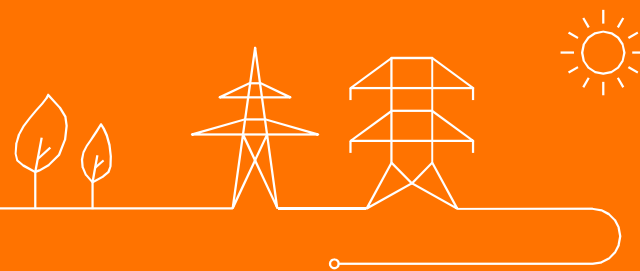


Users' Group

Plenary meeting of the Elia Users' Group

Tuesday, October 4



Agenda



- 1. Approval of the minutes of the Users' Group plenary meeting of 9 June 2022**
- 2. Federal Development Plan**
- 3. WG Belgian Grid:** state of play of ongoing work
- 4. WG Balancing:** state of play of ongoing work
 - 4.1. TF MOG II**
- 5. WG Consumer-Centric Market Design:** state of play of ongoing work
- 6. WG Adequacy:** state of play of ongoing work
- 7. WG System Operations & European Market Design:** state of play of ongoing work
- 8. Miscellaneous**
 - 8.1. Vision Point:** decarbonisation of the industry and its impact
 - 8.2. Ongoing public consultations**
 - 8.3. Last plenary meeting:** Tuesday 6/12 – 2 p.m. to 5 p.m.



Agenda



1. **Approval of the minutes of the Users' Group plenary meeting of 9 June 2022**
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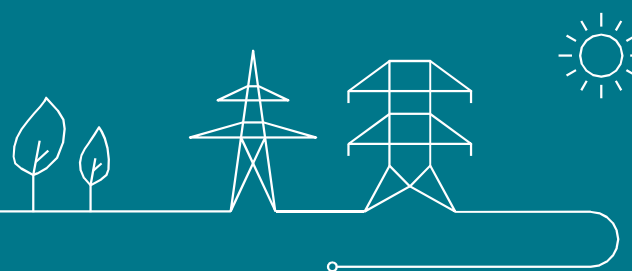


On the road to a Net Zero Society

Federaal Ontwikkelingsplan 2024-2034

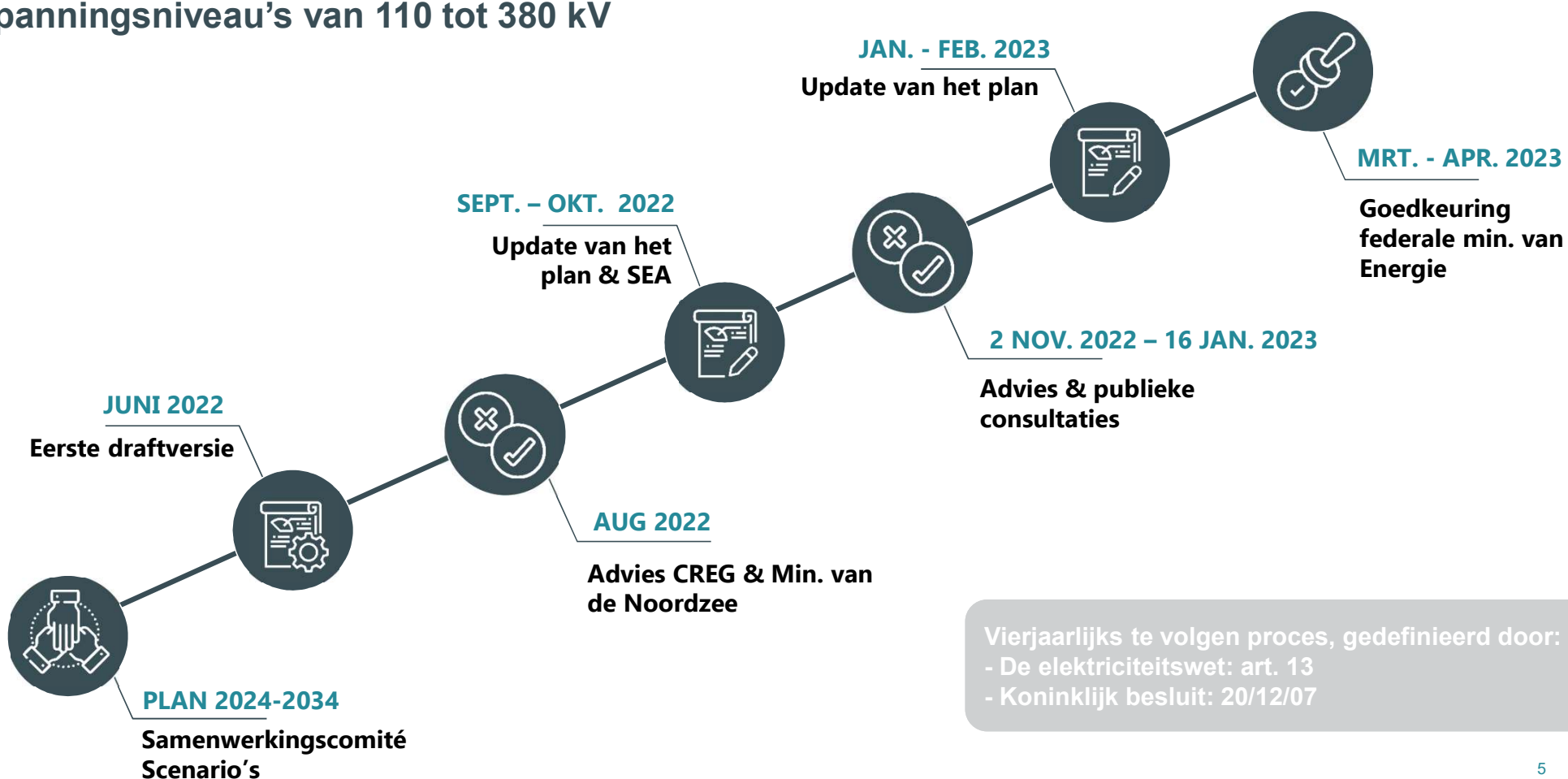
(version FR dessous)

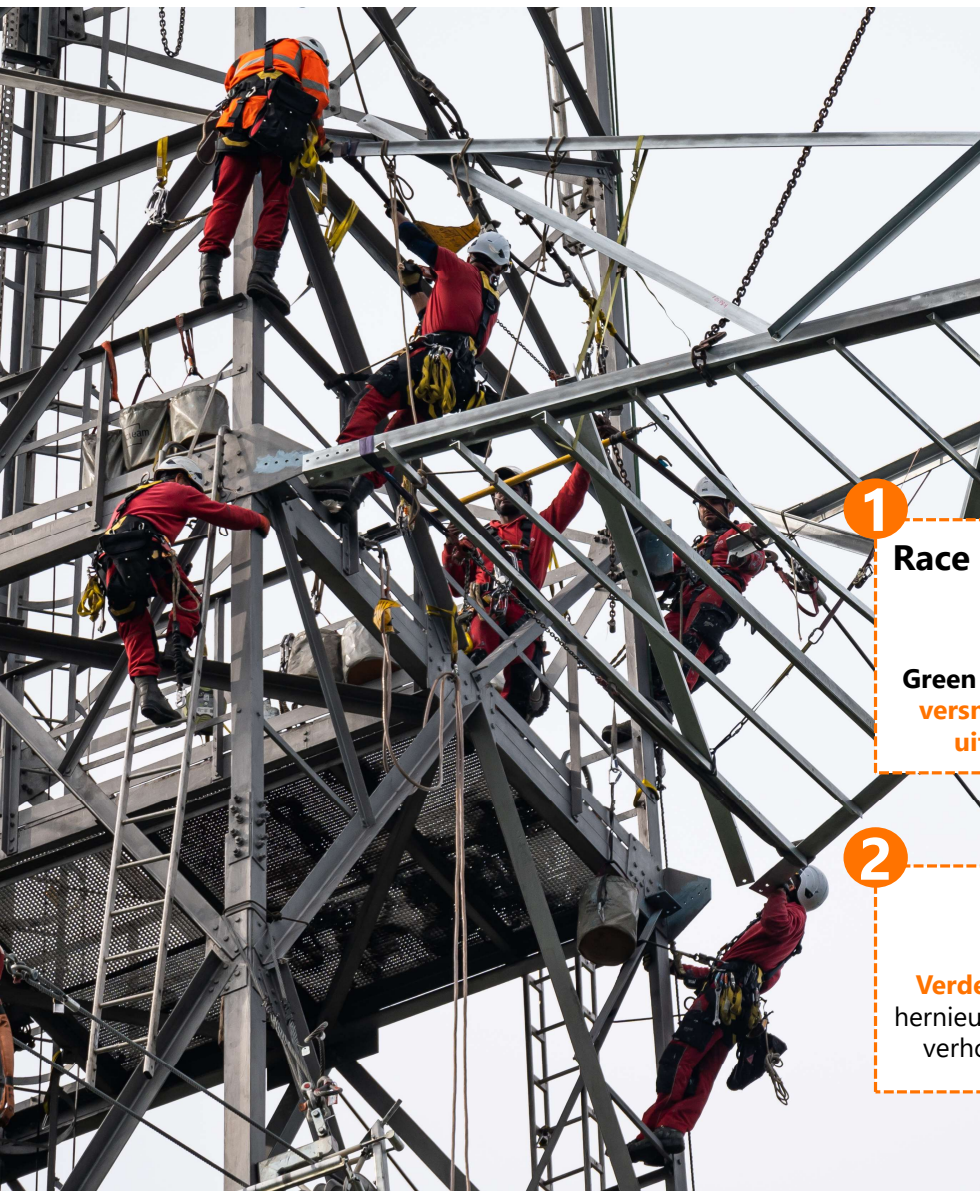
Elia – 04/10/2022



Federaal Ontwikkelingsplan – Proces

Spanningsniveau's van 110 tot 380 kV





ENERGIE IS EEN KOSTBAAR GOED EN EEN STRATEGISCHE ASSET

1

Race naar klimaatneutraliteit tegen 2050

Green Deal en Fit for 55 omvatten een **versnelling** van de doelstellingen en **uitbreiding** naar alle sectoren.

2

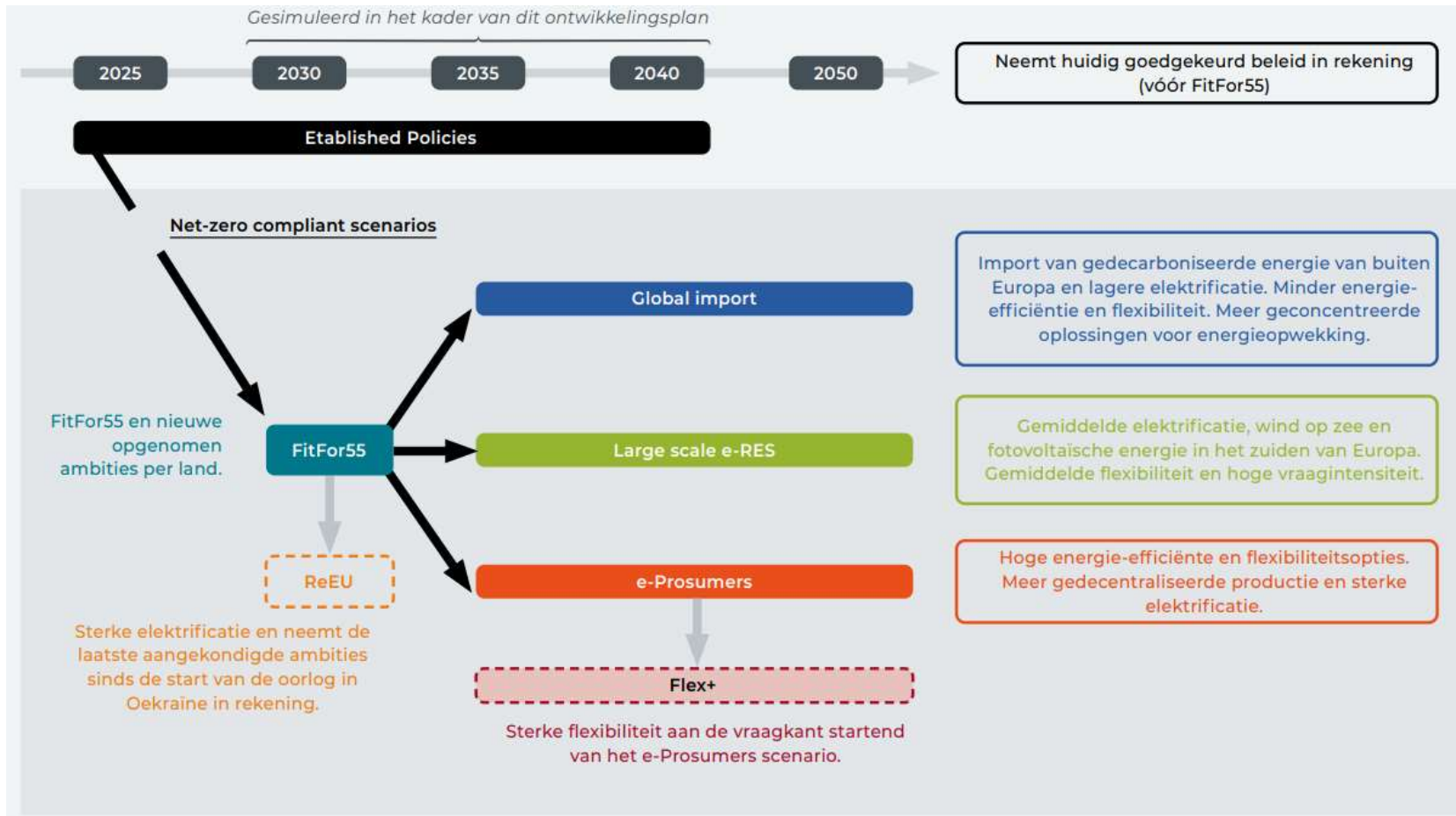
Geopolitieke Crisis

Verdere acceleratie van de uitrol van hernieuwbare energie en maatregelen ter verhoging van de energie-efficiëntie

Fundamentele Transformatie van het volledige energiesysteem, waarin het elektriciteitssysteem centraal staat.

Andere aanpak voor snelle en grootschalige integratie van hernieuwbare energie

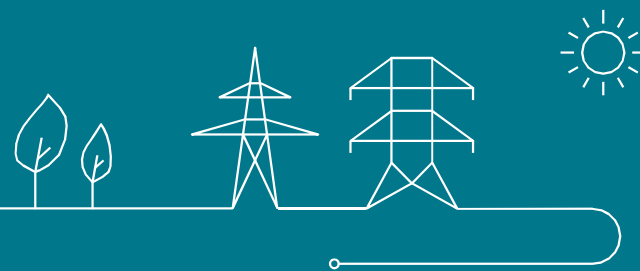
Scenario's voor een koolstofneutrale samenleving



ReEU is tevens het enige scenario in 2030 waar de door de Belgische overheid aangekondigde intentie tot verlenging van de uitbating van 2 GW van het Belgische nucleaire park (Maart 2022) in rekening gebracht werd



De ontwikkeling van het Horizontale systeem



5 bepalende principes

Voor het uitwerken van het Federaal Ontwikkelingsplan



1.

MAXIMALE INTEGRATIE VAN HET EIGEN POTENTIEEL AAN HERNIEUWBARE ENERGIE IN HET ELEKTRICITEITSSYSTEEM



2.

REALISATIE VAN EEN EERSTE OFFSHORE ENERGIEHUB ALS TOEGANGSPOORT TOT DE NOORDZEE

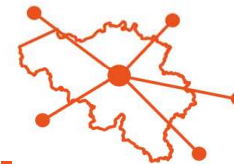


3.

INZETTEN OP EEN DOORGEDREVEN ELEKTRIFICATIE VAN ONZE SAMENLEVING OP WEG NAAR NET ZERO

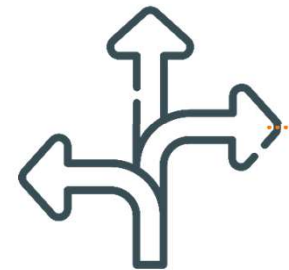
4.

MAXIMALE INTEGRATIE BINNEN DE EUROPESE ELEKTRICITEITSMARKT OM SCHOMMELINGEN IN HERNIEUWBARE PRODUCTIE OP TE VANGEN EN TOEGANG TE KRIJGEN TOT COMPETITIEVE PRIJZEN



5.

DE BESTAANDE STRUCTUUR OPTIMAAL BENUTTEN EN ROBUUSTER MAKEN



Met tevens een verbetering van de duurzaamheid in netontwikkeling.

De clusters van Infrastructuur ontwikkeling



Verbeteren van de duurzaamheid in netontwikkeling

On the road to a Net Zero Society

Energie efficient elektriciteitssysteem dat duurzaamheid, betaalbaarheid & bevoorradingszekerheid garandeert en decarbonisering faciliteert van elke sector



Uitbouw en integratie van het offshore netwerk



Verdere ontwikkeling van de onshore interconnecties



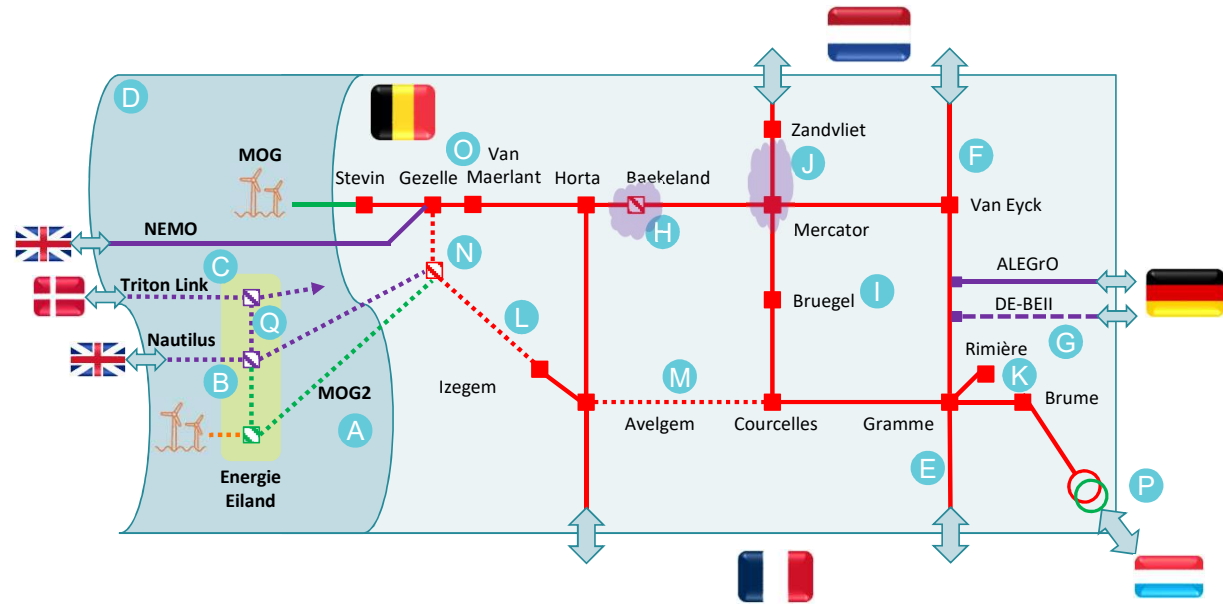
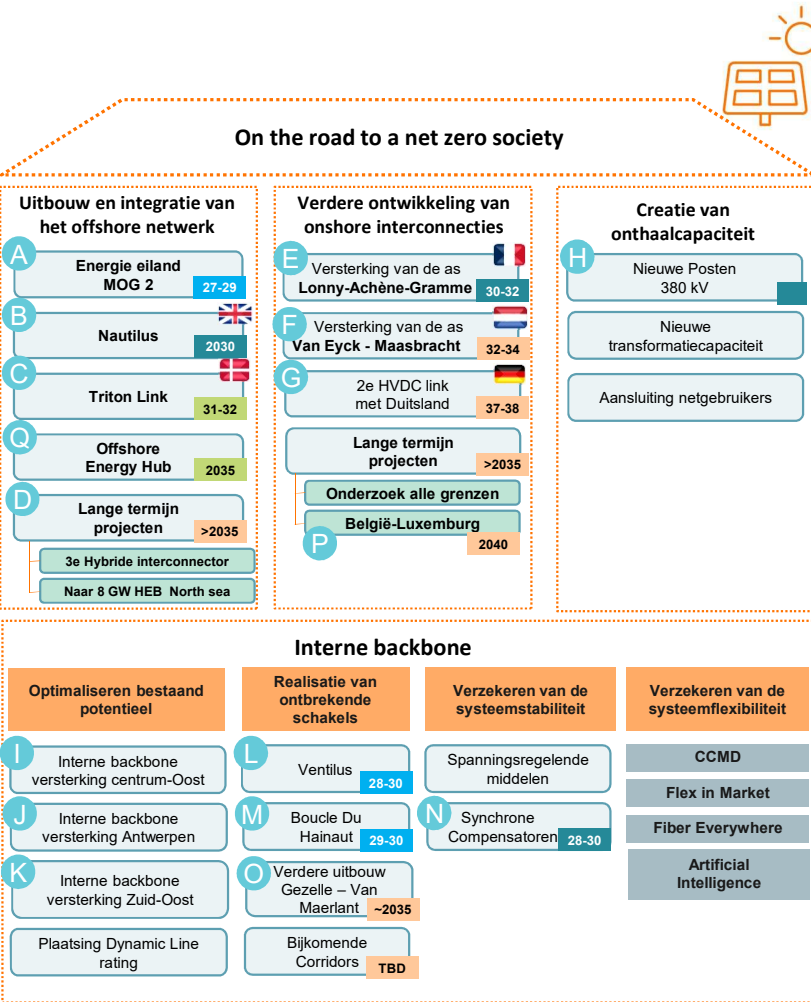
Creatie van Onthaalcapaciteit

Het versterken en uitbreiden van het Interne backbone 380 kV net

- Optimaliseren bestaand potentieel
- Realisatie van de ontbrekende schakels
- Verzekeren van de systeemstabiliteit
- Verzekeren van de systeemflexibiliteit

De ontwikkeling van het Belgische transmissienet

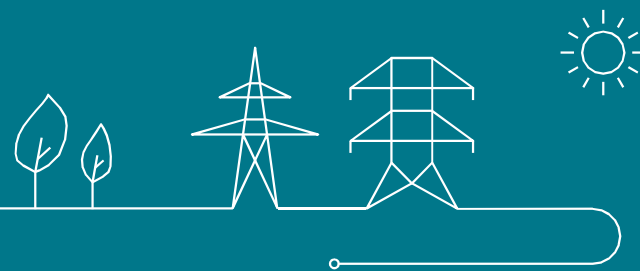
220 kV
380 kV
HVDC



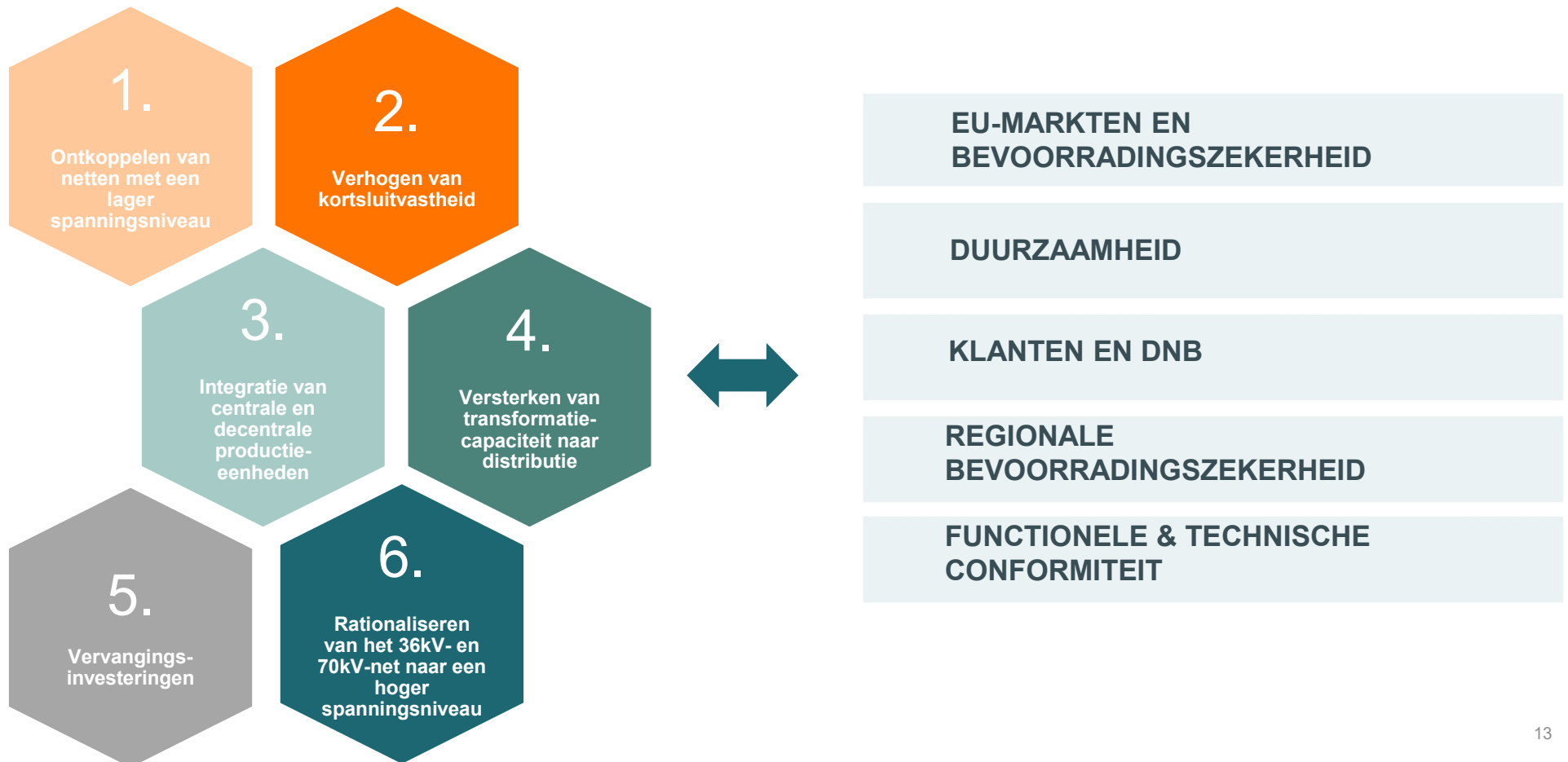
WAAR IN HET VERLEDEN ENKEL DE BACKBONE CENTRUM-OOST EEN LUS VORMDE ZAL IN DE TOEKOMST, MITS HET INLUSSEN VAN KRITISCHE VERBINDINGEN ZOALS STEVIN EN HORTA-MERCATOR D.M.V. DE REALISATIE VAN VENTILUS EN BOUCLE DU HAINAUT, HET BELGISCHE NET EVOLUEREN VAN ÉÉN LUS OP 380 kV NAAR DRIE LUSSEN. DIE NETWERK ARCHITECTUUR BIEDT EEN AANZIENLIJKE VERHOOGING VAN DE TRANSPORTCAPACITEIT ÉN DE NODIGE ROBUUSTHEID EN FLEXIBILITEIT OM ONZE CENTRALE POSITIE IN HET EUROPESE SYSTEEM TE VERANKEREN EN DE VOLGENDE STAPPEN RICHTING 2050 OP EEN ORDELIJKE MANIER TE ORGANISEREN

20XX Planned 20XX Conditional 20XX For Approval 20XX Indicative

De ontwikkeling van het Verticale systeem

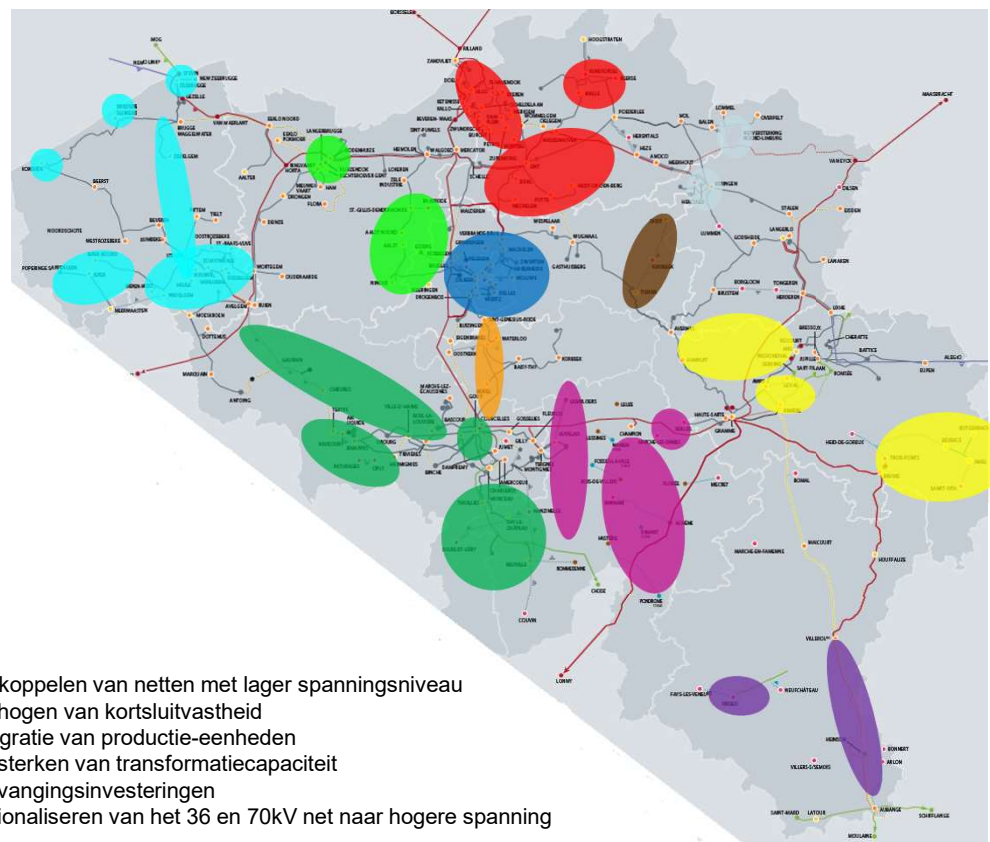


6 pijlers voor de ontwikkeling van het verticaal systeem (220 kV, 150 kV, 110 kV)



Het verticaal systeem 220-150-110kV (highlights)

		1	2	3	4	5	6
● Antwerpen	Versterking Kempen	✓		✓		✓	
	Evolutie Antwerpen stad en haven	✓	✓		✓	✓	
	Herstructurering 70kV					✓	✓
● Brussel / Bruxelles					✓	✓	✓
						✓	✓
● Hainaut	Projets liés au backbone 380kV	✓			✓	✓	
	Evolution vers 150kV				✓	✓	✓
	Région du Borinage			✓		✓	✓
	Entre Sambre et Meuse			✓		✓	✓
	Scission 150kV Brabant – Hainaut (Gouy)	✓					
● Limburg	Versterken 150kV	✓			✓	✓	
	Herstructureren 70kV (Tessenderlo – Beringen)				✓	✓	✓
● Liège	Boucle de l'Est			✓	✓	✓	✓
	Restructuration Hesbaye			✓	✓	✓	✓
	Intégration des nouvelles centrales			✓			
● Luxembourg	Evolution vers 110kV (Orgeo)			✓		✓	✓
	Restructuration 220kV					✓	
● Namur	Découplage du Hainaut	✓		✓		✓	✓
	Découplage de la province de Liège	✓				✓	✓
	Développement du réseau de Namur			✓	✓	✓	✓
● Oost-Vlaanderen	Projecten gelinkt aan backbone 380kV / Haven Gent	✓	✓		✓		
	Aalst – Dendermonde – Malderen				✓	✓	✓
● Vlaams-Brabant	Tienen – Kersbeek -Diest	✓			✓	✓	✓
● Brabant Wallon	Restructuration 150kV Gouy - Drogenbos				✓	✓	
● West-Vlaanderen	Projecten gelinkt aan backbone 380kV	✓		✓	✓		
	Regio Kortrijk				✓	✓	✓
	Westhoek				✓	✓	✓
	Versterkingen Koksijde, Zedelgem, Slijkens en Zeebrugge			✓	✓	✓	



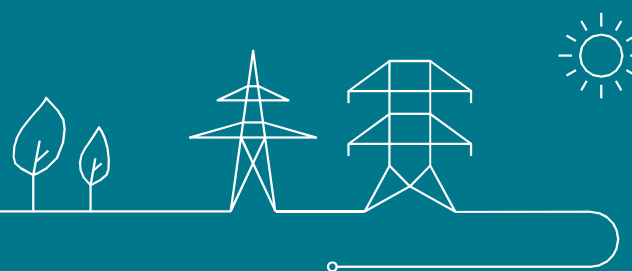
1. Ontkoppelen van netten met lager spanningsniveau
2. Verhogen van kortsluitvastheid
3. Integratie van productie-eenheden
4. Versterken van transformatiecapaciteit
5. Vervangingsinvesteringen
6. Rationaliseren van het 36 en 70kV net naar hogere spanning

→ FOP 2024-2034 omvat totaal 252 projecten (voor start werken)

On the road to a Net Zero Society

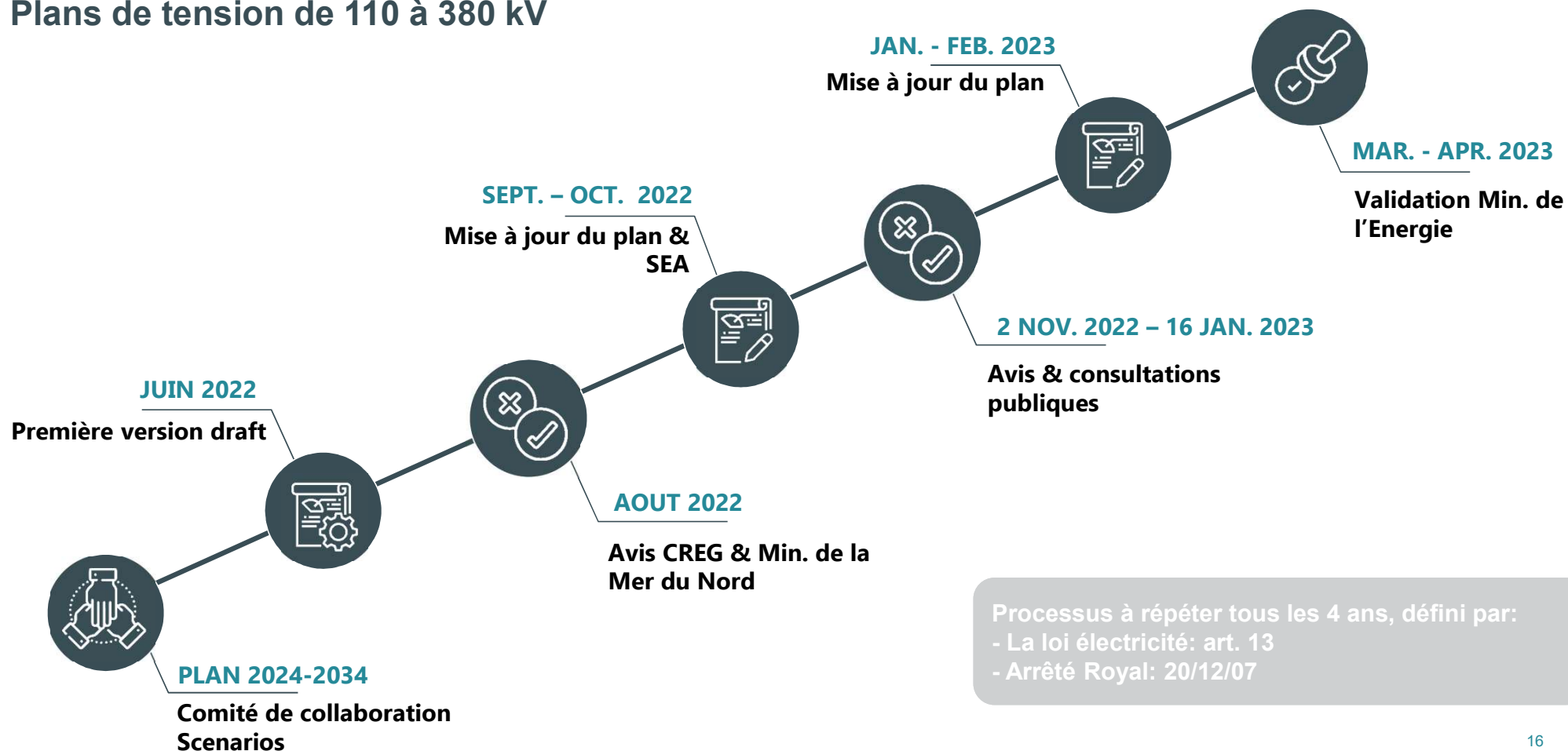
Plan de développement fédéral 2024-2034

Elia – 04/10/2022



Plan de Développement Fédéral – Processus

Plans de tension de 110 à 380 kV





L'ÉNERGIE EST UN BIEN PRÉCIEUX ET UN ATOUT STRATÉGIQUE

1

Course vers la neutralité carbone en 2050

Le **Green Deal** et le **Fit for 55** comprennent une **accélération** des objectifs et un **élargissement** à tous les secteurs.

2

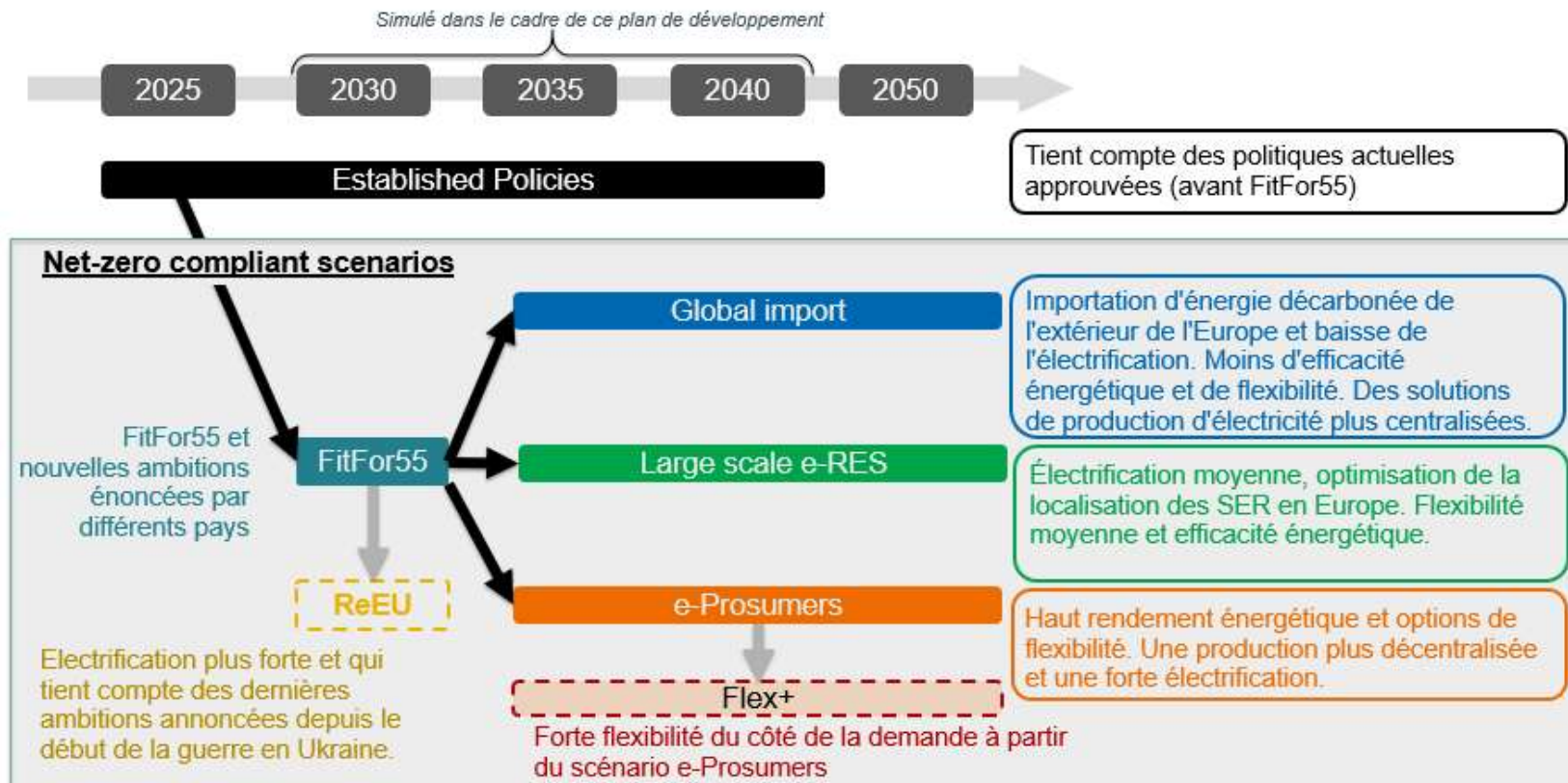
Crise géopolitique

Nouvelle accélération du déploiement des énergies renouvelables et mesures pour accroître l'efficacité énergétique.

Transformation fondamentale de l'ensemble du système énergétique au sein duquel le système électrique occupe une place centrale.

UNE APPROCHE DIFFÉRENTE POUR L'INTÉGRATION RAPIDE ET À GRANDE ÉCHELLE DES ÉNERGIES RENOUVELABLES

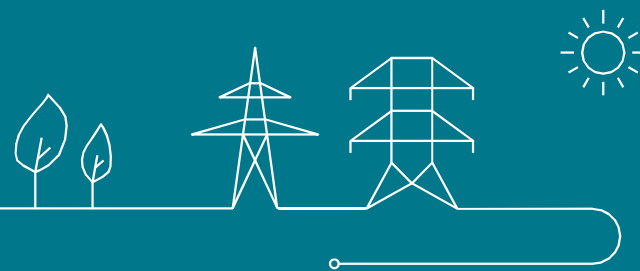
Scenarios pour société neutre en carbone



ReEU est par ailleurs le seul scénario en 2030 pour lequel l'intention annoncée des autorités belges de prolonger l'exploitation de 2 GW du parc nucléaire belge (mars 2022) a été prise en compte.



Le développement du système horizontal



5 principes déterminants Pour le développement du système électrique belge



INTÉGRATION MAXIMALE DU
PROPRE POTENTIEL EN
ÉNERGIES RENOUVELABLES
DANS LE SYSTÈME ÉLECTRIQUE



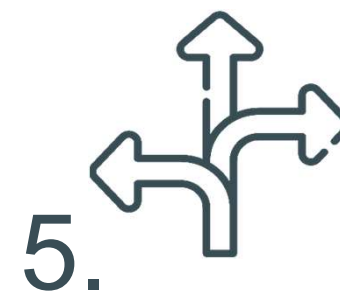
RÉALISATION D'UN PREMIER HUB
ÉNERGÉTIQUE EN MER COMME
PORTE D'ENTRÉE DE LA MER DU
NORD



ENGAGEMENT EN FAVEUR D'UNE
ÉLECTRIFICATION ACCRUE DE LA
SOCIÉTÉ EN VUE D'ATTEINDRE LA
NEUTRALITÉ CARBONE



INTÉGRATION MAXIMALE AU SEIN DU
MARCHÉ EUROPÉEN DE L'ÉLECTRICITÉ AFIN
D'ABSORBER LES FLUCTUATIONS DE LA
PRODUCTION RENOUVELABLE ET
D'ACCÉDER À DES PRIX COMPÉTITIFS



UTILISATION OPTIMALE DE
L'INFRASTRUCTURE EXISTANTE ET
RENFORCEMENT DE SA ROBUSTESSE

Avec également une amélioration de la durabilité dans le développement du réseau.

Les clusters du développement de l'infrastructure



Améliorer la durabilité dans le développement du réseau

On the road to a Net Zero Society

Un système électrique efficace sur le plan énergétique qui garantit la durabilité, l'abordabilité et la sécurité de l'approvisionnement et facilite la décarbonisation de chaque secteur



Développement et intégration du réseau offshore



Poursuite du développement des interconnexions terrestres



Création de capacité d'accueil

Renforcement et extension du backbone interne du réseau 380 kV

- Optimiser le potentiel existant
- Réaliser les liens manquants
- Assurer la stabilité du système
- Assurer la flexibilité du système

Le développement du réseau de transport belge

220 kV
380 kV
HVDC

On the road to a net zero society



Développement et intégration du réseau offshore

- A** Île énergétique MOG 2 27-29
- B** Nautilus 2030
- C** Triton Link 31-32
- Q** Offshore Energy Hub 2035
- D** Projets à long-terme >2035
 - 3e interconnecteur hybride
 - Vers 8 GW SER North sea

Poursuite du développement des interconnexions onshore

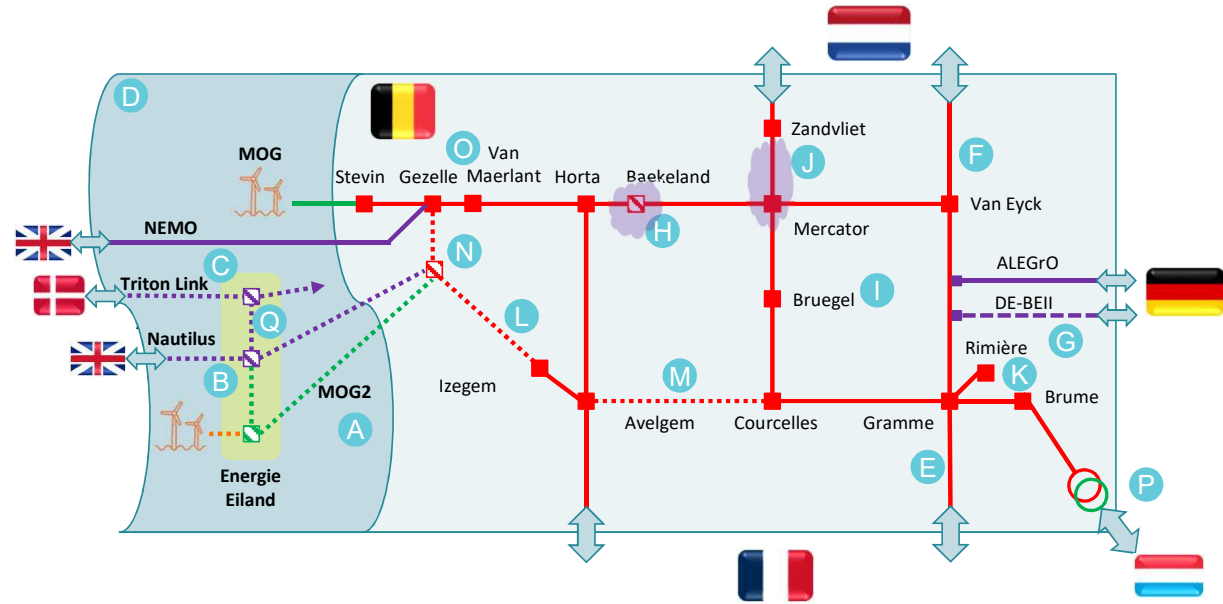
- E** Renforcement de l'axe Lonny-Achène-Gramme 30-32
- F** Renforcement de l'axe Van Eyck - Maasbracht 32-34
- G** 2e liaison HVDC avec l'Allemagne 37-38
- Projets à long-terme >2035
 - Etudier toutes les frontières
 - P** Belgique-Luxembourg 2040

Création de capacité d'accueil

- H** Nouveaux postes 380 kV
- Nouvelle capacité de transformation
- Connexion des utilisateurs du réseau

Interne backbone

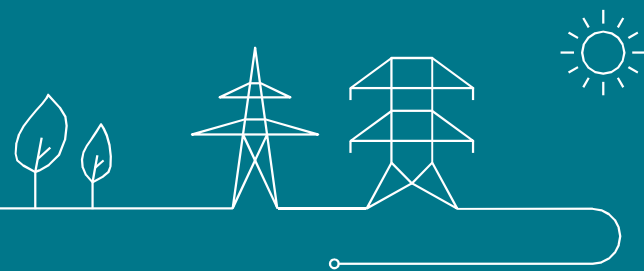
Optimiser le potentiel existant	Réalisation des liens manquants	Assurer la stabilité du système	Assurer la flexibilité du système
I Renforcement backbone interne centre-est	L Ventilus 28-30	N Régulateurs de tension	CCMD
J Renforcement backbone interne Anvers	M Boucle Du Hainaut 29-30	N Compensateurs synchrones 28-30	Flex in Market
K Renforcement backbone interne sud-est	O Développement supplémentaire Gezelle - Van Maerlant ~2035		Fiber Everywhere
Dynamic Line Rating	Corridors supplémentaires		Artificial Intelligence



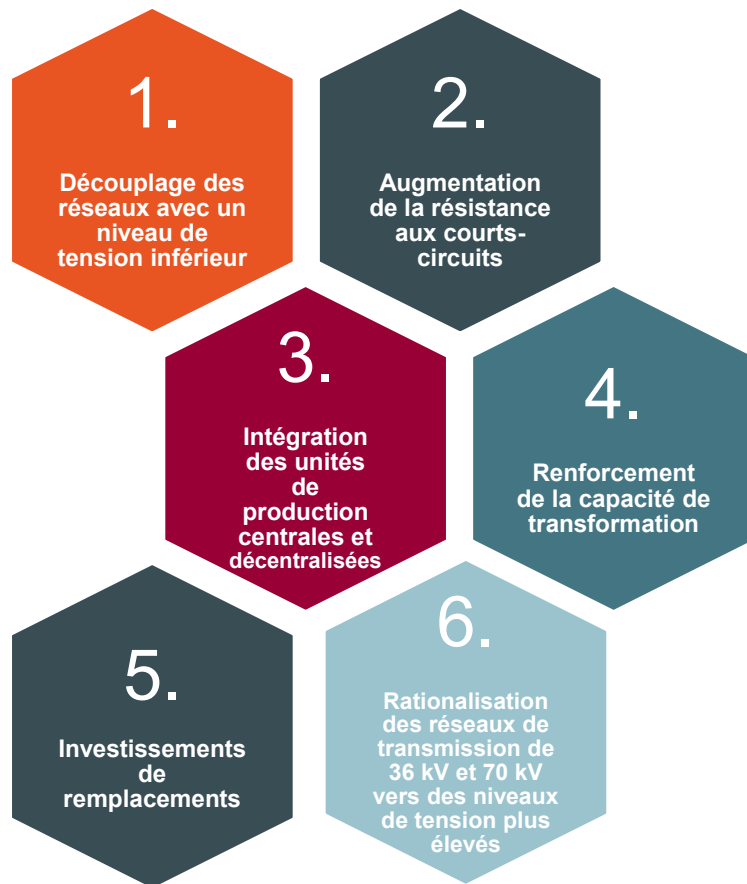
LÀ OÙ DANS LE PASSÉ SEUL LE BACKBONE CENTRE-EST FORMAIT UNE BOUCLE, À L'AVENIR, LE RÉSEAU BACKBONE BELGE ÉVOLUERA VERS TROIS BOUCLES, À CONDITION QUE LES AXES CRITIQUES TELS QUE STEVIN ET HORTA-MERCATOR SOIENT BOUCLÉS GRÂCE À VENTILUS ET BOUCLE DU HAINAUT.

CETTE ARCHITECTURE DE RÉSEAU OFFRE UNE AUGMENTATION SIGNIFICATIVE DE LA CAPACITÉ DE TRANSPORT ET LA ROBUSTESSE ET LA FLEXIBILITÉ NÉCESSAIRES POUR ANCRER NOTRE POSITION CENTRALE DANS LE SYSTÈME EUROPÉEN ET NOUS METTRE EN ORDRE DE MARCHÉ VERS 2050.

Le développement du système vertical



6 pillier pour le développement du système vertical (220 kV, 150 kV, 110 kV)



**MARCHÉ EUROPÉEN ET
SÉCURITÉ D'APPROVISIONNEMENT**

DURABILITE

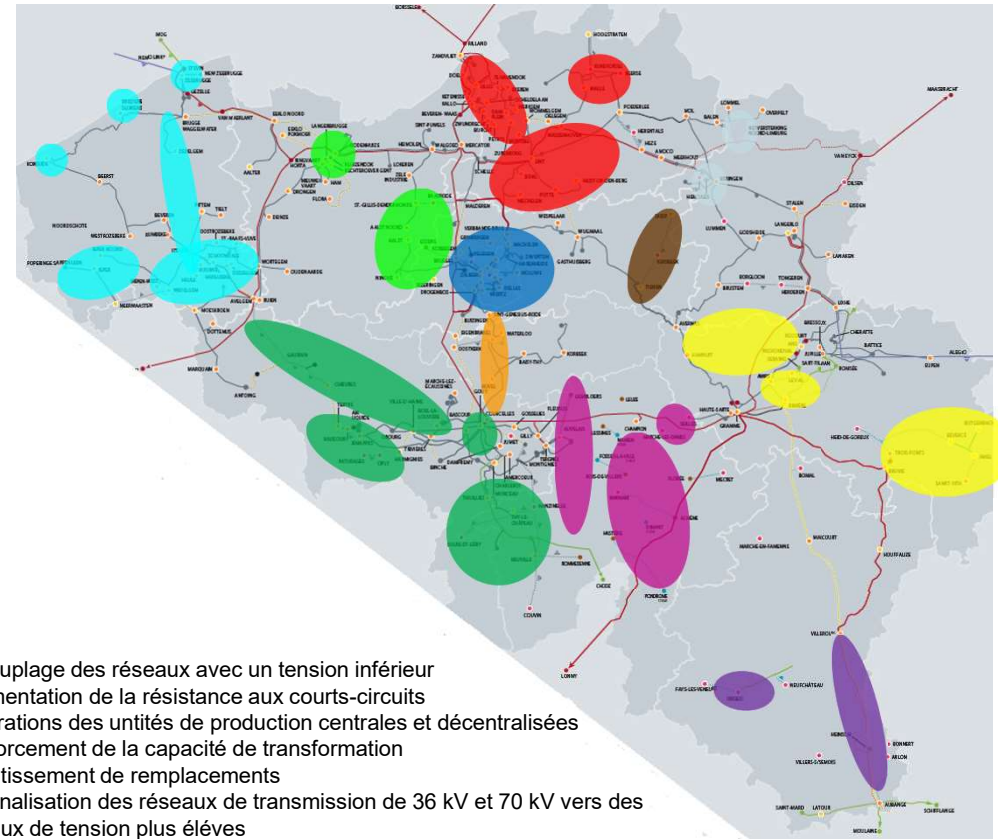
CLIENT ET GRD

**FIABILITE DE L'APPROVISIONNEMENT
ENERGETIQUE LOCAL**

**CONFORMITE FONCTIONELLE ET
TECHNOLOGIQUE**

Le système vertical 220-150-110kV (highlights)

		1	2	3	4	5	6
● Antwerpen	Versterking Kempen	✓		✓		✓	
	Evolutie Antwerpen stad en haven	✓	✓		✓	✓	
	Herstructurering 70kV					✓	✓
● Brussel / Bruxelles					✓	✓	✓
					✓	✓	✓
● Hainaut	Projets liés au backbone 380kV	✓			✓	✓	
	Evolution vers 150kV				✓	✓	✓
	Région du Borinage			✓		✓	✓
	Entre Sambre et Meuse			✓		✓	✓
	Scission 150kV Brabant – Hainaut (Gouy)	✓					
● Limburg	Versterken 150kV	✓			✓	✓	
	Herstructureren 70kV (Tessenderlo – Beringen)				✓	✓	✓
● Liège	Boucle de l'Est			✓	✓	✓	✓
	Restructuration Hesbaye			✓	✓	✓	✓
	Intégration des nouvelles centrales			✓			
● Luxembourg	Evolution vers 110kV (Orgeo)			✓		✓	✓
	Restructuration 220kV					✓	
● Namur	Découplage du Hainaut	✓		✓		✓	✓
	Découplage de la province de Liège	✓				✓	✓
	Développement du réseau de Namur			✓	✓	✓	✓
● Oost-Vlaanderen	Projecten gelinkt aan backbone 380kV / Haven Gent	✓	✓		✓		
	Aalst – Dendermonde – Malderen				✓	✓	✓
● Vlaams-Brabant	Tienen – Kersbeek -Diest	✓			✓	✓	✓
● Brabant Wallon	Restructuration 150kV Gouy - Drogenbos				✓	✓	
● West-Vlaanderen	Projecten gelinkt aan backbone 380kV	✓		✓	✓		
	Regio Kortrijk				✓	✓	✓
	Westhoek				✓	✓	✓
	Versterkingen Koksijde, Zedelgem, Slijkens en Zeebrugge			✓	✓	✓	



1. Découplage des réseaux avec un tension inférieur
2. Augmentation de la résistance aux courts-circuits
3. Intégrations des unités de production centrales et décentralisées
4. Renforcement de la capacité de transformation
5. Investissement de remplacements
6. Rationalisation des réseaux de transmission de 36 kV et 70 kV vers des niveaux de tension plus élevés

→ Le plan 2024-2034 comprend au total 252 projets (avant début des travaux)

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WG Belgian Grid

- Sinds de laatste plenaire vergadering van 9 juni
⇒ twee vergaderingen WG Belgian Grid gehad op 23 juni en 9 september
- De belangrijkste onderwerpen:



K.B. FTR vs. gedragscode



**Technisch reglement
plaatselijk vervoer – Brugel**



Aansluitingscontract



Toegangscontract

Volgende vergadering WG Belgian Grid is op **25 november**





K.B. FTR vs. gedragscode

- Beide trajecten zijn lopende
- Overlegmoment met Elia zijn beëindigd
- K.B. FTR => gedeeld met de CREG



Technisch reglement plaatselijk vervoer – Brugel

Besluit RvB Brugel => wijziging huidige RT TR => inwerkingtreding januari '23

Twee fasen:

FASE EEN: aanpassingen hoofdzakelijk gericht op naleving van de EU-wetgeving en andere nationale regelgeving, zonder grote wijzigingen aan structuur.

FASE TWEE: naleving nieuwe Brusselse regelgeving 17.03.22: integratie nieuwe onderwerpen: flexibiliteit, energiegemeenschappen, ... structurele wijzigingen (bv. inspiratie van de Vlaamse distributiewet (netgedeelte vs. marktgedeelte))

Ontwerp nieuw RT TR: Elia begin september informeel aan Brugel toegezonden;

- Brugel zal het herzien en commentariëren;
- Streefdatum: indiening voorstel RT TR bij Brugel vóór eind 2022;
- Brugel zal een publieke consultatie organiseren en vervolgens het RT TR formaliseren in een besluit.



Toegangscontract

- Goedkeuring van alle regulatoren
- Publicatie op de website
- Procedure voor ondertekening werd toegelicht
- 1 november = inwerkingtreding



Aansluitingscontract

- **Deel A** (Definities en algemene voorwaarden)
- Feedback marktpartijen werd besproken
- ASPA-clausules wordt besproken met de CREG (moet nog gedeeld worden met de marktpartijen)
- Behalve voor de ASPA-clausules zal er geen informeel ontwerp van deel A worden voorgesteld
- **Deel B** (Technische voorwaarden en bijlagen): wordt momenteel door Elia herzien/geherformuleerd

Next steps – timing

- Deel A: nieuw ontwerp ASPA-clausule voorstellen wanneer deze klaar zijn om te worden opgenomen in het aansluitingscontract **doel: tegen eind 2022**.
- Deel B: versturen van het ontwerp naar de regulatoren en de marktpartijen zodat zij commentaar kunnen geven + workshops / vraag- en antwoordsessies over bepaalde onderwerpen indien nodig **doel: eind 2022**.
- Streefdatum voor indiening ter goedkeuring van het **gehele contract: Q2 2023**.

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 - 8.3. Last plenary meeting: Tuesday 6/12 – 2 p.m. to 5 p.m.



aFRR Go-Live Step 2: connection to PICASSO

- Initial accession roadmap: RTE planned to connect to PICASSO together with German and Austrian TSOs, Elia was connecting 2 months later
- RTE's announcement that their connection would be delayed had a significant impact for Elia: when connecting before RTE, we rely only on ALEGrO's ATCs and without the French liquidity. Concerns have been raised on the impact of a connection to PICASSO on the activations costs and the costs for the BRPs (through the imbalance price) in this situation, given that:
 - When connecting to the aFRR-Platform, the application of the EU pricing methodology requires, by default, the **switch from a paid-as-bid to a paid-as-cleared** remuneration and the **release of the current price cap of +-1.000€/MWh to +-15.000€/MWh**;
 - The **aFRR energy merit-order** in Elia's LFC Block is of a **limited size** compared to other European LFC Blocks
- ➔ Decision in WG Balancing of 22/11/2021 to perform an evaluation confirming that the connection to PICASSO does not lead to a blocking point for the efficient functioning of the Belgian balancing market
- ➔ This decision is formalized in the approved T&C BSP aFRR as well as in the derogation granted by the CREG
- ➔ Elia performed the evaluation (the "observation round") and discussed it with market parties during the WG Balancing of 15/09/2022

aFRR Go-Live Step 2: connection to PICASSO

- Based on the observation round and on discussions between Elia and market parties, the WG Balancing has formulated the recommendation towards the CREG to connect to PICASSO **after the winter** period and **provided that following conditions are satisfied:**
 - A **temporary price cap on the Belgian aFRR Energy bids** is implemented. The price cap is considered as an appropriate, proportionate and temporary measure, as an answer to the market failure resulting from the combination of the factors identified in the evaluation. The high-level principles of the price cap are further described in the recommendation
 - A **development of liquidity of the Belgian aFRR energy market** is observed. This is translated by the following criterion: as of 1st of March, the volume offered in the Belgian aFRR energy market at least corresponds to 120% of the aFRR capacity procured by Elia (i.e. 117 MW) for 75% of the time.
- The recommendation has been sent to the CREG. The reaction from the CREG is expected at the latest by 14/10/2022.

Update on mFRR, iCAROS and EMS Requirements



Update of MARI & iCAROS roadmap

- ❖ **Derogation granted** for Elia's accession
- ❖ **Local go live** of the new mFRR bidding and iCAROS phase 1 **Late Q3 2023**
- ❖ **Connection to EU** mFRR balancing energy platform **Q4 2023**
- ❖ External testing with market parties will be phased as follows : Outage planning > Scheduling > Bidding > Integration testing, and will start early October of this year (info session planned for outage planning on 03/10/2022)
- ❖ Launch of public consultations for T&C OPA, SA & mFRR as well as the Coordination & Balancing rules in Q4 2022 and/or in Q1 2023

mFRR design

- ❖ **mFRR Design note:** processing of the last comments received from stakeholders

iCAROS

- ❖ **Implementation of the new CRI computation:** The new CRI computation is used on daily basis as from delivery date Tuesday 27/09/2022 to define the current Red Zones

aFRR Energy Management Strategy (EMS) Requirements: requirement are finalized based on latest feedback of stakeholders. BSPs can send their EMS to Elia for review on this basis



Update on market design

Relaxation of DA Balance Obligation

- The possibility to have DA imbalances has been extensively used by a **limited number of BRPs** (mostly traders and occasionally other BRPs)
 - The global DA imbalances remained **very limited** (compared to the sum of all BRPs portfolio)
 - **Trader BRPs** who took open position in DA **always managed to close their position** before real time
- ❖ The decrease of the 1st percentile of the SI over the last few months cannot be explained by the relaxation of the DA balance obligation: **No correlation between SI and global DA imbalance can be observed**
- ❖ Elia therefore **recommends to move to the next and last phase** of the relaxation of the DA balance obligation on **December 1st, 2022**.

Publication of System Imbalance forecasts

- ❖ Elia will start in October with the publication of near **real-time forecasts of the system imbalance**
- ❖ The new publications provide a forecast of the average quarter-hourly system imbalance for the ongoing quarter hour and the next quarter hour and will be updated every minute
- ❖ The forecasts will be published **on the OpenDataElia portal**

aFRR dimensioning

- ❖ Elia implemented an update of the current 'static' aFRR dimensioning method, resulting in a **reduction of aFRR needs from 145 MW to 117 MW as from July 21, 2022**
- ❖ This update is to be seen as a temporary, short-term measure, while awaiting implementation of a more enduring method such as proposed in the aFRR dimensioning study of 2020. It was justified by :
 - ❖ A request for amendment of the aFRR dimensioning from the CREG
 - ❖ An exceptional market context, with gas prices significantly impacting electricity prices and the price of balancing reserves
- ❖ **Elia is continuing the discussions on the implementation of an enduring method with CREG** and foresees to present a proposal at the end of the year



Winter Plan

- ❖ Elia proposed to implement a process for upcoming Winter allowing to **temporarily reduce the current reserve sharing contribution in dimensioning** to 0 MW during periods of tight market conditions in Western Europe
- ❖ This measure is justified in view of the **Winter Plan** announced by the government and the risk identified by Elia of expected unavailability of shared reserve capacity during such conditions
- ❖ The proposed measure is based on 3 pillars:
 - ❖ **Increase balancing capacity to be procured with 250 MW following a critical grid situation** communicated by the RCCs as from D-3 through a **modification of the LFC Means** (consultation from September 20 to October 11)
 - ❖ Ensure availability of sufficient market liquidity to cover the additional balancing capacity requirements through an **obligation to bid** in the mFRR balancing capacity tender (in D-1 at 10 AM)
 - ❖ Manage procurement costs by **encouraging new technologies** on low, medium and high voltage levels such as demand response, storage and emergency generators to **participate in the mFRR balancing capacity auction**



Status incentives 2022

- ❖ aFRR activation method
 - **Workshop** on 22/6 on the aFRR activation method
 - Elia is preparing the report for **public consultation**
- ❖ Combinability of balancing products and/or ToE DA/ID on DPpg
 - **Workshop** on 22/9 on the combinability of products on DPpg
 - Elia will launch **the public consultation in the second week of October**
- ❖ FCR Additional Properties
 - **Public consultation took place**, showing a general support from the stakeholder for the proposal of Elia
 - Some **implementation questions** remains that will be discussed **during the design phase**
- ❖ Improvement of the quality of input data for congestion management
 - **Public consultation took place**. Main suggestions were on the improvement of forecast **regarding onshore, offshore wind** as well as **congestion forecast at lower level of granularity**
- ❖ Study on dynamic procurement strategies
 - **Public consultation ongoing** until 13/10
 - The study contains Elia's conclusions and recommendations based on analyses of Compass Lexecon and two stakeholders workshops
- ❖ Evolution of BRP Nominations
 - **Public consultation ongoing** until 13/10
 - **Elia proposes an implementation of the target design for the BRP Nominations in two steps:**
 - Step 1: Necessary amendments nomination process to enable split between SA and BRP roles (with next revision of T&C BRP)
 - Step 2: Implementation full target design BRP Nominations (with aggregated Offtake/Injection Nominations) (with iCAROS phase 2)



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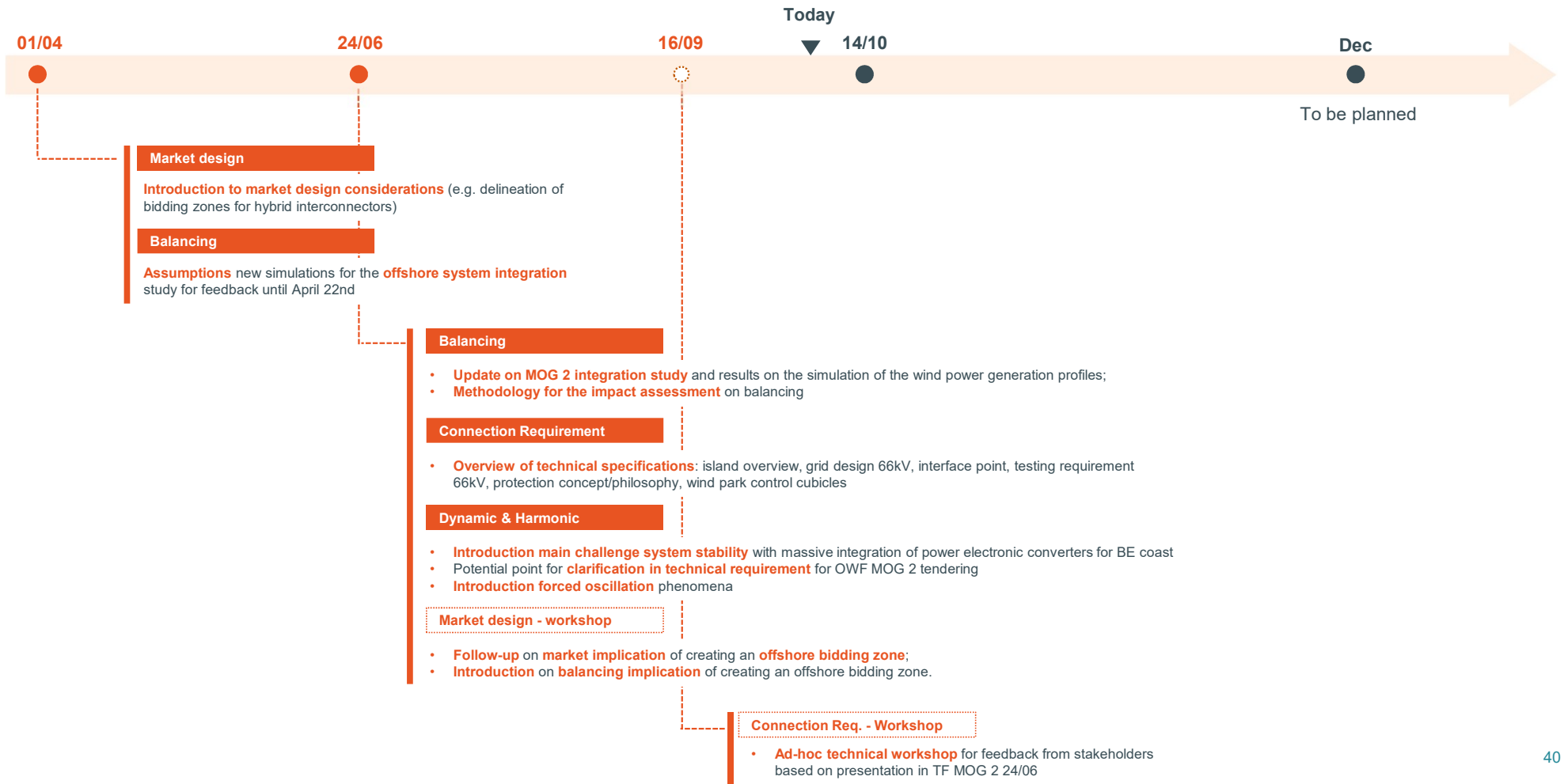




Overview TF MOG 2

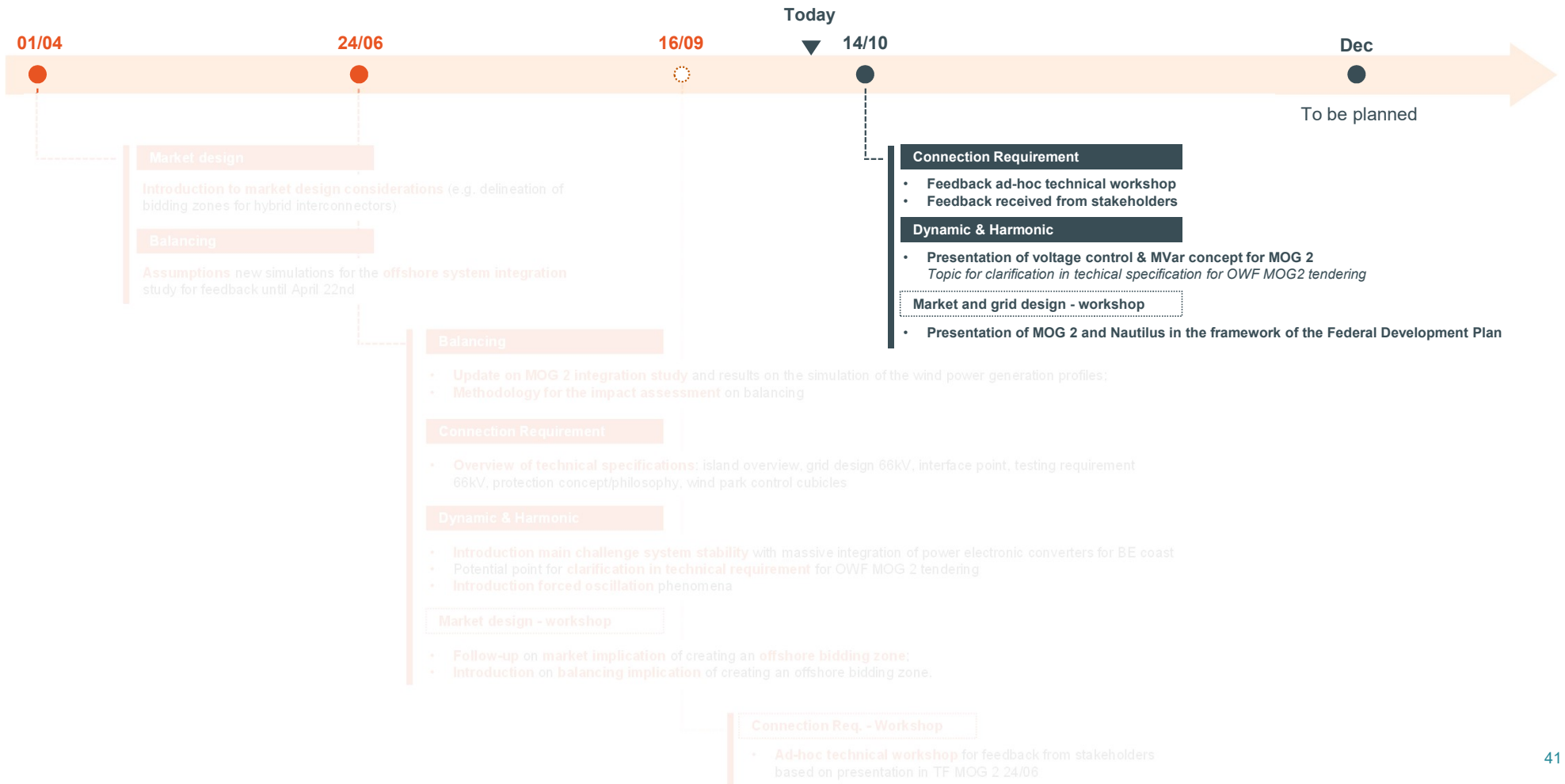


Overview of Task Force/workshop MOG 2 organized in 2022





Planning foreseen for next Task Force MOG 2 planned for this 14th of October





Next steps foreseen in Task Force MOG 2

- **Balancing integration** - presentation of **results on systems simulations and mitigation measures related** for final recommendation
- **Dynamic & Harmonic** - provide transparency to stakeholders on **clarifications foreseen for technical specification** that will be used the MOG 2 tendering
- **Connection requirements** - present connection requirements foreseen for energy island and **call for feedback** from stakeholders for final design
- **Market integration and grid design** - **share with stakeholders** concept of market & grid design linked to MOG 2 and their implications

The **Task Force MOG 2** will take place around **each 3 months** to provide **transparency** to stakeholders on these aspects to be included in the tendering for MOG 2

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Consumer Centric Market Design State of Play

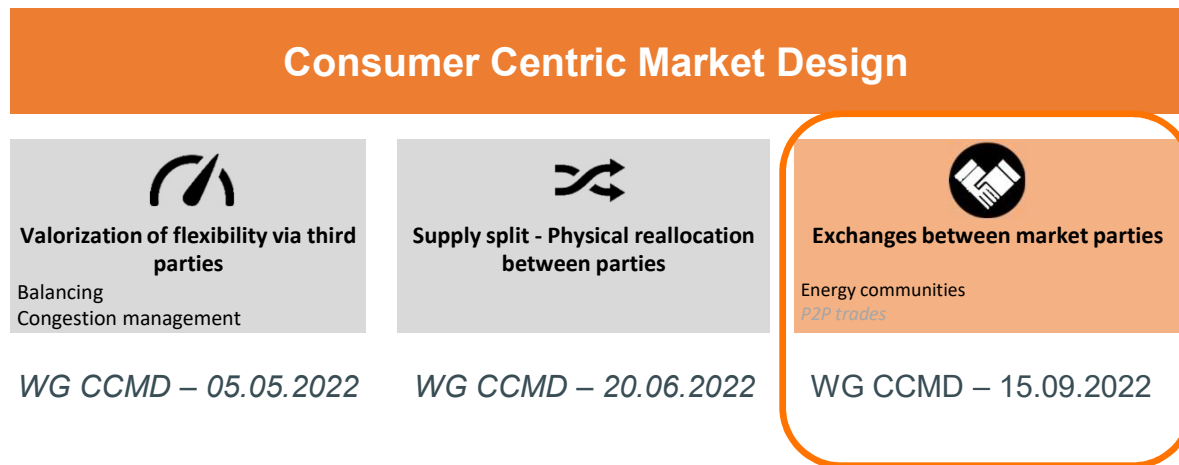
Users' Group

Elia – 04th Octobre 2022

Consumer Centric Market Design



Context & timeline



**Scope of last CCMD Workshop – How
CCMD can be a solution to manage
your Energy Community?**

Conclusions



Exchange of energy block mechanism facilitates the operation of a cross system operator energy communities as it follows a voltage neutral approach



Each SO remains responsible for the registration and energy block calculation of each delivery points falling within their perimeter



Need to set up coordination between SO for validation of an Energy Community covering multiple System Operators



Repartition key can be adapted up to start of each QH. It provides **flexibility** to tailor made the operation of each energy communities. Proposed stepwise approach also guarantees feasible implementation.



The ex-post EoEB process (calculation and settlement of energy blocks) remains exactly the same than the one already imagined for flexibility and supply split. **One generic solution for all three services.**



The Flemish energy decree provides that energy communities connected to the distribution as well as local transportation network are entitled to perform multiple transactions (energy sharing, peer to peer,...)



Such decree is applicable to part of ELIA's grid



ELIA considers the design on energy communities just introduced today as relevant to respect this requirement

Context and timeline

One design solution applicable to all voltage levels.



One design solution applicable to all voltage levels.



Q1 2022

Q3 2022

Q1 2023

High level design discussion with stakeholders to **collect early feedback** and assess robustness of ELIA's proposed design solutions

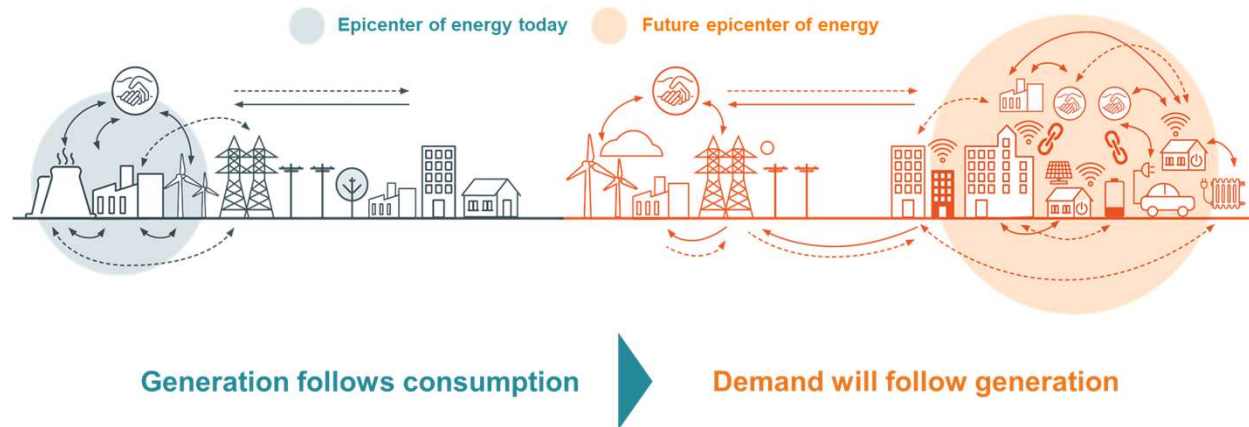
By end of the year, the high level design is translated into a **detailed design note**, and **published to collect feedback** from market parties.

Updated design based on stakeholder's feedback and **implementation** of each building block.



Rationales for the evolution of the imbalance price

The roadmap to net zero implies a paradigm shift



Demand can only follow generation if it receives an appropriate signal to do so. This signal can be an explicit activation by the TSO, or an implicit financial incentive. Since all the flexible assets will not be able or interested in offering their flexibility explicitly to the TSO, it is crucial that these assets get **easy access to clear price signals** in order to **capture the whole flexibility available in the system**. The **imbalance tariff therefore needs to evolve towards a clear real-time signal** incentivizing all the remaining available flexibility to **help balance the system** in real-time and, through an efficient back-propagation, also during all the previous timeframes.



Building a vision and a roadmap for the imbalance price evolutions



- Elia has started collecting feedback from market parties regarding their needs, constraints and issues when calibrating their implicit reaction based on (a.o.) imbalance tariff. All additional feedback would be welcome (please contact amandine.leroux@elia.be and caroline.bosschaerts@elia.be)

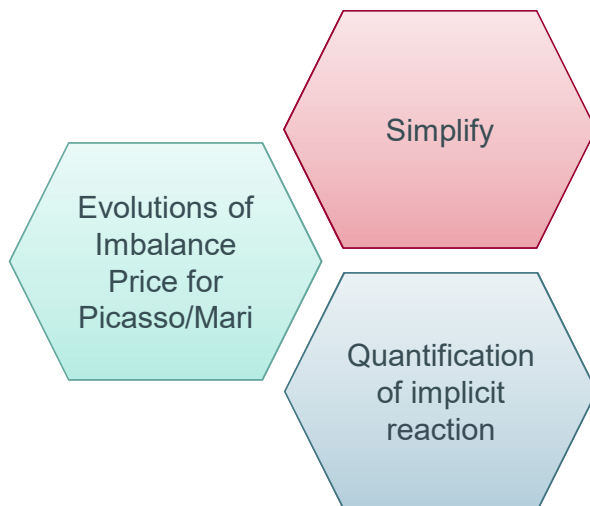
WANTED

- Elia collaborates with several external market experts to inform the debate and challenge the conclusions.



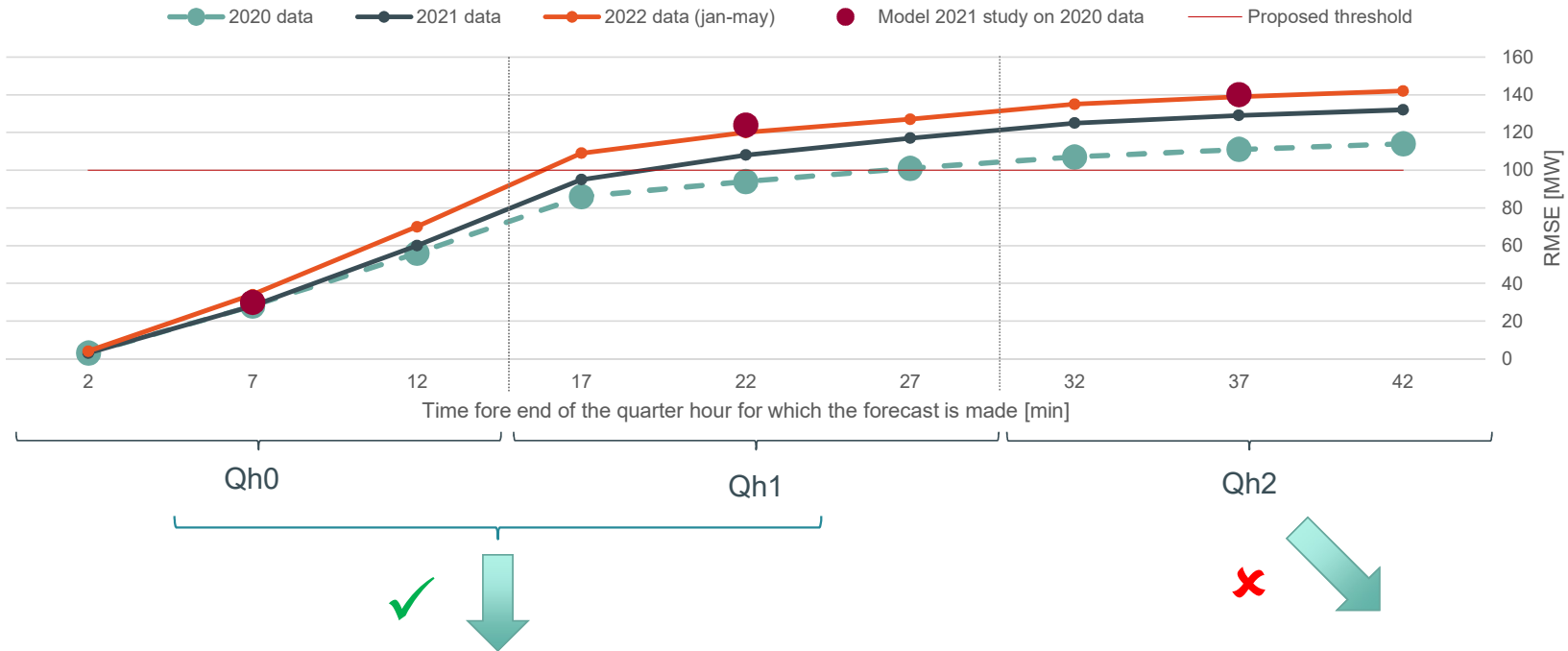
While initiating some “no regret” actions

A few initiatives that might constitute some of the building blocks of the future roadmap were already started because they are needed anyway in the context of other evolutions (“no regret” actions):



- Simplify
 - Project aiming at **forecasting the Belgian System Imbalance**
 - Is anyway considered as a prerequisite to support the decision-making process for the activation of mFRR balancing energy after the connection to MARI
 - See details in the next presentation
- Quantification of implicit reaction
 - Project aiming at understanding and **quantifying the existing implicit reaction** in Belgium
 - Is needed anyway to objectivize discussions and decisions regarding the reactive balancing model in Belgium
 - The results of this initiative will be presented in 2023
- Evolutions of imbalance price for Picasso/Mari
 - Some of the evolutions of the imbalance price proposed in the context of the **connection to the EU balancing platforms** have a beneficial “**smoothing effect**” on the Imbalance Tariff (e.g. taking all the Optimization Cycles into account, Dead Band)
 - These evolutions are needed for Picasso/Mari anyway and are also desirable when encouraging flexibility to help the system in real-time (a smooth construction of the Imbalance Tariff increases predictability and hence reduces risks).

Elia proposes to launch the publication of the Qh0 and Qh1 forecasts



Elia will start the publication of the SI forecasts for Qh0 and Qh1

Elia will not (immediately) proceed with the publication of the SI forecasts for Qh2

- Accuracy Qh1 forecast reached proposed threshold of +/- 100 MW RMSE
- Complementary information from the categorical model allows assessing the uncertainty/confidence on the forecast

Publication on EliaOpenData portal



- 2 new datasets will be published on EliaOpenData portal:
 - System imbalance forecasts for the current (ongoing) quarter hour
 - System imbalance forecasts for the next quarter hour
- Each publication consists of both the point forecast (in MW) and the categorical forecast (i.e., an estimation of the probability that the SI will lie in the different intervals)

Illustration Forecast next quarter hour

	Datetime	Quarter hour	Input Data Availability	SI forecast	SI < -400 MW	SI in [-400 MW;-200 MW]	SI in [-200 MW;-0 MW]	SI in [0 MW;200 MW]	SI in [200 MW;400 MW]	SI > 400 MW
Updated forecast every minute	Sep 15 4:34PM	Sep 15 4:45 PM	1	273 MW	0	0	0,05	0,20	0,6	0,15
	Sep 15 4:33PM	Sep 15 4:45 PM	1	267 MW	0	0	0,06	0,21	0,59	0,14

- Disclaimer: The published data is voluntarily shared for informational purposes and reflects forecasts that have a error margin.

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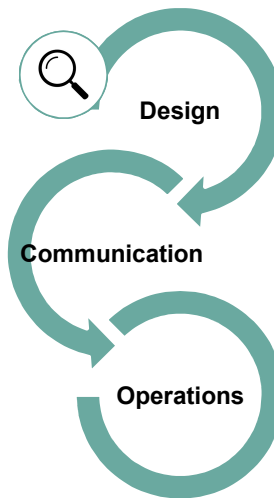


WG Adequacy – Status ongoing work



- 13/10: Study on the quantification of Belgian residential and tertiary future **consumer flexibility**
- 14/10: **LCT Design Notes**: Launch Public Consultation
- 28/10: **Adequacy and Flexibility** : Launch Public Consultation
- 15/11: **CRM Functioning Rules**: Launch Public Consultation
- 14/03: **CRM Calibration**: Launch Public Consultation

Discussion on **public consultations & Study results**



Deep-Dive Design

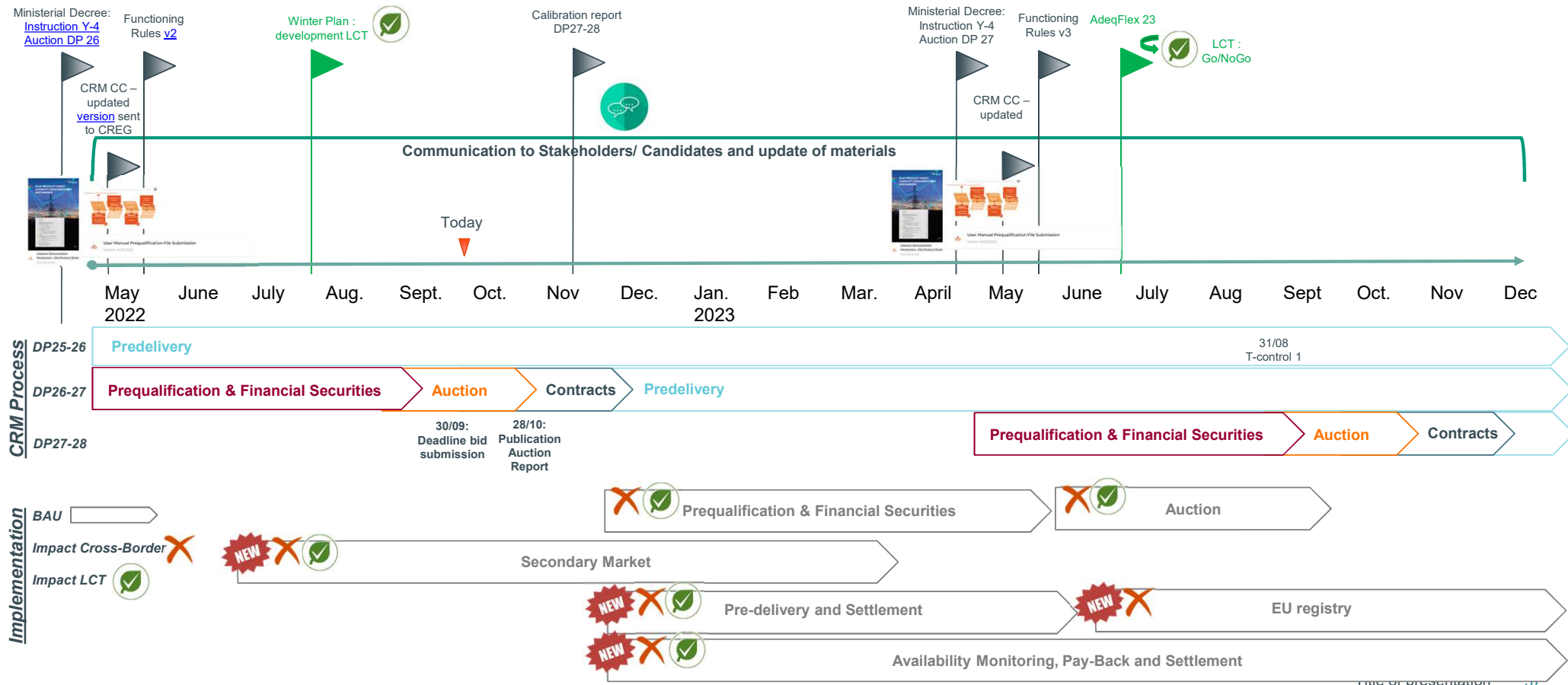
CRM Functioning Rules v3 Proposal
LCT Design Note Proposal

Deep-Dive Operations

Results Auction
Permitting Milestones



WG Adequacy – Status ongoing work



CRM design: status & next steps

ELIA judged the time was right to perform a **more critical review of the CRM design**:

- After having completed (almost) two full CRM auction cycles; &
- Anticipating many more upcoming auctions, especially also Y-1 auctions as of 2024 to close the adequacy gap, targeting ***demand response capacities and other technologies with short time-to market***.

To this end, **ELIA has consulted various market parties over summer to gather feedback on how the CRM design can be improved to facilitate participation to the CRM**:

- ELIA is well aware this is ***not a formal process*** and does not replace public consultations foreseen in the legal framework, e.g. of the Functioning Rules;
- This is ***just a starting point*** of a discussion on CRM design changes. Some may already be implemented this year, others may take more time and/or require a change to the legal framework.



The following feedback has been gathered and is being /will be addressed



Main takeaways

Winter plan Minister

1) Unlock the participation of **low voltage flexibility** to the CRM

➤ Is being addressed together with the DSOs

Fundamental CRM design improvements

2) Review of **payback obligation** modalities

➤ Exemption proposed for demand response capacities
➤ Indexation of strike price under investigation

3) Review of **Nominal Reference Power** determination

➤ Brought more in line with testing principles

4) Review of impact **derating factor increase/reduction**

➤ Changes of derating factors of already contracted capacities can only lead to more CRM remuneration in case of an increased obligation

5) Consideration of **battery degradation** characteristic in the CRM design

➤ Battery degradation parameter proposed to allow battery projects to maximize the capacity they can offer in the CRM from the start (↔ having to opt-out and reoptimise per year)

Cost efficiency improvements

6) CRM as a **“winter” product**, to avoid costly and unnecessary test during non-adequacy relevant moments

➤ Testing will be restricted to adequacy-relevant moments only
➤ However, monitoring during high prices remains in place

7) Review **(demand response) test modalities**, again to avoid too costly unnecessary tests

➤ Testing will be restricted to a quarter hour
➤ However, in case of failure, more elaborate testing will still be performed

8) **Administrative simplification** (grid user declaration (DP ID), CO₂, renunciation of operating aid, ...)

➤ Work in progress

Tender for Low Carbon Technologies

In its winter plan, the government has instructed Elia to start the development of a Tender targeting Demand Side Response and Batteries – the Tender For Low Carbon Technologies:

What will the tender look like:

- A CRM inspired targeted tender to attract new in-the-market DSR / Battery capacities.
- Modalities very similar to the ones in the CRM (including a fixed remuneration during the delivery)
- A single auction in 2023 for delivery in winter 2024-2025

When will a decision be taken:

- In the first half of next year, the Minister will take a decision on the volume based on the Adequacy and Flexibility '23 assessment.



Tender for Low Carbon Technologies

Status:

- ✓ LCT introduced to Market Parties in WG Adequacy of 13th of September
- ✓ Major design deviations have been mapped (compared to CRM)
 - Eligibility criteria (main focus, most significant changes)
 - Pre-delivery, Auction, Secondary Market (minor changes)
 - Delivery period modalities kept identical to CRM
- ✓ Design note ongoing

Next steps:

14/10/2022 Design note final version & launch of public consultation

End of 2022 Consultation on functioning rules



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Highlights WG EMD-SO (Q2 – Q3 2022)

European Market Design

1. Core Day-ahead market coupling: go live and operations

- Justification & constructive alignments with market parties on postponement of go live in April
- First reflections & feedback of successful Core go-live in June
- Focus on attention points & improvements needed post go live
- Regular follow up & reporting foreseen in WG EMD-SO (eg. KPIs, experiences, ...)
 - Open discussion with market parties & CREG

2. Capacity calculation in Core Day-ahead: focus on local validation process

- Insights provided on how TSOs (Elia) performs this step
- How does it impact the capacities on BE network elements?

Highlights WG EMD-SO (Q2 – Q3 2022)

System Operations

1. Low Frequency Demand Disconnection (LFDD) plan

- Increased amount Renewables trigger a call for action
- Discussion with grid users on actions to reach compliance
- Creation of a dedicated working Group on LFDD established

2. Blackout Proof communicating with Significant Grid Users

- How to ensure that communication is ensured with grid users when everything is “out”
- Project implementation plan & status shared

3. HVDC flows

- Evolution of flows on HVDC links and focus on effects of energy crisis in Q1

Next WG EMD-SO meetings

Agenda proposal WG EMD SO 14/10/2022 afternoon (draft)

System Operations topics

- Status on the low frequency demand disconnection plan
- Winter Preparedness 22-23
- Revision of the Market suspension rules

European Market Design topics

- Core FB DA: Core FB DA: status & experiences after first months of operations
- EU Emergency measures and structural market design reforms

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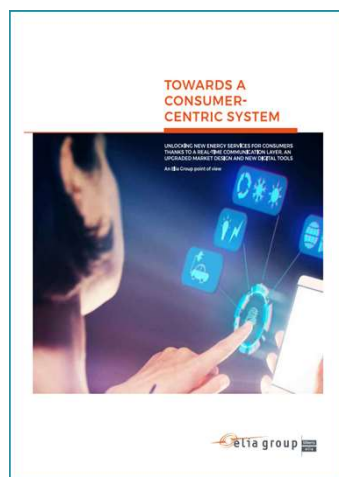


Powering industry to net-zero: discussion

Plenary Users Group

4th Oct 2022

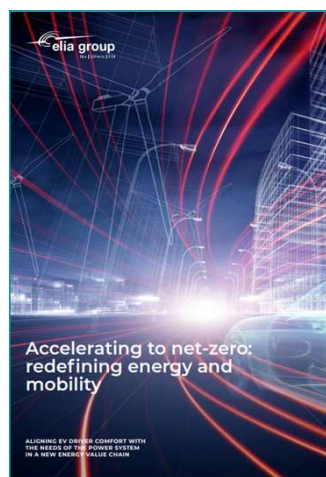
Powering industry towards net zero



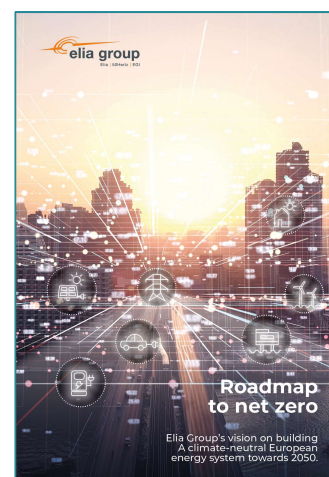
2018: Consumer-centricity



2019: Preparing the power system 2030

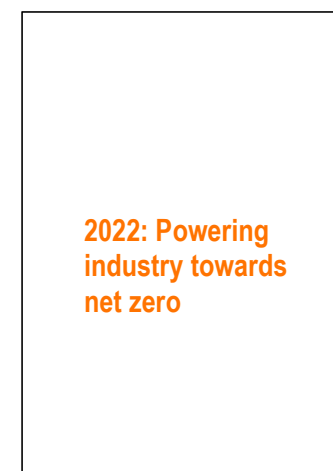


2020: E-mobility



2021: Climate neutral European energy system

+



Launched before the Ukraine energy crisis

- Study focusing on how the mid- to long term the energy/climate crisis can be tackled

Context of rapidly increasing amount of connection studies for electrification originating from industry

Powering industry towards net zero



Energy intensive/
hard-to-abate industries

Data centers

Service logistics centers

SME's / large non-energy
intensive industries

1 Decarbonisation options

- > 25 stakeholders consulted on transition plans
- Bottom-up & top down approach
- National level & focus on first 2 clusters



2 System impact and flexibility

- Quantification of increasing electricity demand
- Identification of flexibility in future processes
- Flexibility use cases ('buffering' (storage) & E-boilers)



3 Grids

- First reflection on grid impact (substations, voltage levels,...)
- Check on Antwerp and Hainaut cluster (other clusters follow in 2023!)
- Need to anticipate grid developments (grid as enabler)

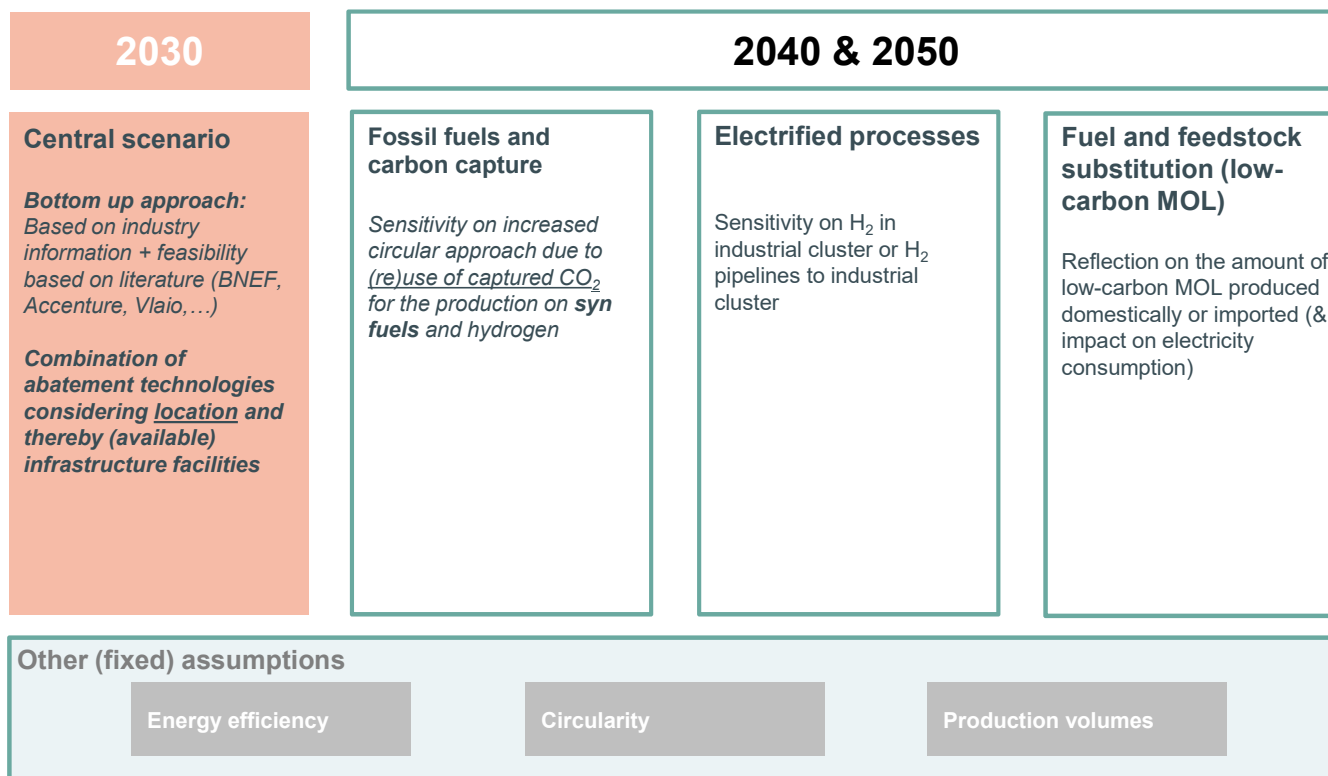


4 Services / data

- How can Elia facilitate / support industry in the transition?
- Provision of RT data, insights on consumption,...



Scenario building

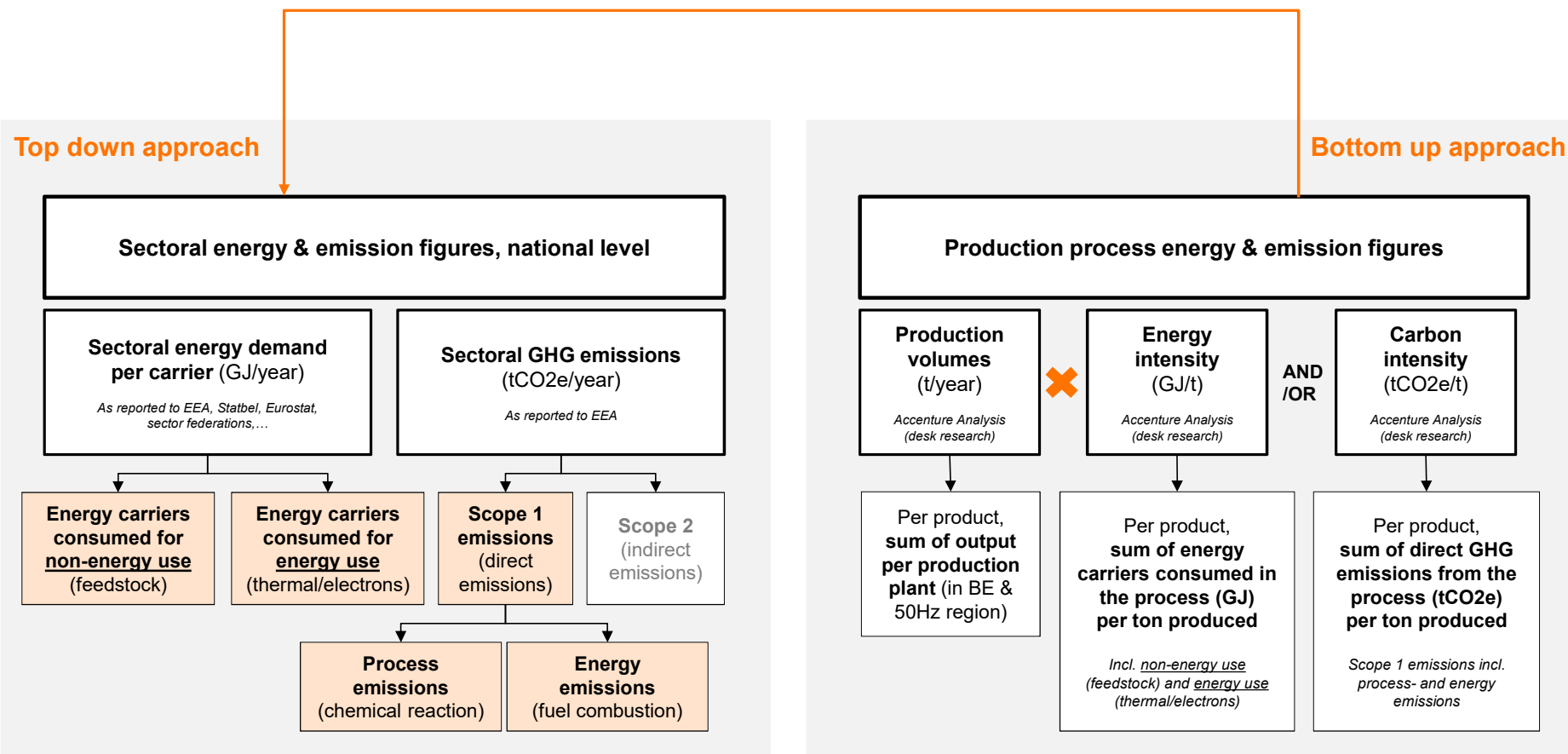


Sectors

- Steel
- Non-ferrous metals
- HVC
- Refinery
- Glas
- Cement
- Paper
- Food and drinks
- Datacenters
- Logistics



Triangulation of bottom-up & top-down approach

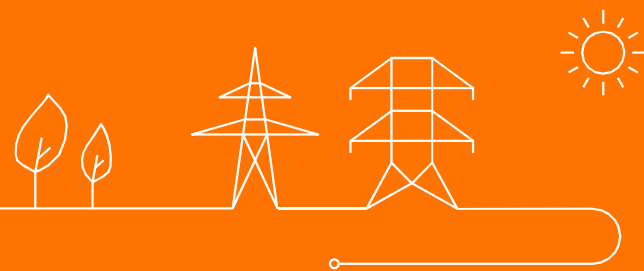


Next steps

- ✓ Launch of study on 18th of November (online event)
- ✓ Analysis of other industrial clusters (Henegouwen, Antwerpen as first examples)
- ✓ Continued discussion with stakeholders on transition plans via KAMs
- ✓ Need to pro-actively design & develop grid as enabler for transition of industry



Thanks for your attention



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Miscellaneous

Ongoing public consultation

- **15/09 – 13/10** Public consultation of the study on the evolution of the BRP nominations
- **15/09 – 13/10** Public consultation in the study on procurement strategies for a dynamic calculation of FRR means

Next plenary meeting

- Last plenary meeting 2022: 6 December – 2 p.m. to 5 p.m.

