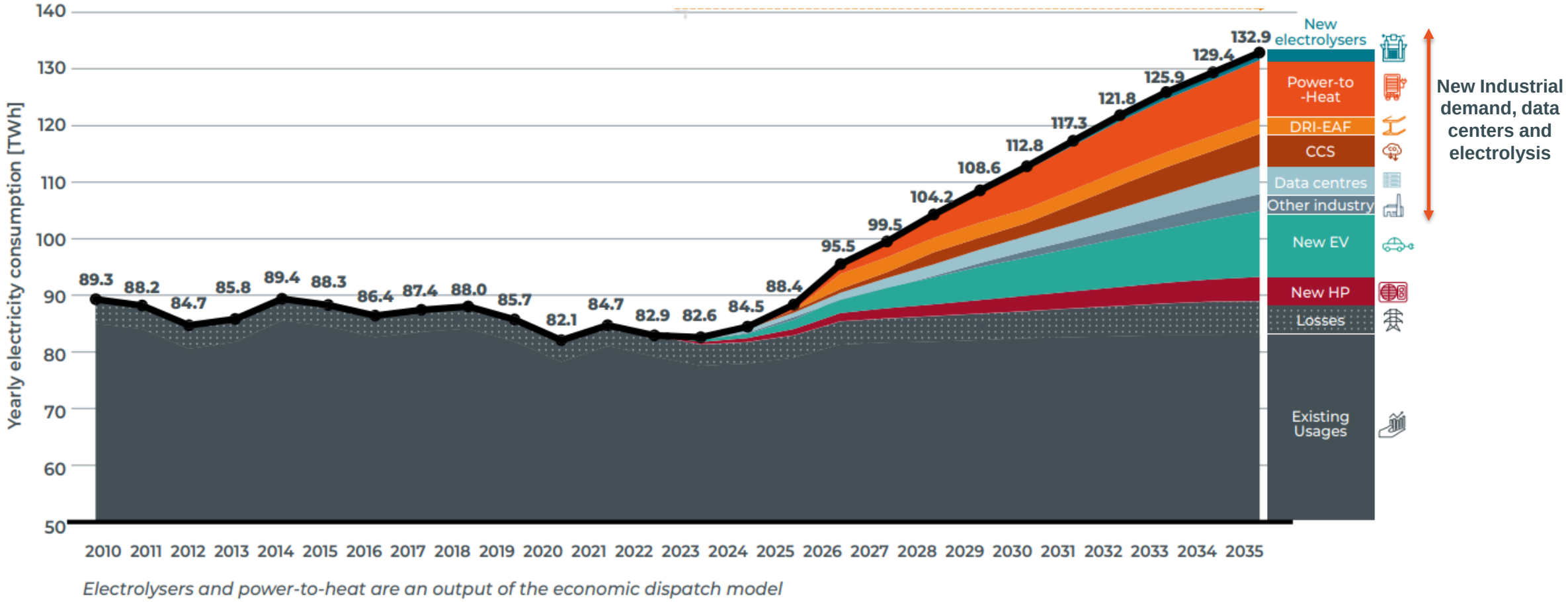
In 2034

5,8 GW

Source: Central scenario Adequacy & flexibility study

Electricity demand is expected to increase significantly in the coming decade, mainly driven by new electrification in industry, transport and heating

Normalised historical and assumed future yearly total electricity consumption in the CENTRAL scenario for Belgium



Electrolysers and power-to-heat are an output of the economic dispatch model

Energy transition: focus points

1

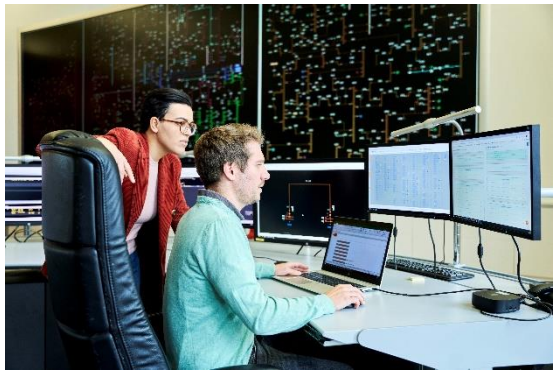
Grid Infrastructure

For an efficient and orderly energy transition, the grid needs to be ready on time

2

Adequacy

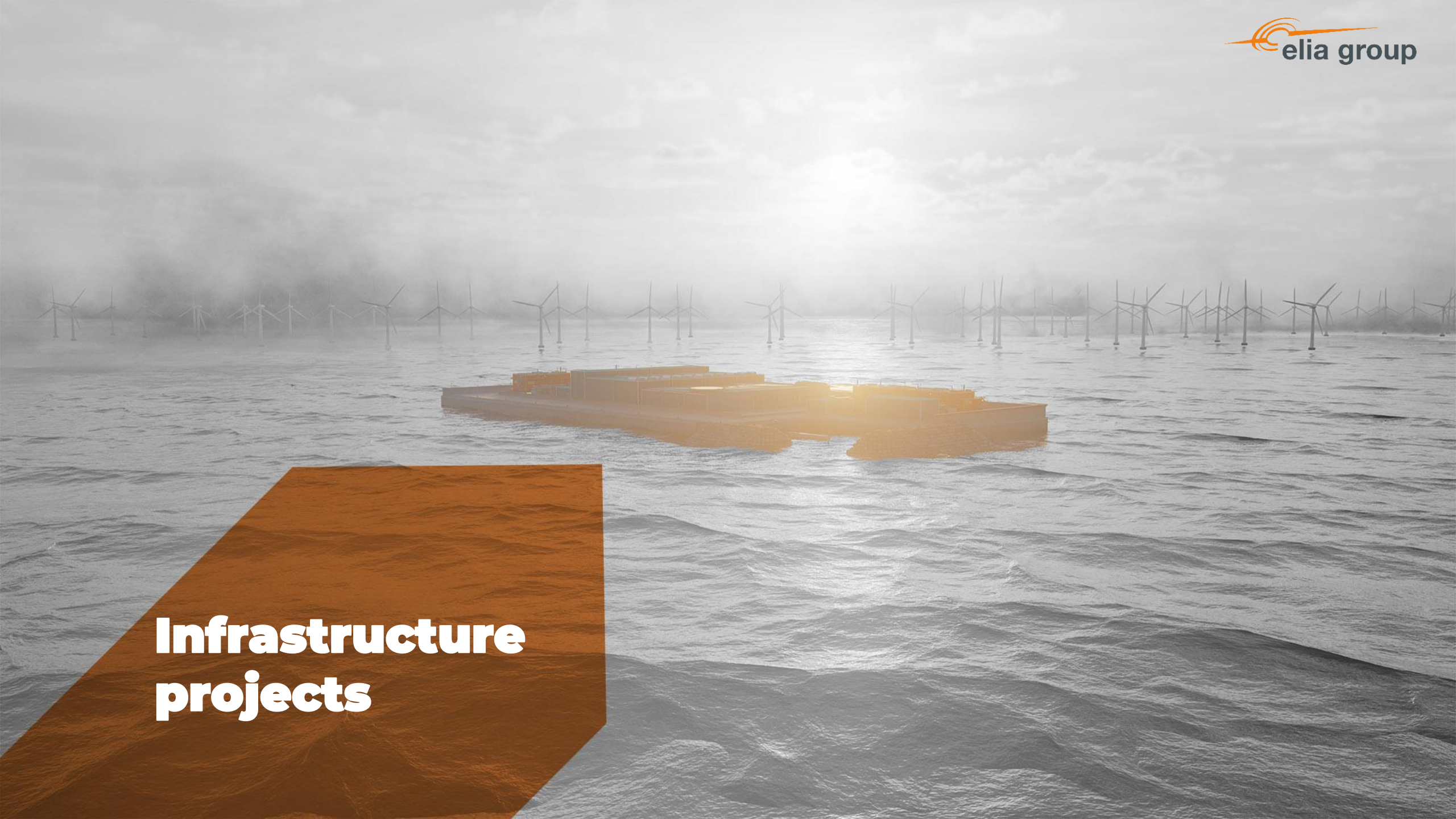
Ensure security of supply during the increase of electricity consumption and intermittent production sources



3

Flexibility

Ensure consumers and industry can valorize their flexibility and benefit from the energy transition

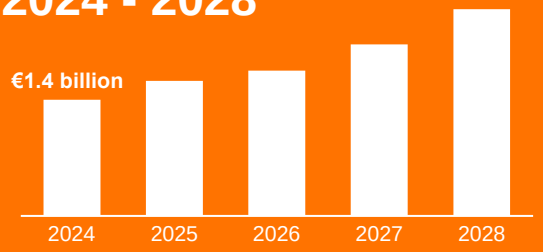


Infrastructure projects

Belgium
Investment plan 2024-2028

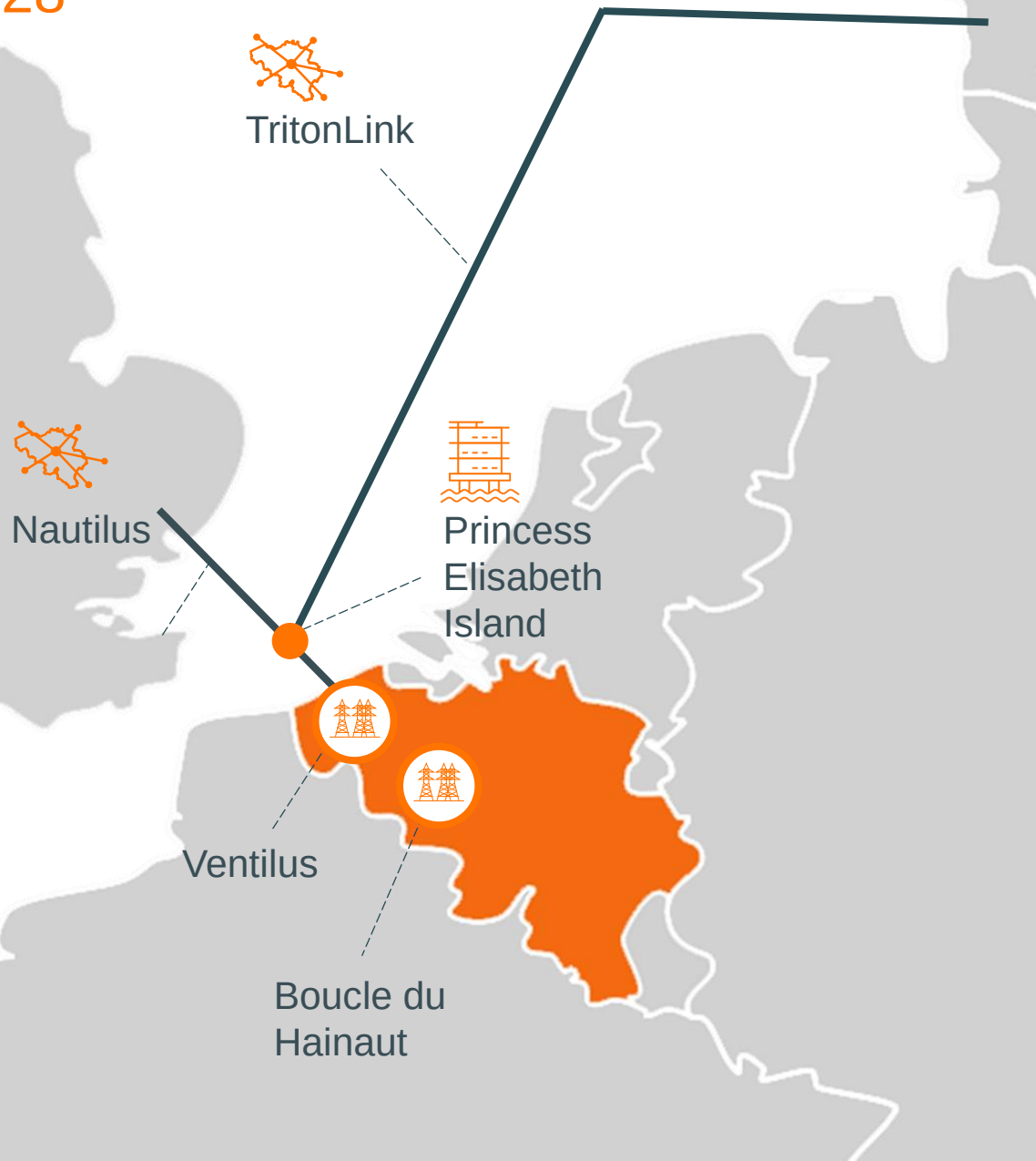
€9.4 billion

2024 - 2028



Leading to ~18% annual RAB growth over the next 5 years

Capex plan includes key new projects, ongoing projects, maintenance capex and IT investments to digitalise system operations.



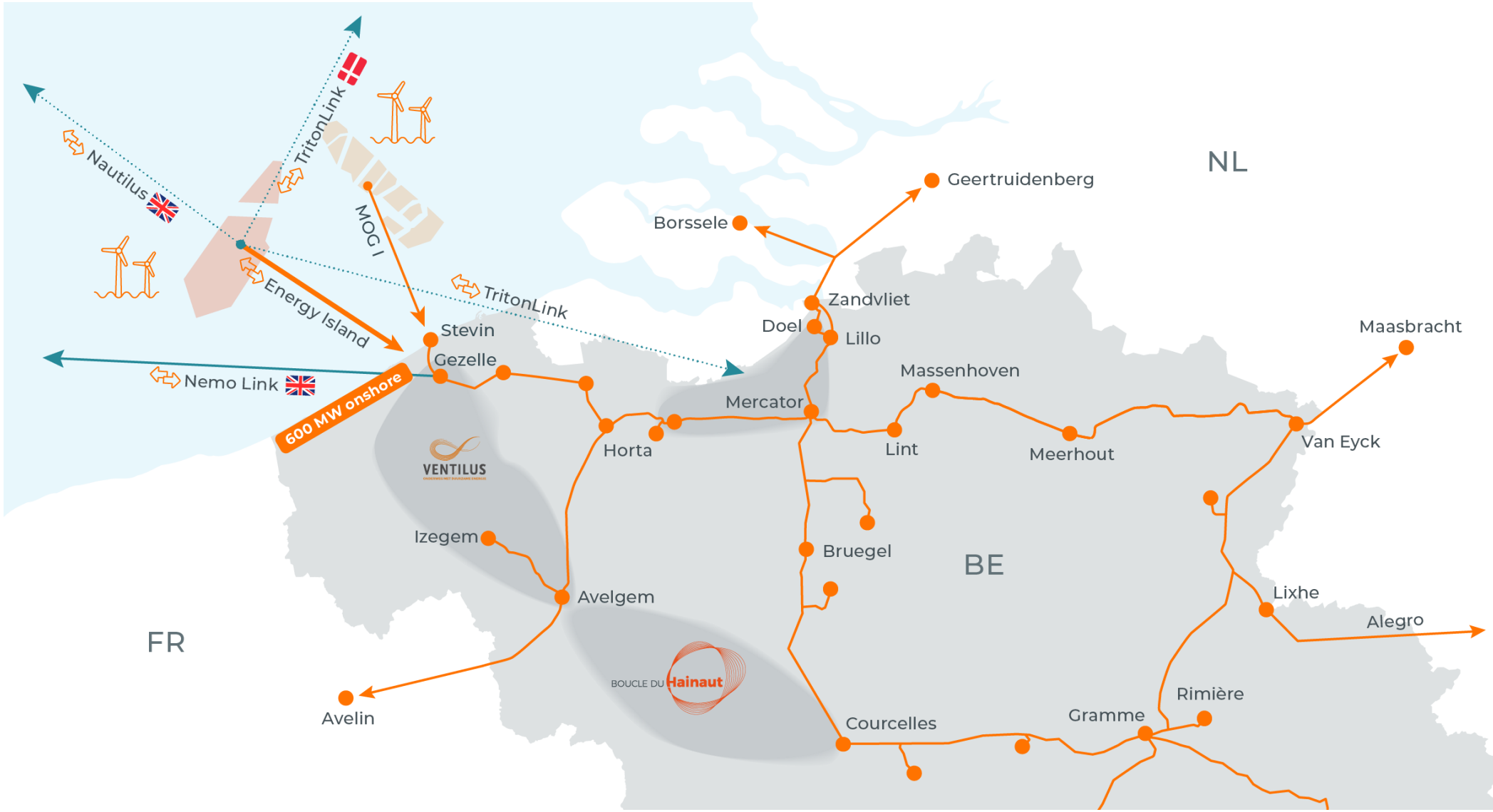
elia group

Facilitating offshore energy

Grid reinforcements

Cross-border interconnection

Versterking en uitbreiding van de interne backbone (380 kV net)



Facing the challenges

Unblocking the supply chain

ELIA GROUP'S RESPONSE

- Identification of categories at risk and associated mitigation
- Securing long-term framework contracts
- Supplier retention management and intensity and explore new partnerships
- Locking in capacity slots

Tackling the recruitment challenge

ELIA GROUP'S RESPONSE

- reviewing the entire chain from attracting, recruiting and onboarding people
- Employer branding
- Upskilling high-potential candidates
- International recruitment
- Improved candidate experience

Reduced permitting processes

ELIA GROUP'S RESPONSE

- Faster permission procedures
- Close collaboration with authorities
- Parallelisation of processes

Solving the funding need

ELIA GROUP'S RESPONSE

- Continuous regulatory discussion
- Improve capex efficiency
- Minimum rating target
- Enlarge shareholder base
- Product diversification:
  - Grants
  - Green financing
  - Convertible bonds
  - …

CAPACITEITSKAART ELIA

Belangrijkste doelstellingen:

- Proactief ondersteunen van de veranderingen in de Belgische energiemix en de elektrificering van onze samenleving

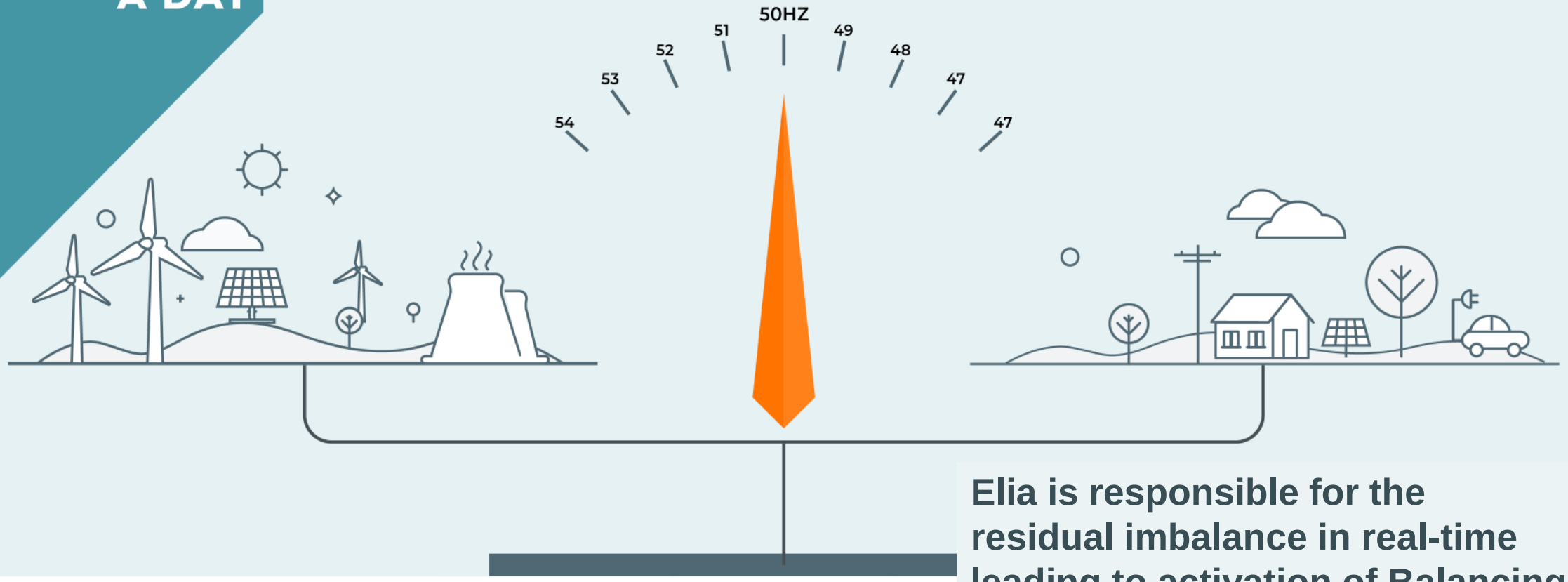
- Op een transparante manier een algemene indicatie geven over de beschikbare capaciteit bovenop de bestaande én de reeds gereserveerde capaciteit

- De kaart is richtinggevend en gaat uit van een tijdige realisatie van geplande infrastructuurwerken

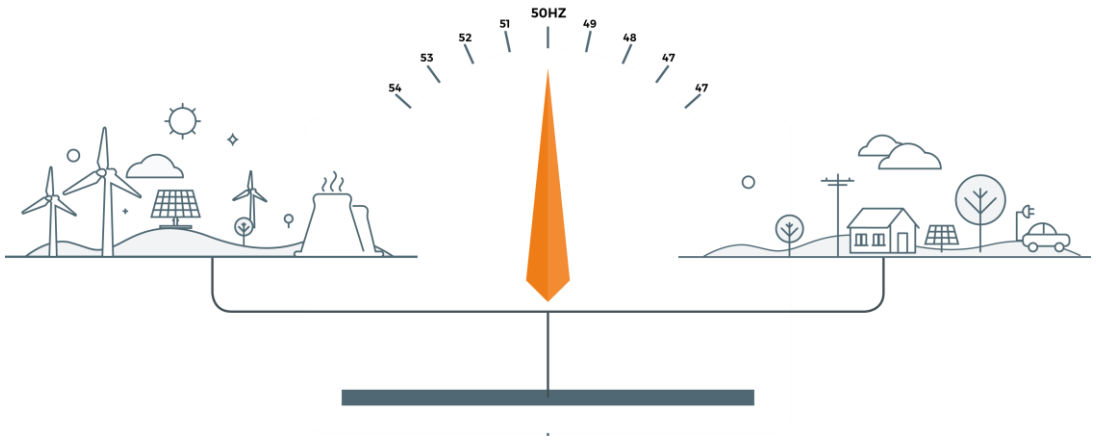

Flexibility

MONITORING THE GENERATION/ CONSUMPTION BALANCE IN REAL TIME, 24 HOURS A DAY

BRPs are in charge of taking required actions to maintain their portfolio in balance



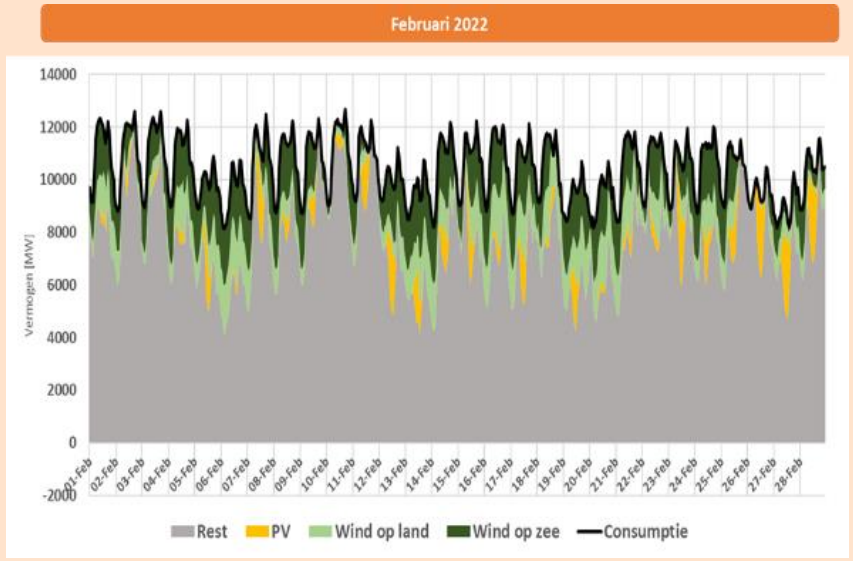
Elia is responsible for the residual imbalance in real-time leading to activation of Balancing Services provided by the BSP

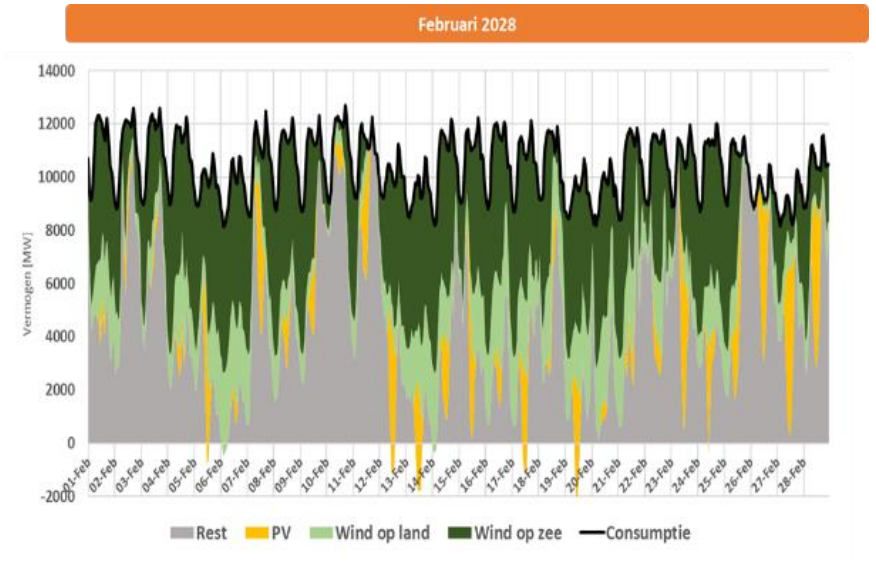


The flexibility is the ability to adjust the consumption or the production of an installation or a process

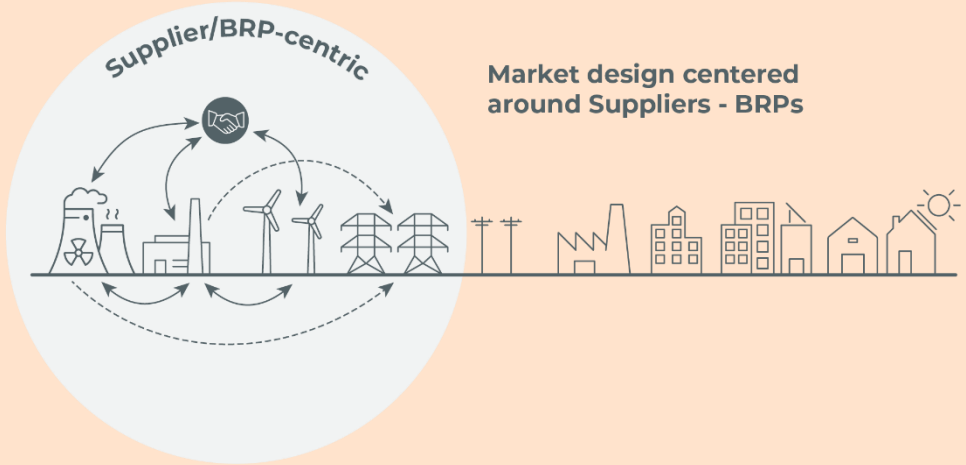
This may be in response to a price signal, the network frequency, or an activation signal from the network operator

New challenges creating a need to evolve the energy system

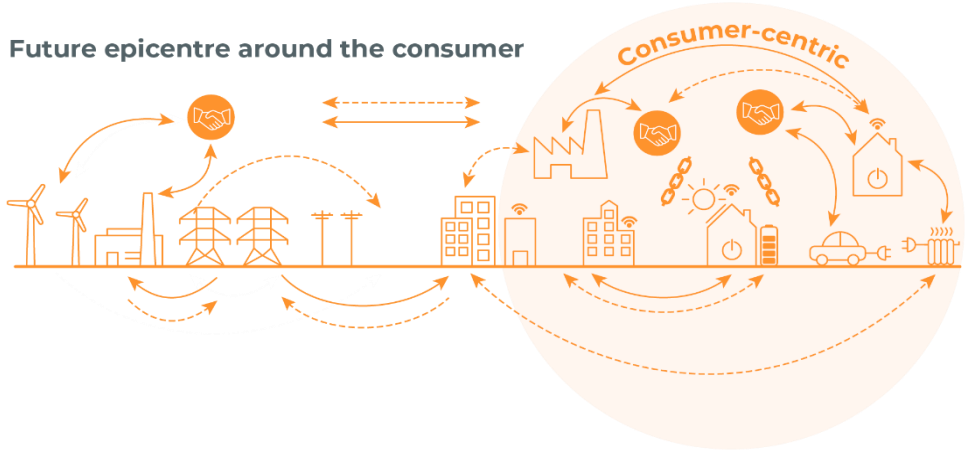




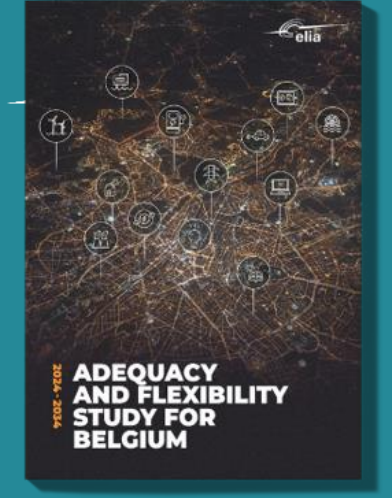
From generation following inflexible demand



To demand following intermittent generation



Increase in flexibility needs following increased renewable energy sources



x2

Increase of flexibility needed by 2034

~7 GW

Flexibility needed in last hours before real-time

~3 GW

Flexibility needed in last 15' before real-time

Sufficient flexibility means will be available in the system…

… the **challenge is to unlock this flexibility** (industrial flex, end-user flex such as electric vehicle, heat pumps, home batteries & solar panels,…) and especially **downward flexibility**

Source: Central scenario Adequacy & flexibility study

Harnessing end user flexibility is a critical lever to enhance efficiency and affordability of the energy transition

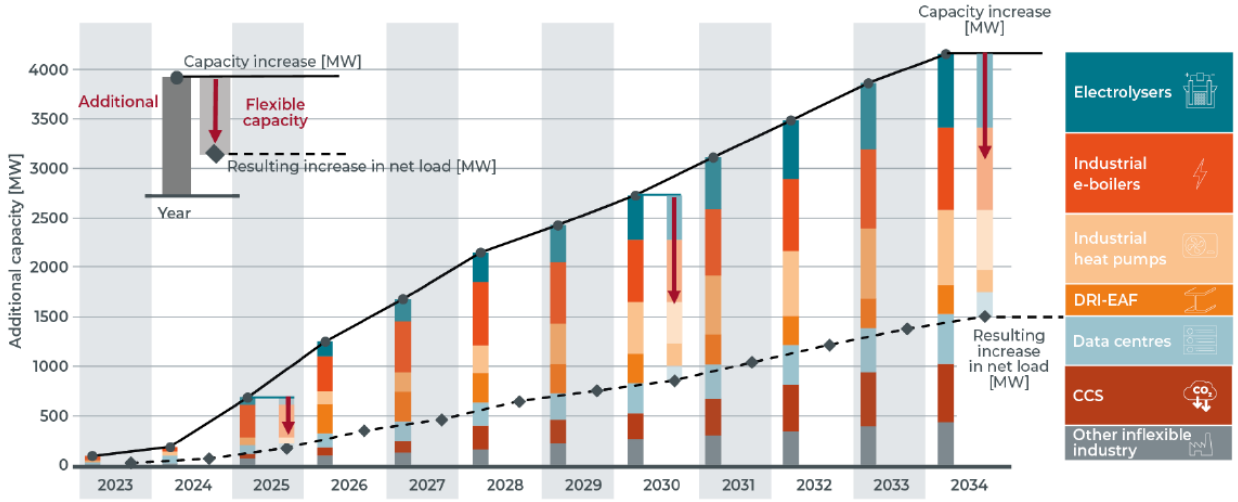
End user perspective

Flexible consumption has the potential to

– To consume electricity when it is abundant

➔**Reduces electricity bill**

System perspective



Flexible consumption has the potential to

– Flatten consumption peaks

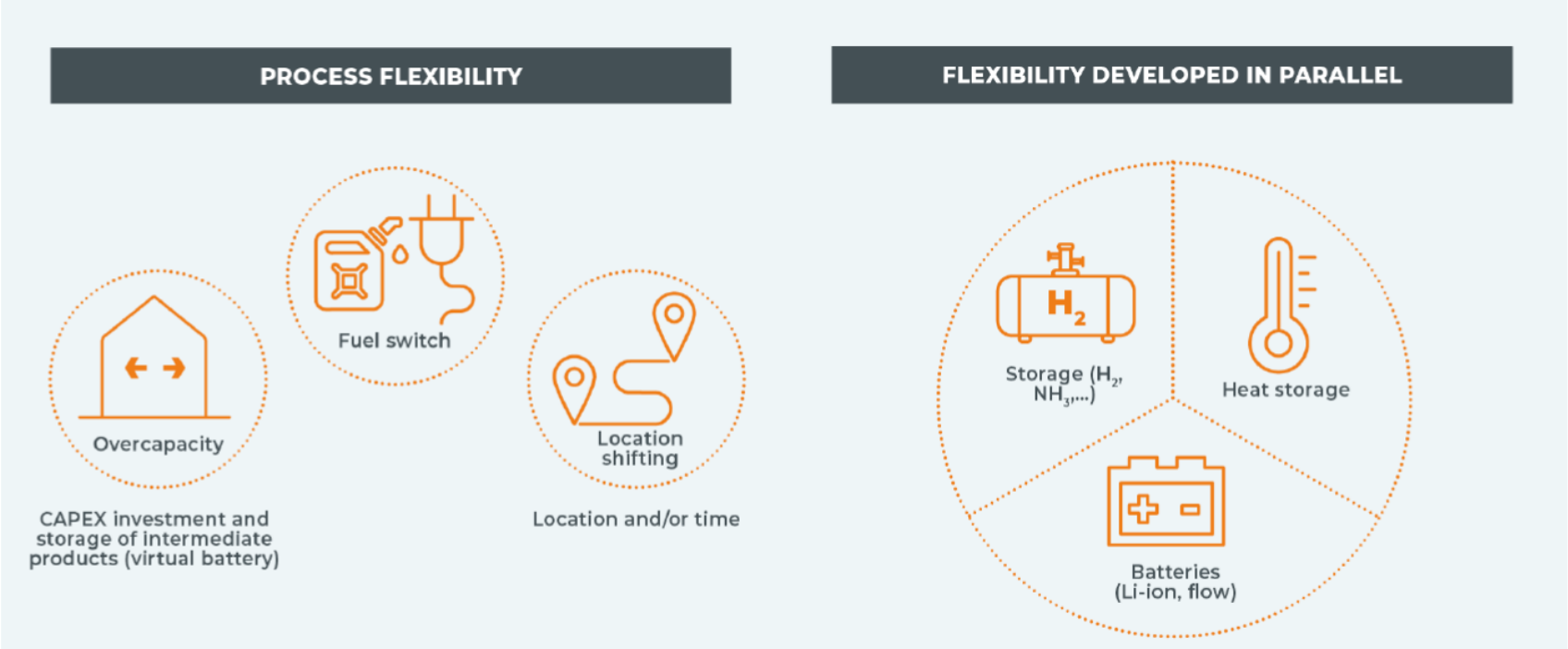
– Manage RES variability

➔ **Contributes to security of supply**

➔ **Reduces capacity needs**

It is worth for every company to consider the potential of flexibility.

Different types of industrial flexibility and different ways to valorize

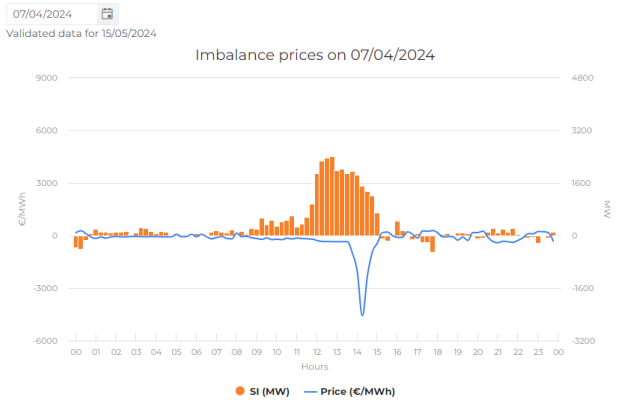


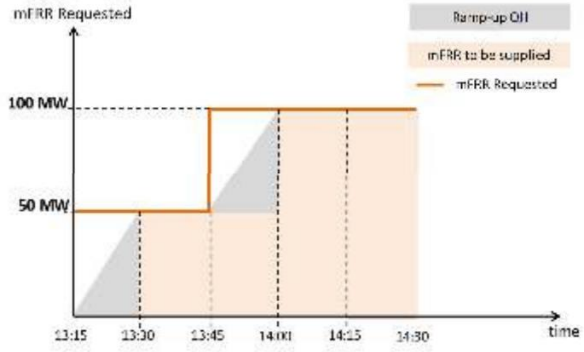
These flexible assets can provide flexibility in multiple value streams into the energy market

PRICE BASED FLEXIBILITY

VOLUME BASED FLEXIBILITY

DA → ID → RT





IMPLICIT REACTION TO PRICE SIGNAL

BRP is incentivized by imbalance price to be balanced or to deviate in order to help the system in real time

EXPLICIT BIDDING TO SYSTEM OPERATOR

SO sends signal to FSP with a specific required volume of flexibility

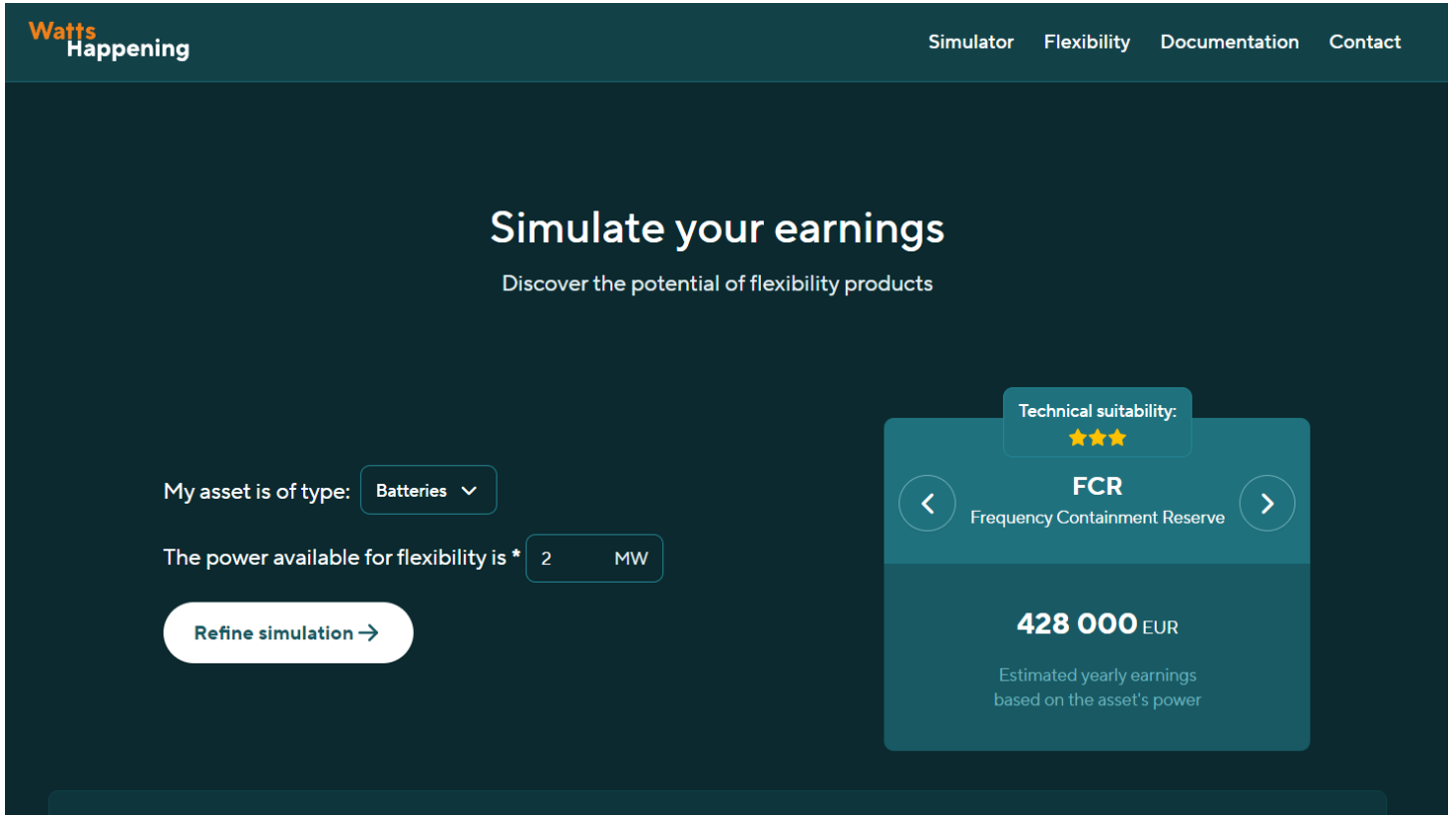
KEY ENABLER: Smart meter (SMR3)

What are the different initiatives in order to unlock the identified flexibility means?

AWARENESS

- ☑ FCR, aFRR, mFRR, CRM
- DA, ID, imbalance
  Update on reference period (Nov'24)

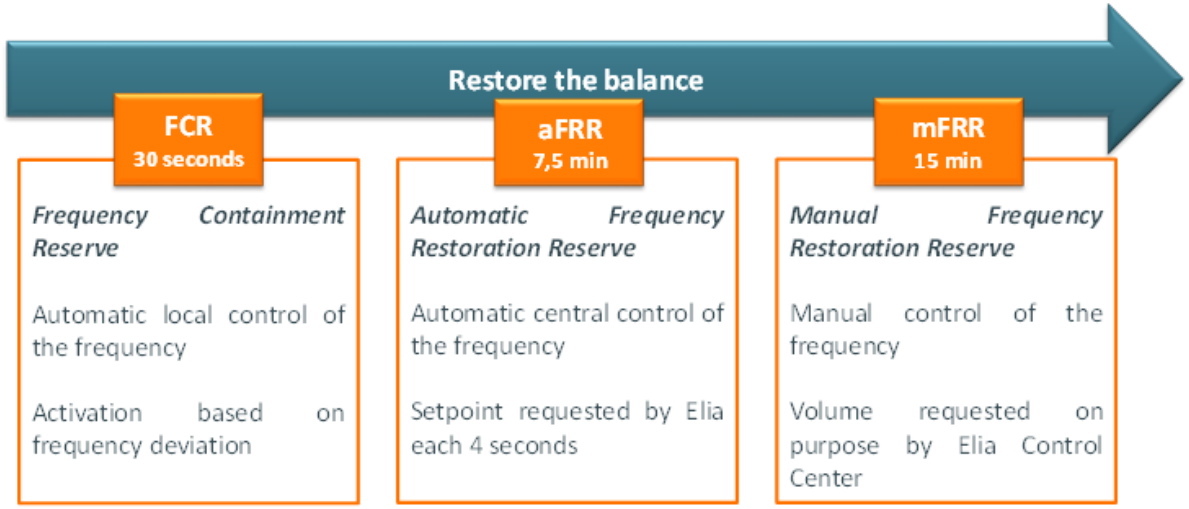
Watts.happening - Monetise your power portfolio



What are the different initiatives in order to unlock the identified flexibility means?

VOLUME BASED FLEXIBILITY

ACCESS	FCR	aFRR	mFRR
HV	✓	✓	✓
MV	✓	✓	✓
LV	✓	End 2024	End 2025



Lowering the technical & operational barriers

Realise the energy transition together

Unprecedented times…


Imec investeert 2,5 miljard euro in pilootlijn voor nieuwe chiptechnologie in Leuven

Europees Commissievoorzitter Ursula Von der Leyen, samen met premier Alexander De Croo en Vlaams minister-president Jan Jambon op bezoek bij Imec. ©EPA


Regering hoopt met goedkope stroom investering ArcelorMittal naar Gent te halen

"Jobs en investeringen in gevaar": crisis in chemie wordt nóg groter, 18 procent minder export en recordaantal machines staat stil

De chemiesector, die in de provincie Antwerpen meer dan 36.000 mensen tewerkstelt, verkeert in een onrustwekkend diepe crisis. De export is in een jaar tijd met achttien procent gedaald, de omzet met veertien procent en nog nooit stonden zo veel machines werkloos te verkommeren.

16 mei 2024

HOLCIM LEGT EERSTE STEEN VAN ULTRAMODERNE GO4ZERO-FABRIEK IN BELGIË VOOR KOOLSTOFVRIJE CEMENTPRODUCTIE

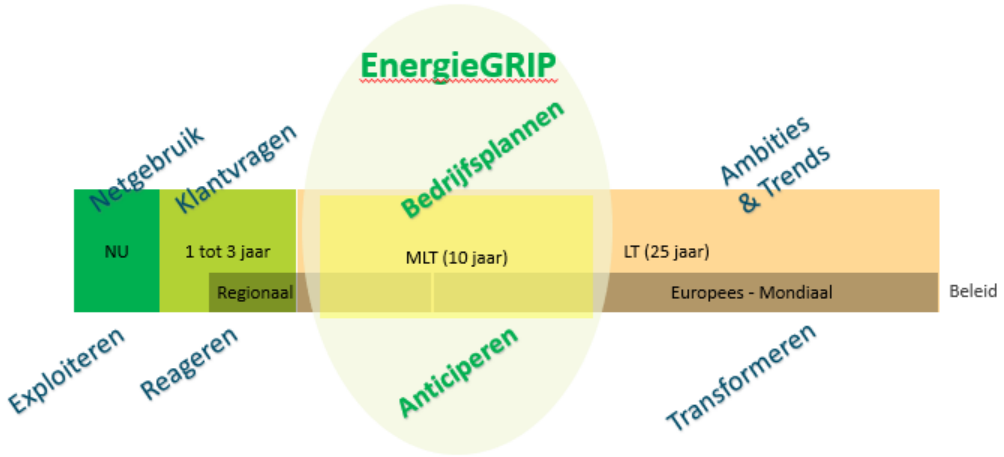
- GO4ZERO project in België van meer dan 500 miljoen euro om de decarbonisatie van Europa te bevorderen

PERSBERICHTEN (PDF, 0.25 MB)

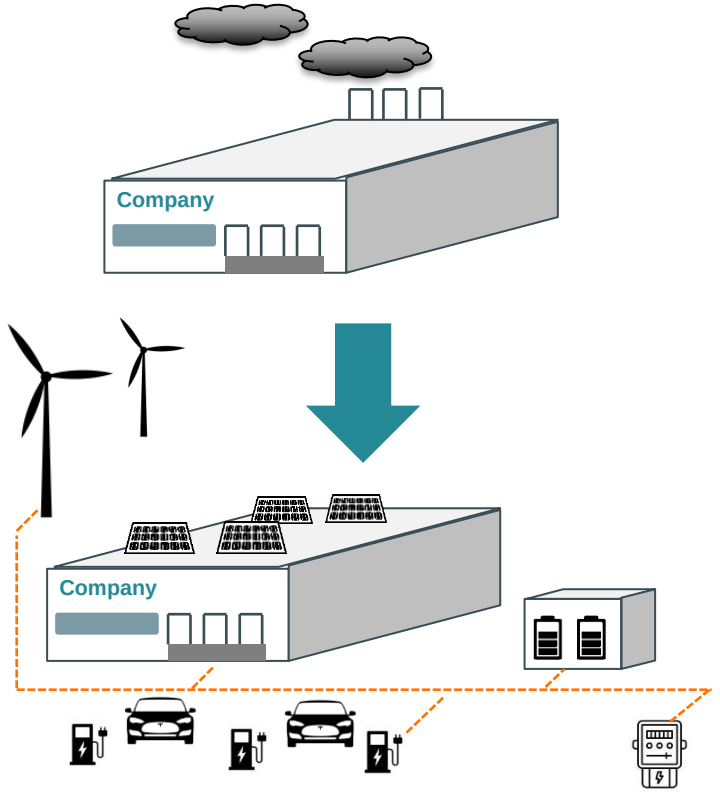

Grootverbruikers kunnen korting op stroomfactuur krijgen

Dit brengt veel vragen met zich mee voor zowel bedrijven als netbeheerders

Netbeheerders willen klantenvragen anticiperen en het elektriciteitsnetwerk zo goed mogelijk voorbereiden



Bedrijven willen maatregelen nemen in functie van economisch voordeel en fiscaliteit en/of om EU of lokale doelstellingen te volgen



Verschil in timing tussen uitbouw infrastructuur (+/- 10 jaar) en investeringsplannen van bedrijven (+/- 3 jaar)

Waar start de decarbonisatie van mijn bedrijf? Met welke assets? Hoe ver kan ik gaan? Wat zal het kosten?

energie GRIP

Samen anticiperen op de energietransitie van de Vlaamse industrie


Thank you!