

Tinne Van der Straeten

Minister van Energie
Ministre de l'Energie

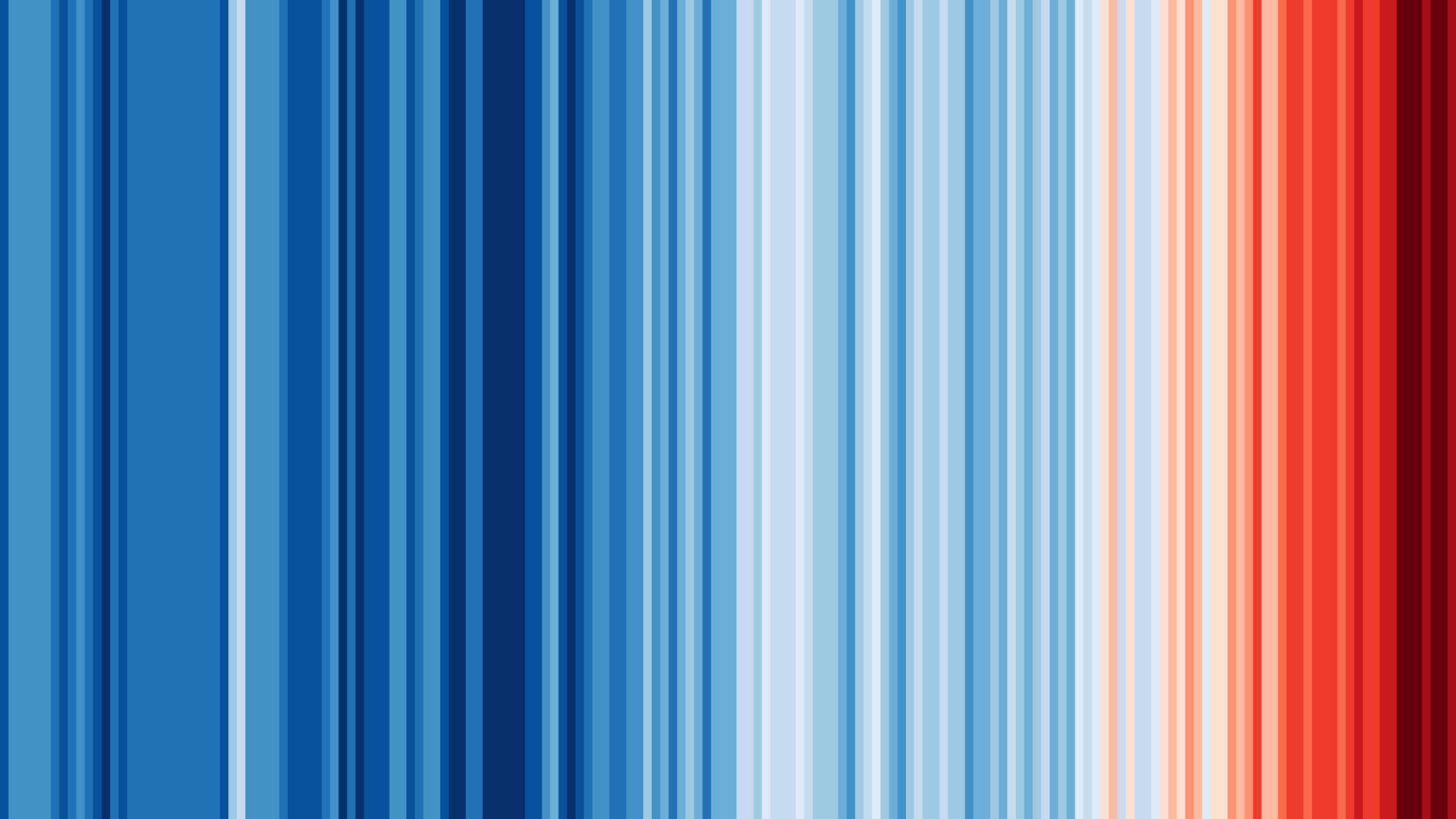




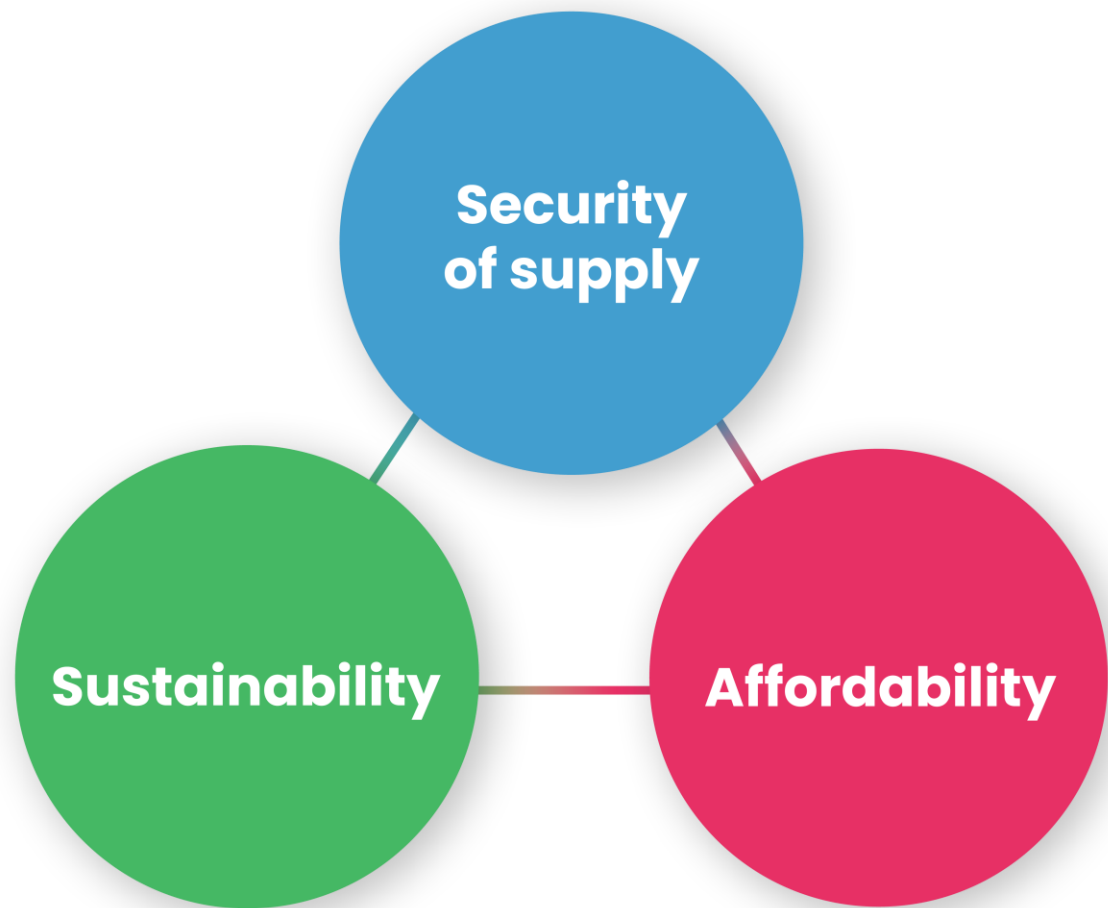
We must look forward

"Danger gathers upon our path. We cannot afford – we have no right – to look back. We must look forward"

Winston Churchill, 10 December 1936

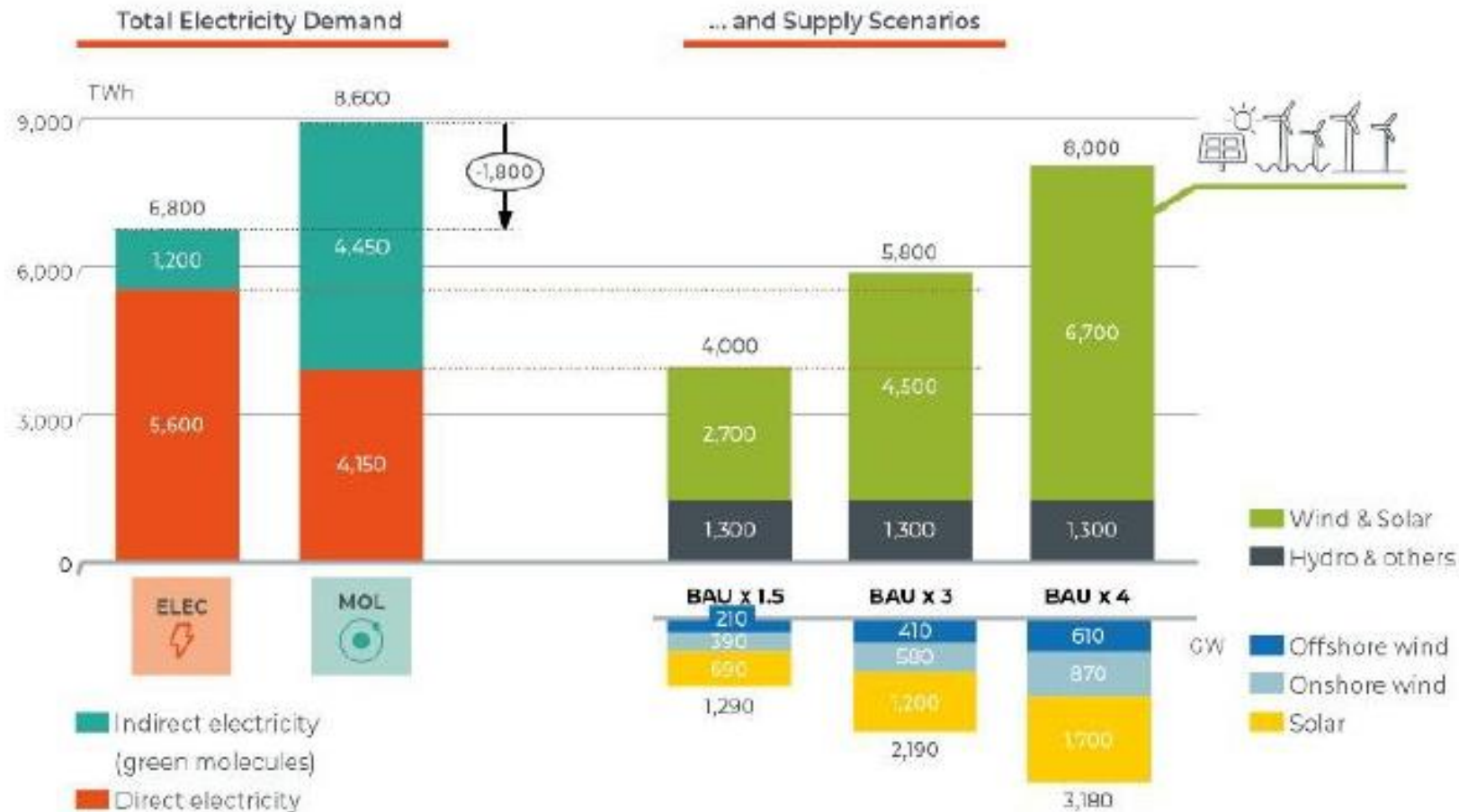




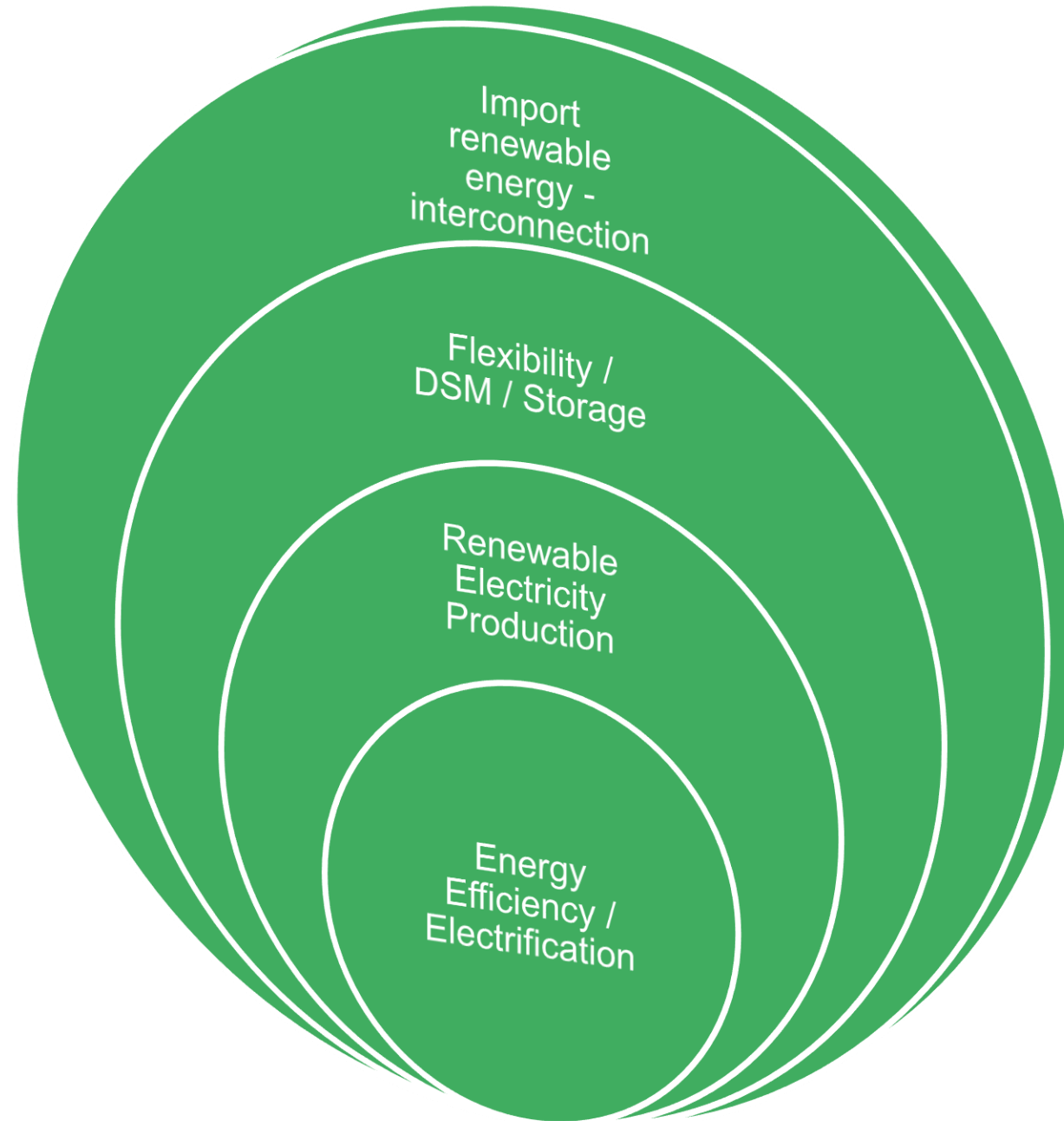


Roadmap to Net Zero

FIGURE 2: STRONG ELECTRIFICATION OF END USE (AS UNDER THE ELEC-PATHWAY) SAVES UP TO 1,800 TWH AT THE EUROPEAN LEVEL COMPARED TO THE MOL-PATHWAY. DIRECT ELECTRICITY DEMAND UNDER THE ELEC-PATHWAY INCREASES BY 70% COMPARED TO TODAY'S DEMAND. A TRIPLING OF TODAY'S RES EXPANSION RATE IS NEEDED TO MEET THIS DIRECT ELECTRICITY DEMAND.



Source: Roadmap to Net Zero, Elia



The North Sea a sustainable value chain



North Sea Coalition to quadruple offshore wind energy



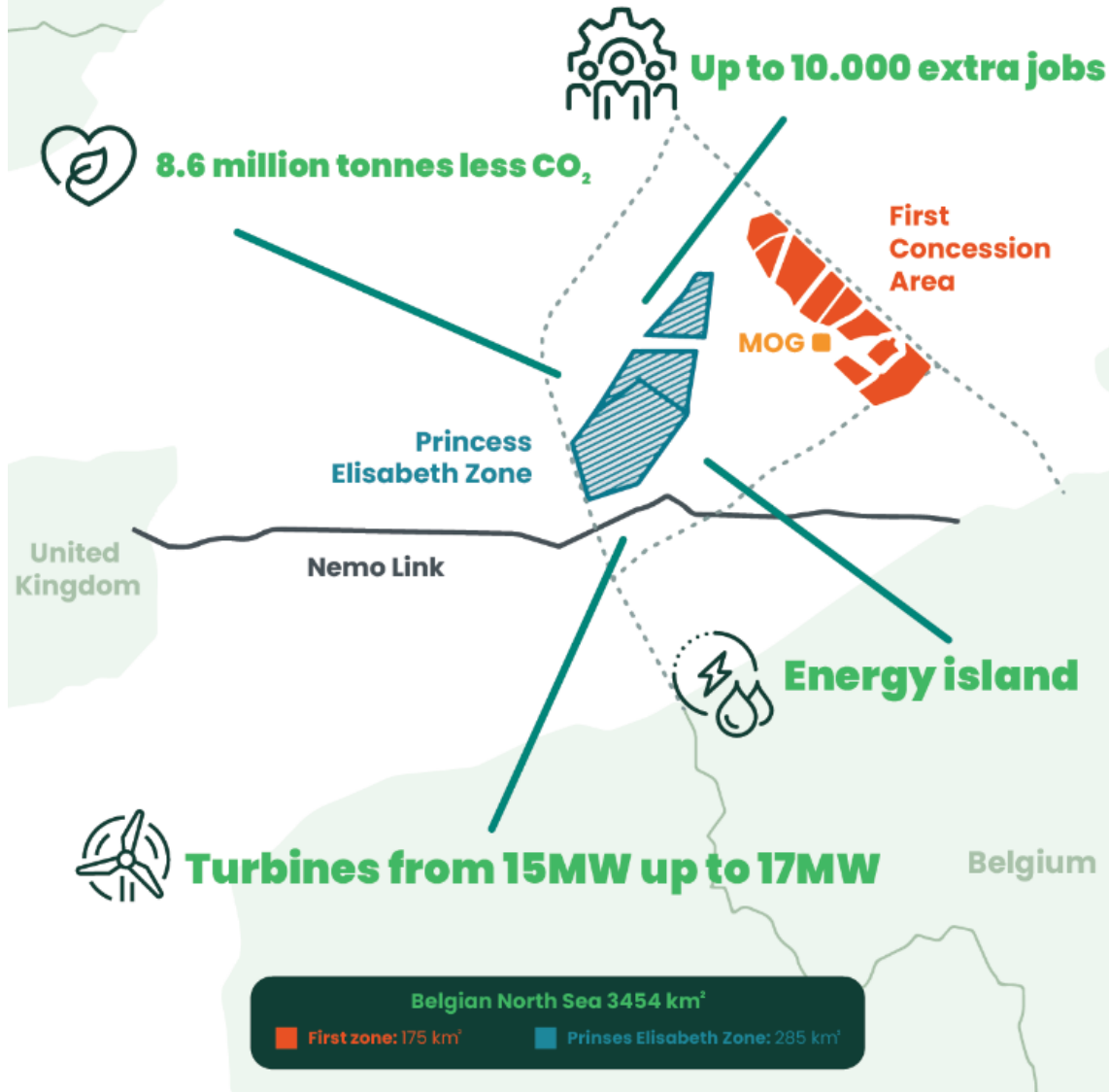
Tinne Van der Straeten
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Ostend Summit



North Sea power for every Belgian family

From 2,2 GW to 5,8 GW



Princess Elisabeth Zone



Tender Goals



Highest possible injection of renewable energy



Limiting risks for investors



Lowest possible energy price for all consumers



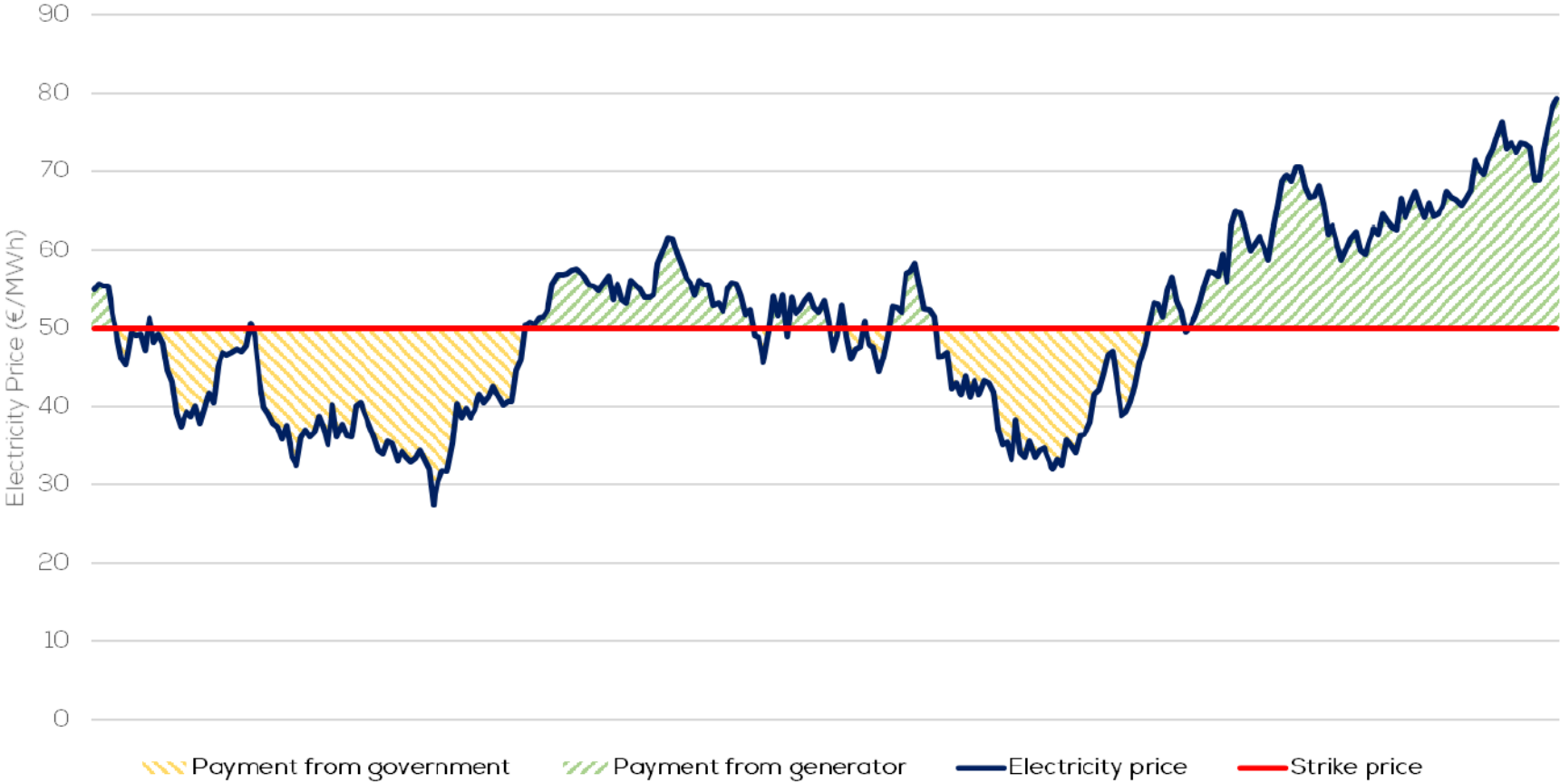
Enabling citizen participation



Avoiding windfall profits



Support Mechanism – 2-sided CfD





Hydrogen:

reaching for the stars

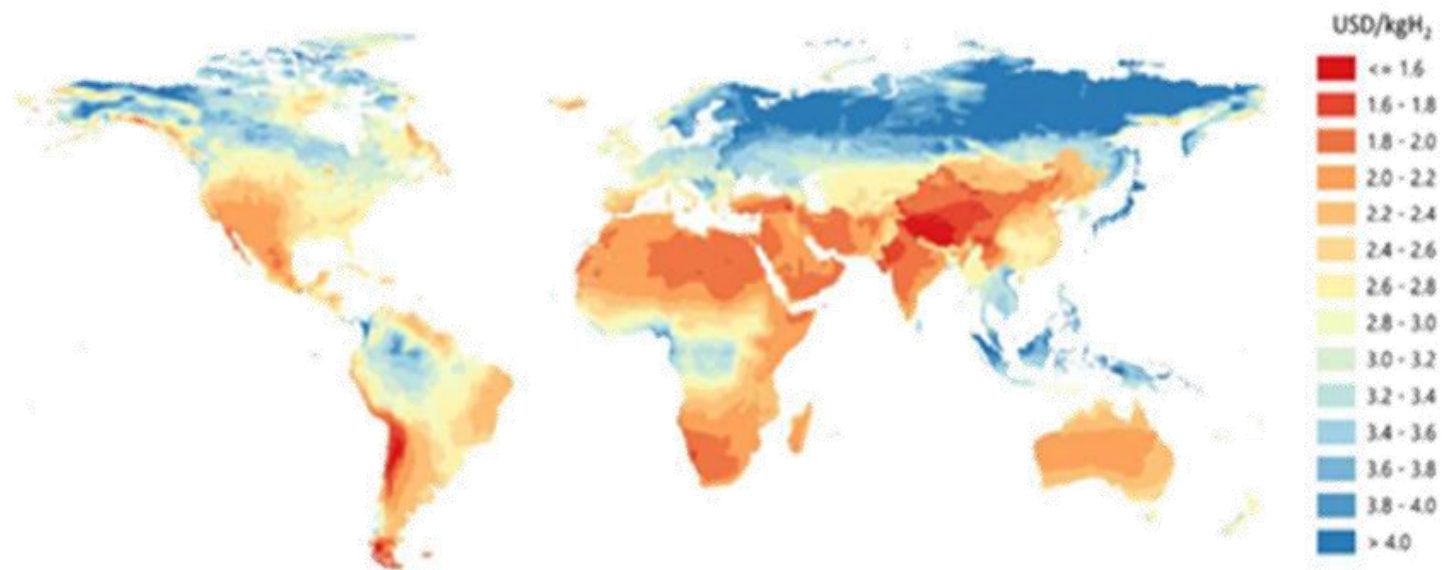



A democratic fuel

Renewable H₂ production is cheaper where RES are abundant

Hydrogen costs from hybrid solar PV and onshore wind systems in the long term

Source: IEA hydrogen report 2019

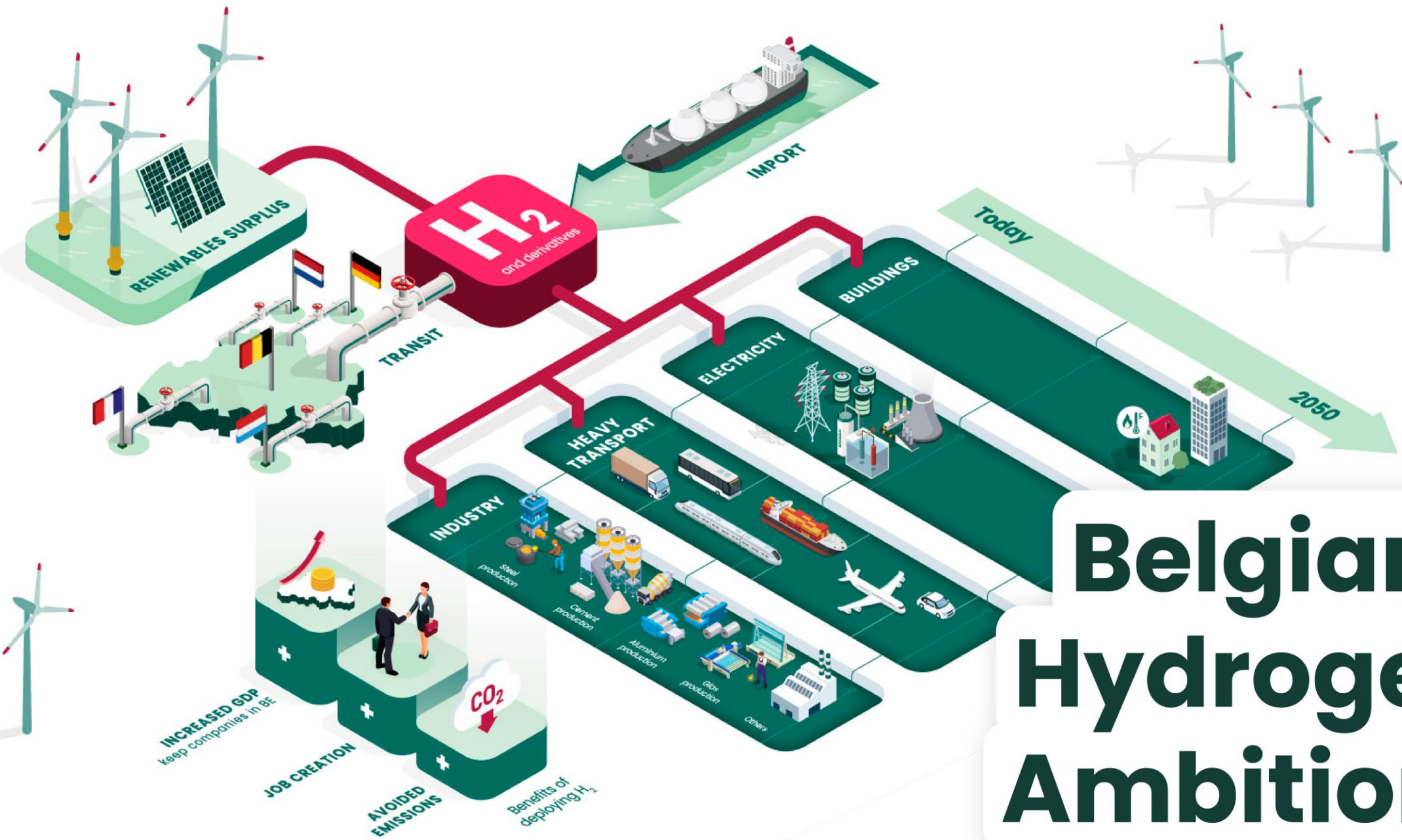


"Shipping the sunshine" 

"Liquid wind" 

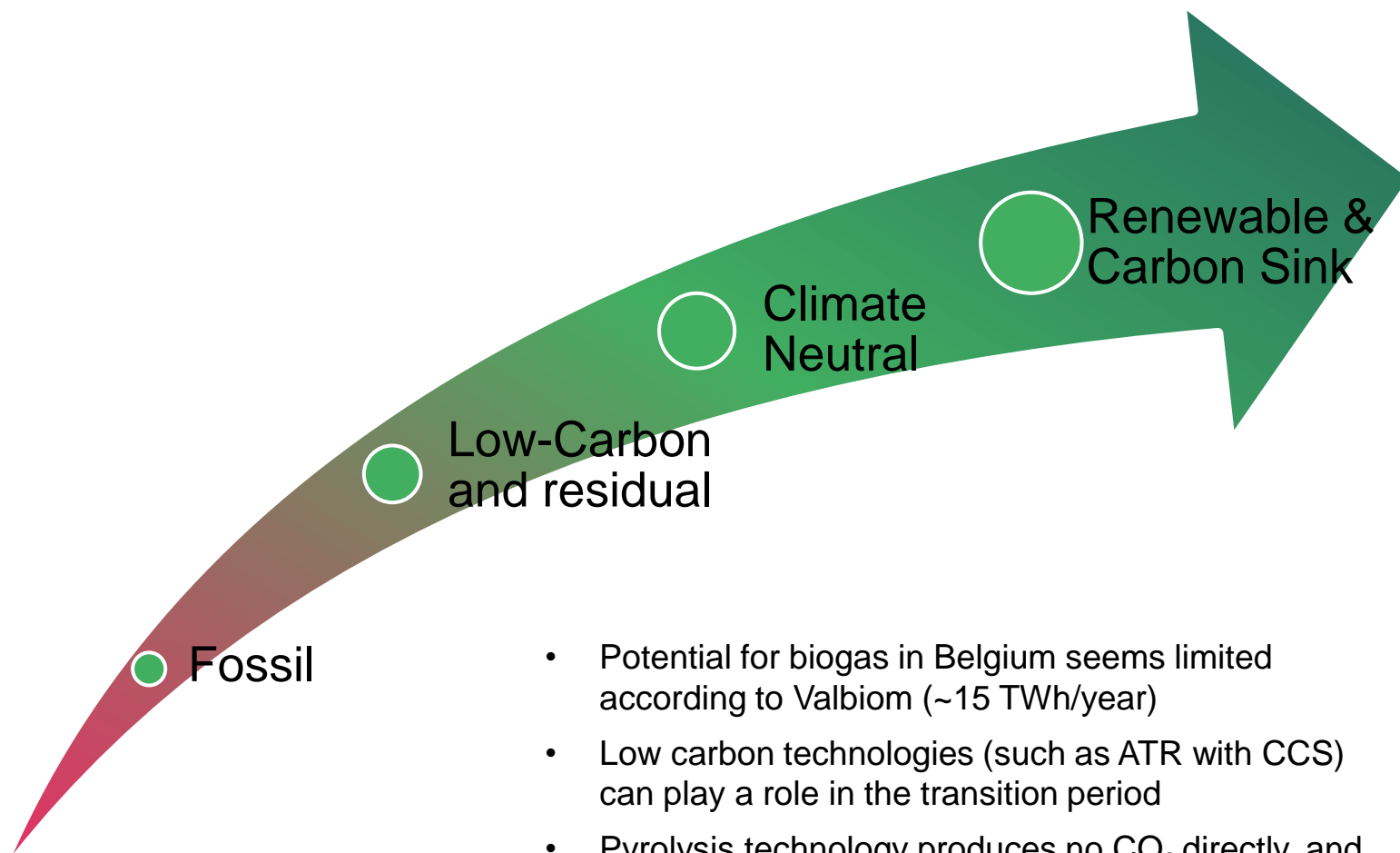
H₂ and its derivatives (eg. NH₃) enable us to import cheap renewable energy





Belgian Hydrogen Ambitions

100% renewable molecules before 2050



- Potential for biogas in Belgium seems limited according to Valbiom (~15 TWh/year)
- Low carbon technologies (such as ATR with CCS) can play a role in the transition period
- Pyrolysis technology produces no CO₂ directly, and could act as a carbon sink if run on biomethane



4 pillars of the federal H₂ strategy

1. Import and transit hub



2. Leader in H₂ tech



3. Robust H₂ market

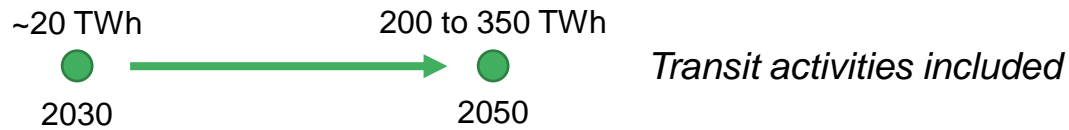


4. Investing in collaboration



Pillar 1 – Import and transit hub for renewable molecules

Estimated import needs for national use
(lower bound, bunkering fuels included)



3 main import routes identified

North Sea route (pipeline)

- Close to Belgium
- Complementarity of offshore H₂ and electricity networks
- Collaboration is increased with North Sea countries to best harness this energy

Southern route (pipeline)

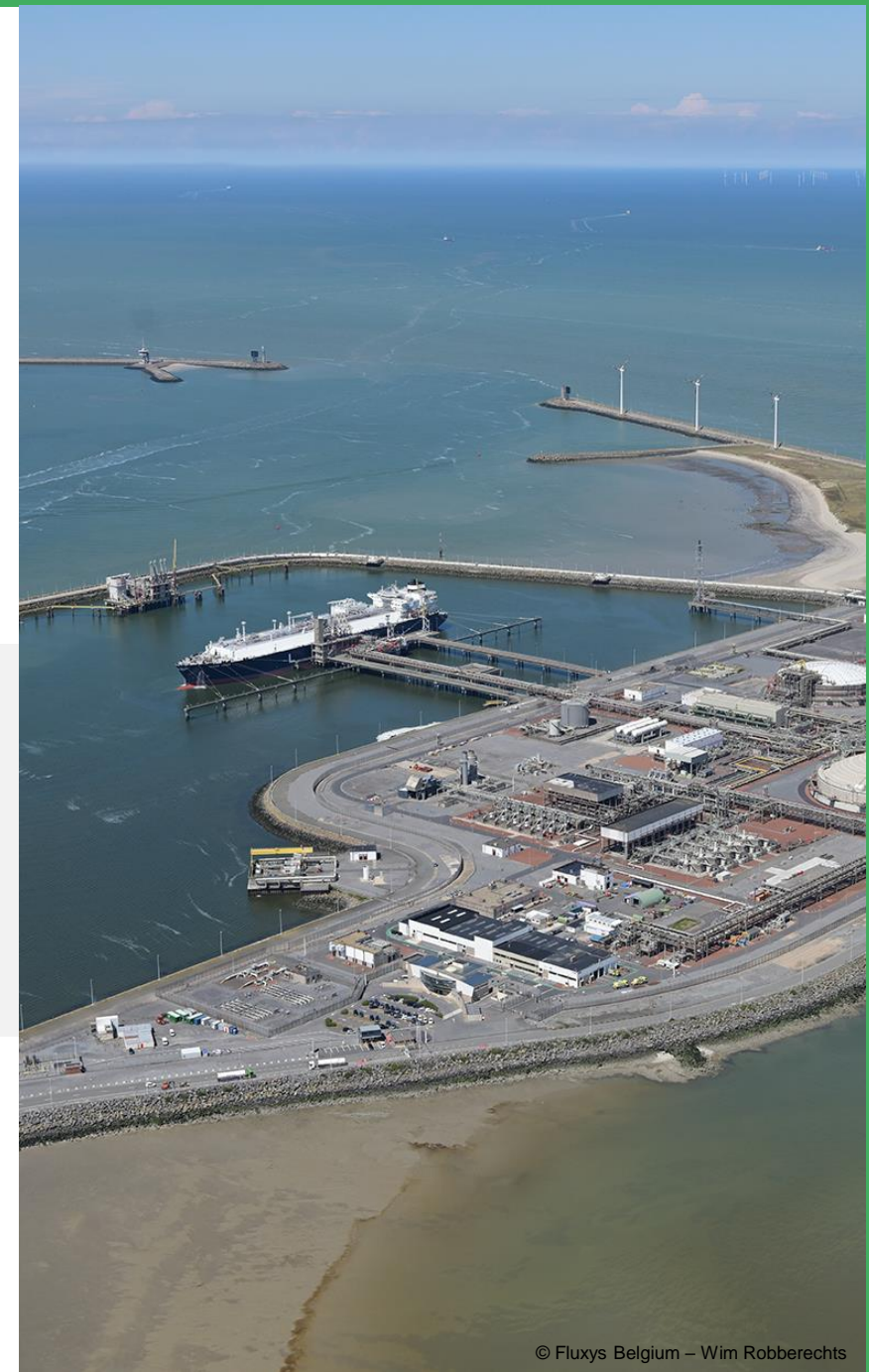
- Great potential from Southern Europe and North Africa
- H₂ networks to be developed, partly from repurposed natural gas networks
- This route will most probably materialize after 2035

Shipping route

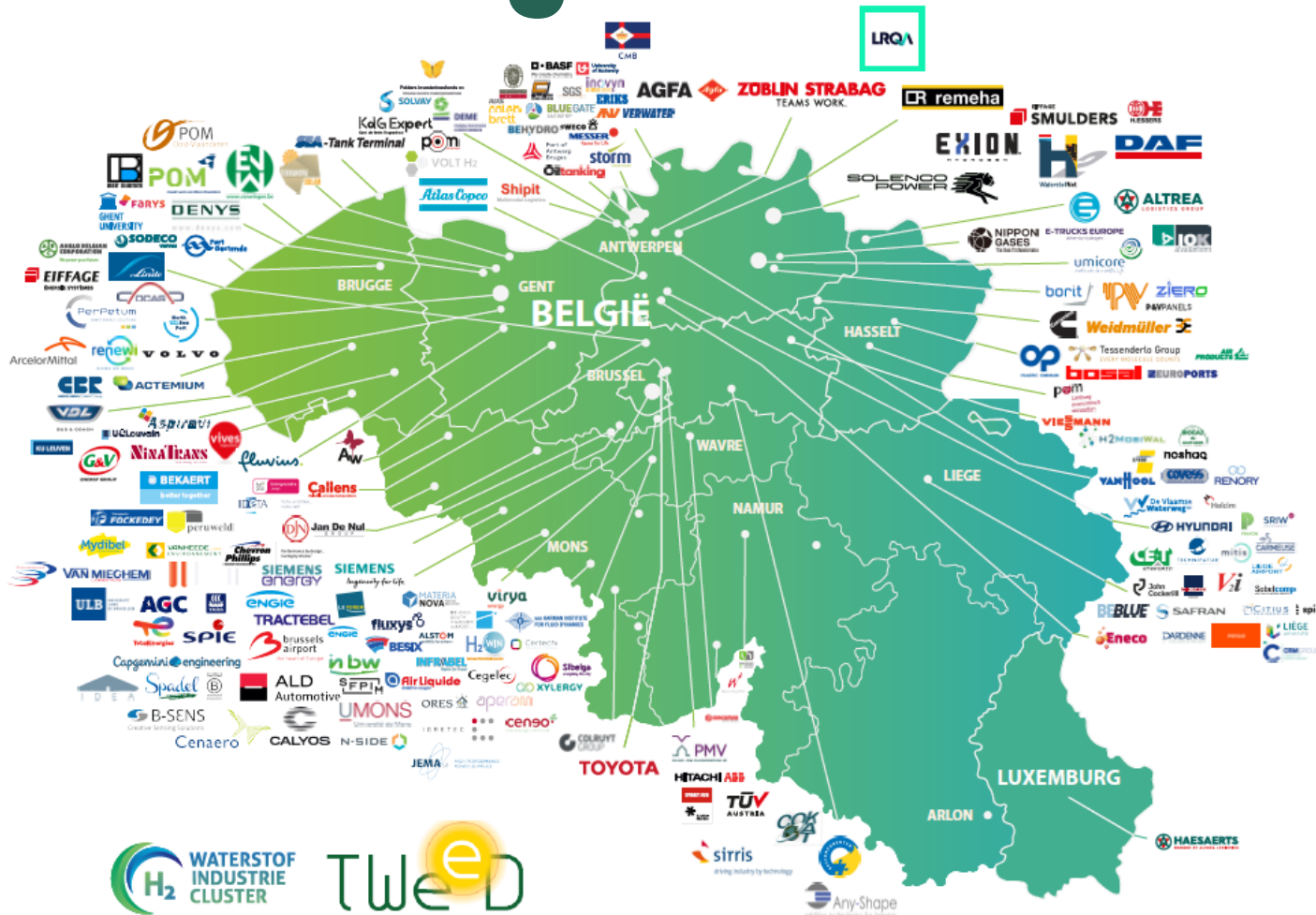
- From any port in the world from renewable-rich regions
- Expected to become the most competitive solution for H₂-derivatives
- Ability to crack H₂-derivatives into H₂-molecules improves security of supply

Hydrogen gateway to Europe

The federal government invests in transport infrastructure (H₂ backbone, H₂ import infrastructure) to position Belgium as an import and transit hub for renewable molecules



Pillar 2 – Expanding Belgian leadership in H₂ technologies



Building on existing experience of leading companies in Belgium

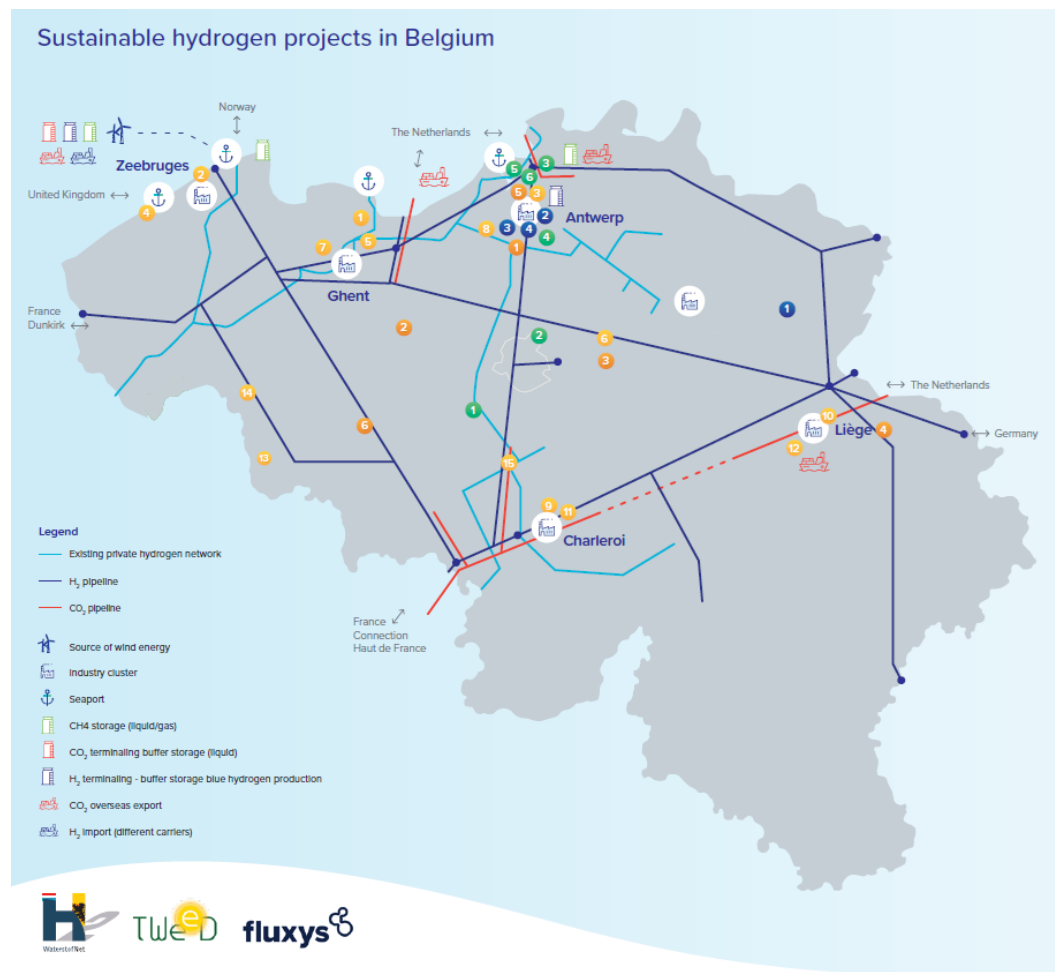
Means to our disposal to support the further development of the sector:

- **Energy Transition Fund (ETF):** annual call for projects on energy transition, including H₂ solutions (20-30 M€)
- **Clean hydrogen for clean industry (CHCI):** 2 calls for projects (2022 & 2023) for a total of 60 M€ focused on H₂ technologies
- **H₂ Import call:** call for projects on H₂ import infrastructure to be launched beginning 2023 (10 M€)
- **VKHyLab:** test infrastructure accessible to both research institutes and companies in order to scale up innovative H₂ solutions

Electrolysis is exempted for excises on electricity in order to support the development of the first capacities



Pillar 3 – Establishing a robust H₂ market



Unlock the demand

- Investigate with the regions and the EU how to put in place a system to unlock the demand

Connect market actors with each other

- Support the development of an H₂ transport network (95 M€ for the first phase before 2026, 300 M€ for the interconnection with Germany by 2028)
- Optimal planning of the energy transport infrastructures

Promote the emergence of a European market

- Interconnect the H₂ transport networks (see above)
- Develop common market rules (Hydrogen and decarbonised gas market package, Renewable energy directive)

Avoid discrimination

- Regulate the transport of H₂ per pipeline (draft law)

Promote exchange and transparency

- Develop a certification scheme
- Develop a market platform coupled to physical deliveries in Belgium
- Develop a gas quality standard

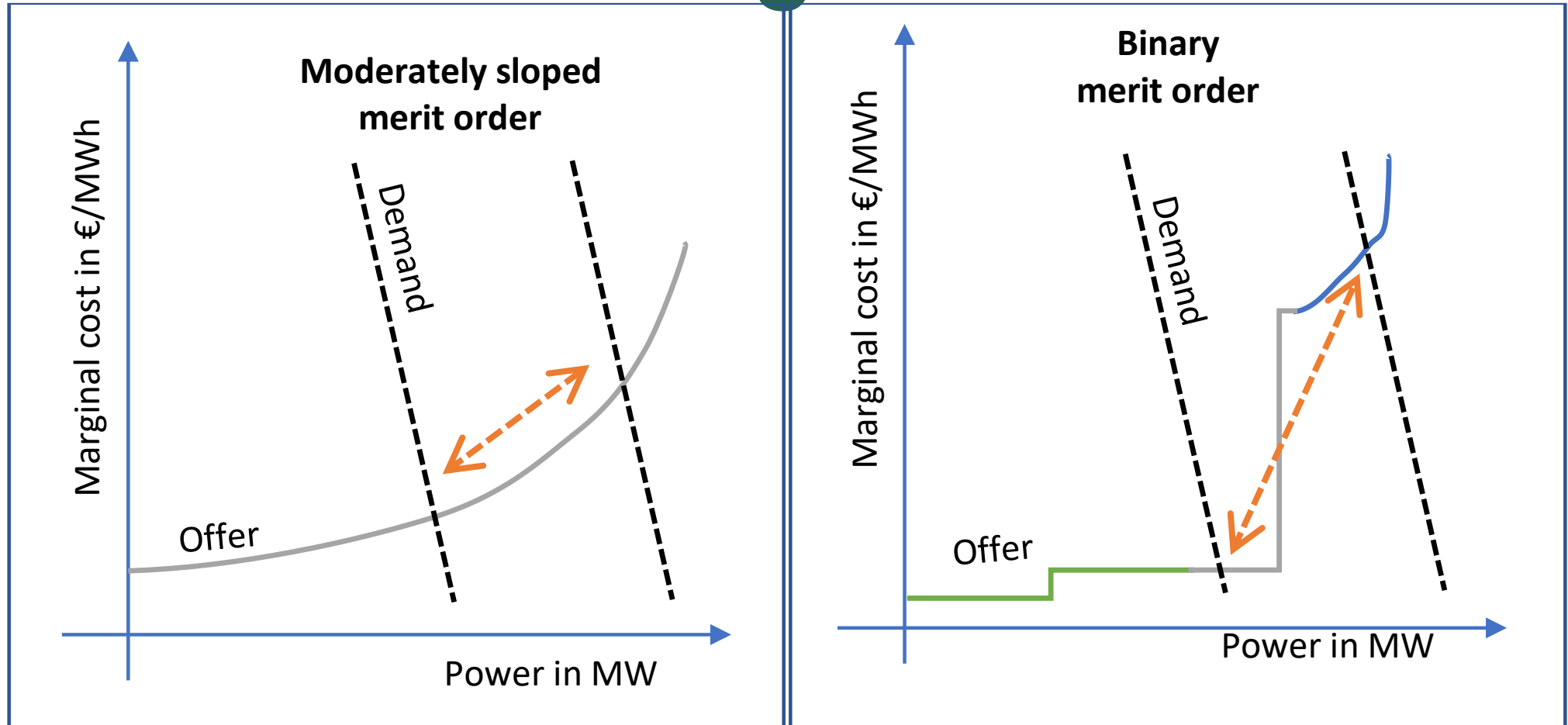


Working together



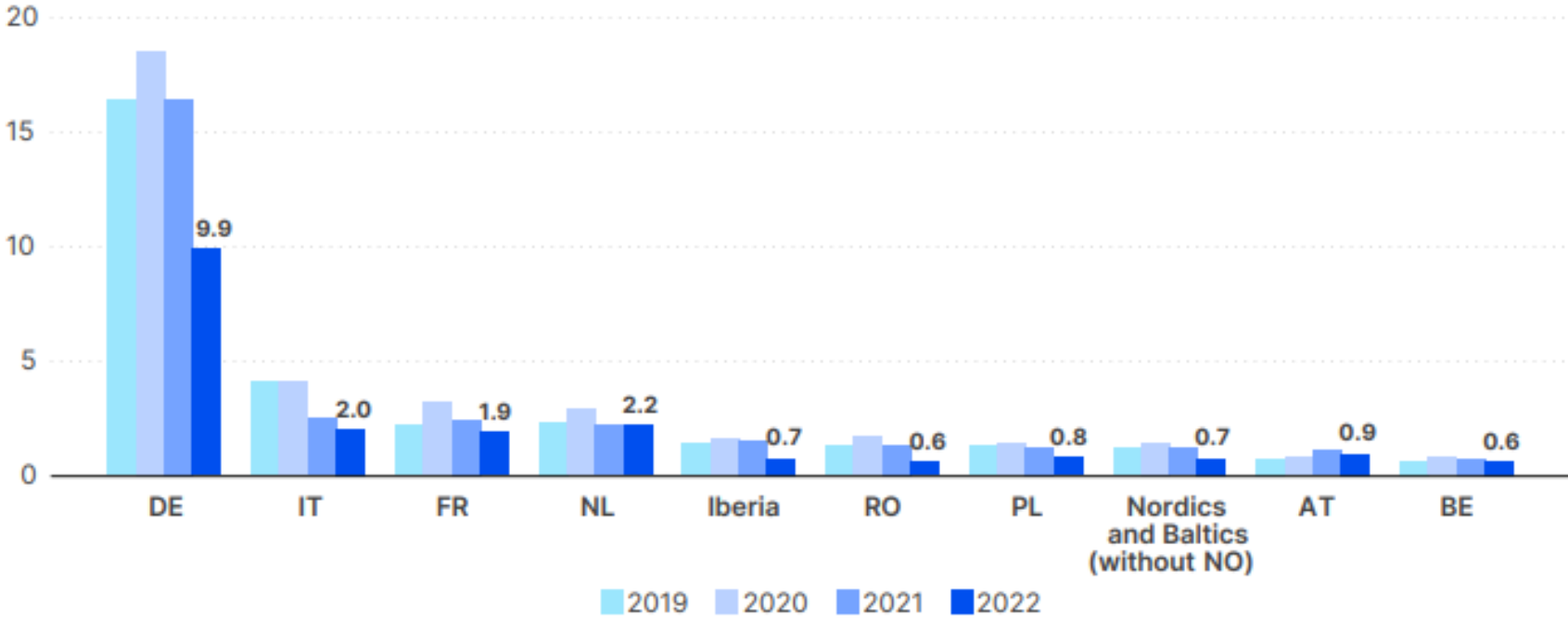
Energy Market Design

Price volatility is inherent to the current market design



It is important to improve liquidity in the European Forward Markets

Figure 5: Churn factors in a selection of European forward markets – 2019-2022

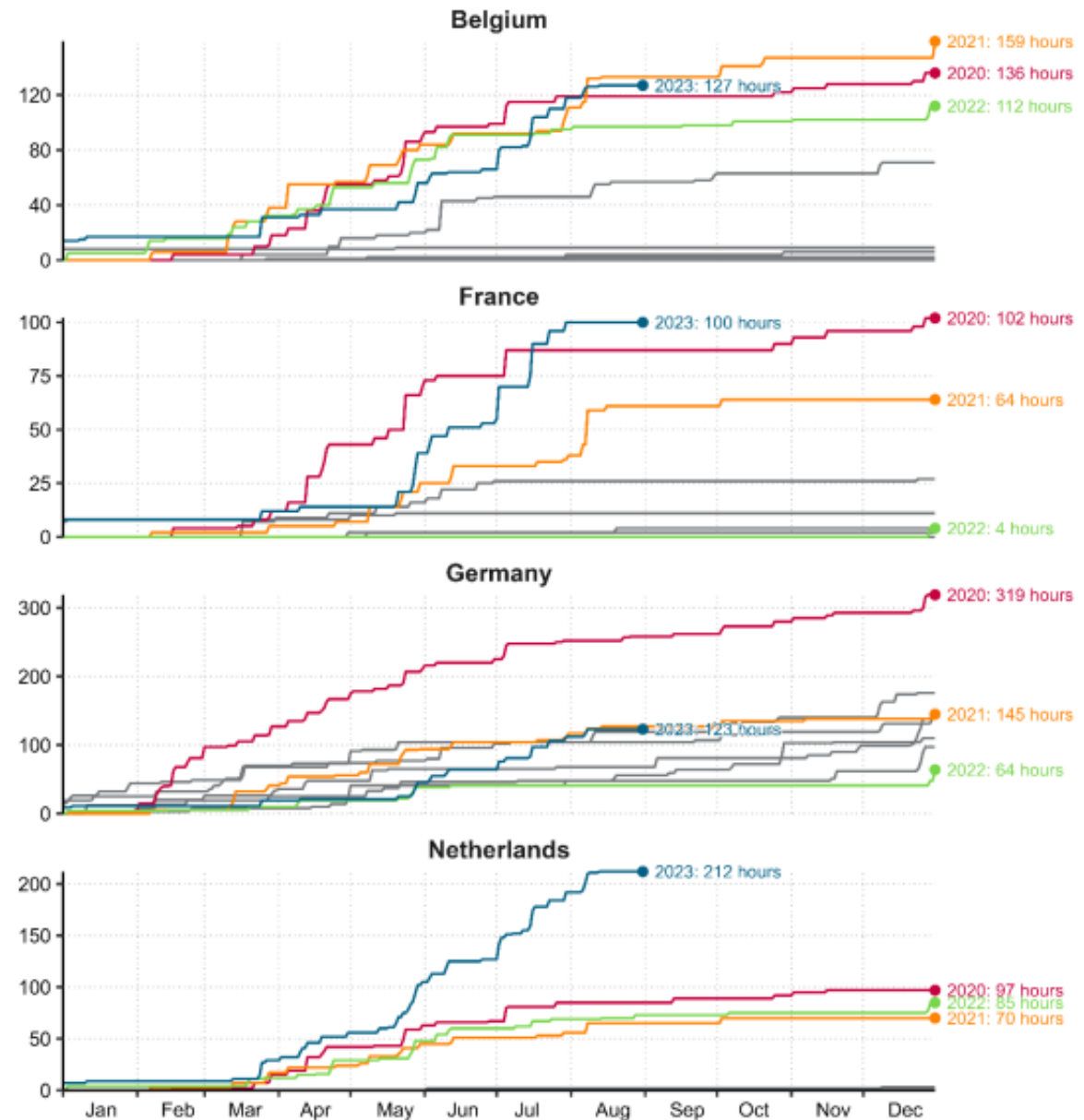


Source: ACER calculation based on REMIT and ENTSO-E data.

Wholesale prices: cost of generation mix or risk?



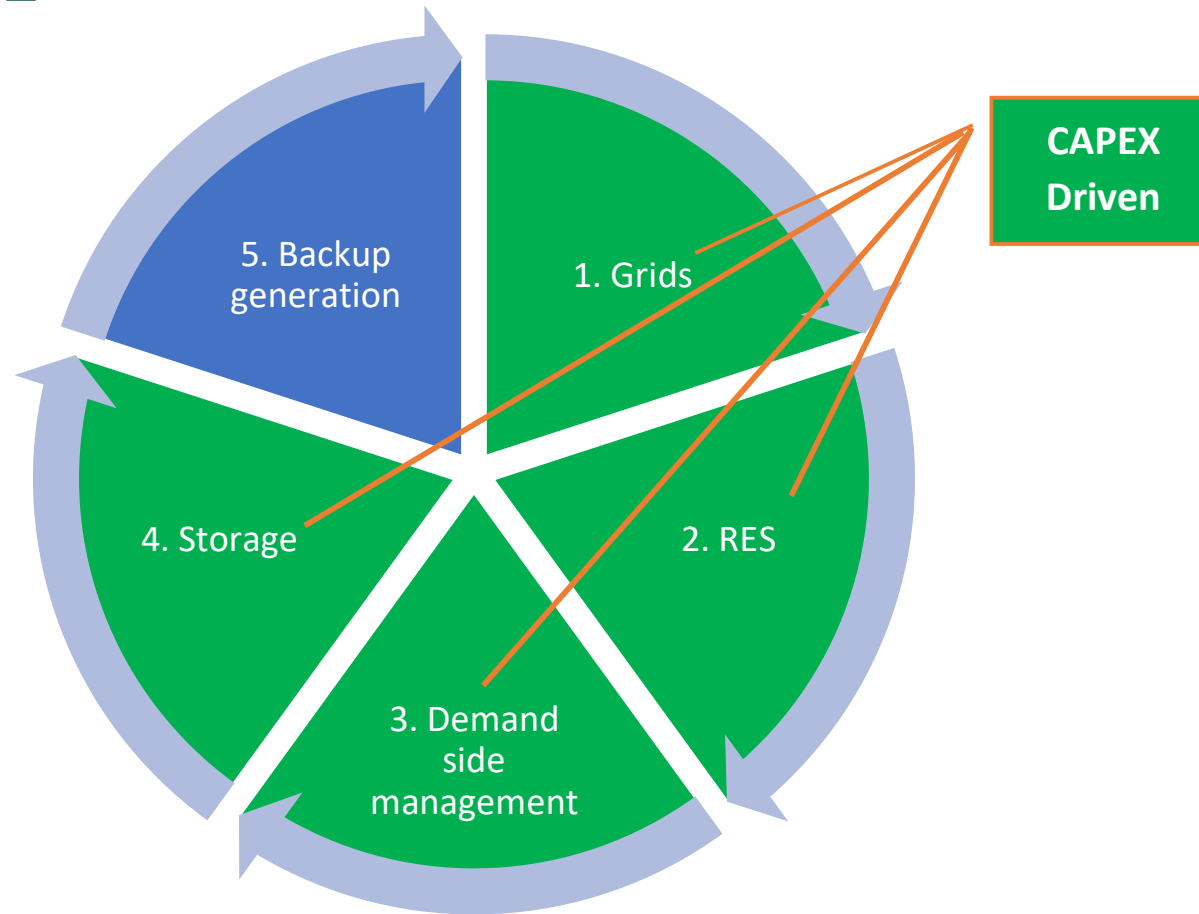
Increasing number of hours @negative prices on Day Ahead Markets



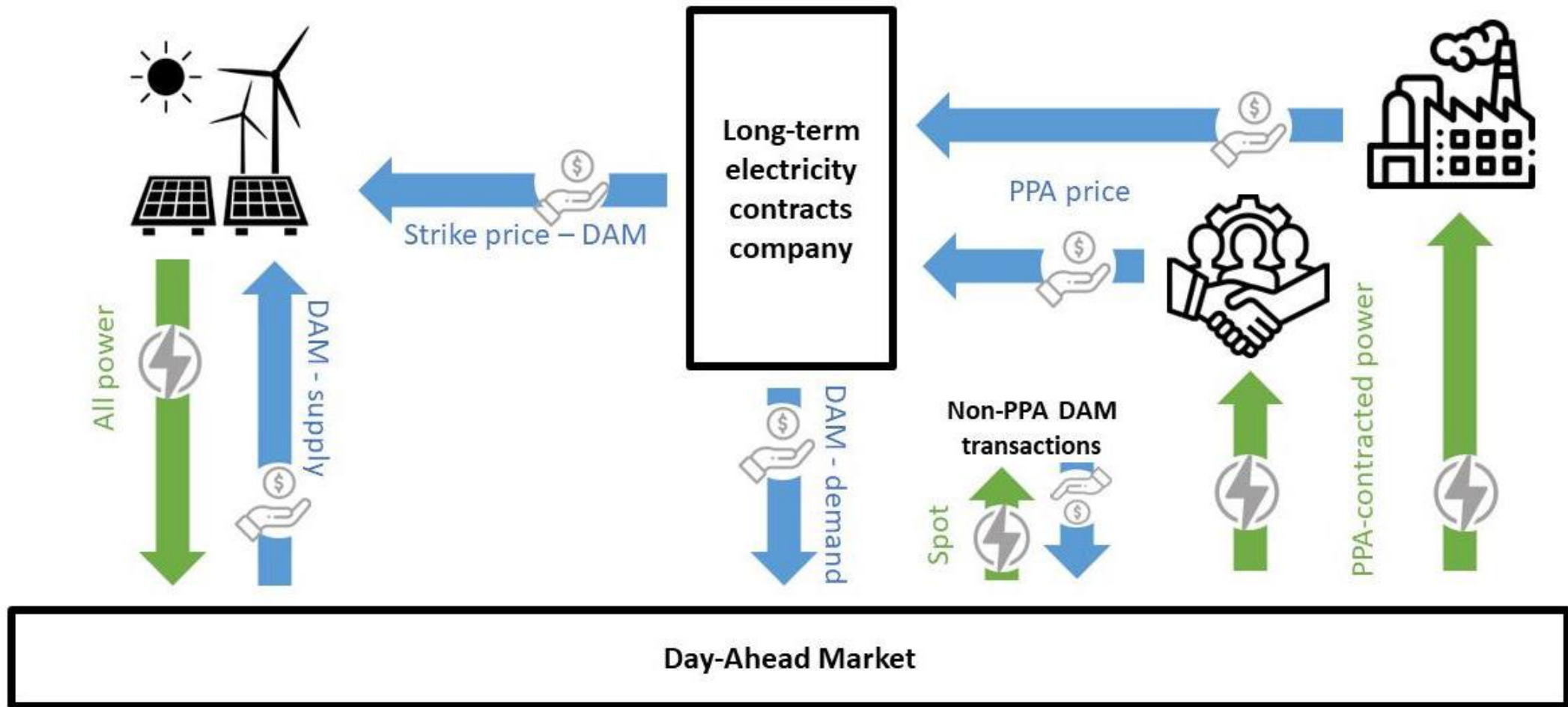
Source: calculations CREG based on data Entso-E Transparency Platform

Figure 3-1 Negative electricity prices in day-ahead markets

A fully decarbonized energy system has mainly a fixed cost (CAPEX)

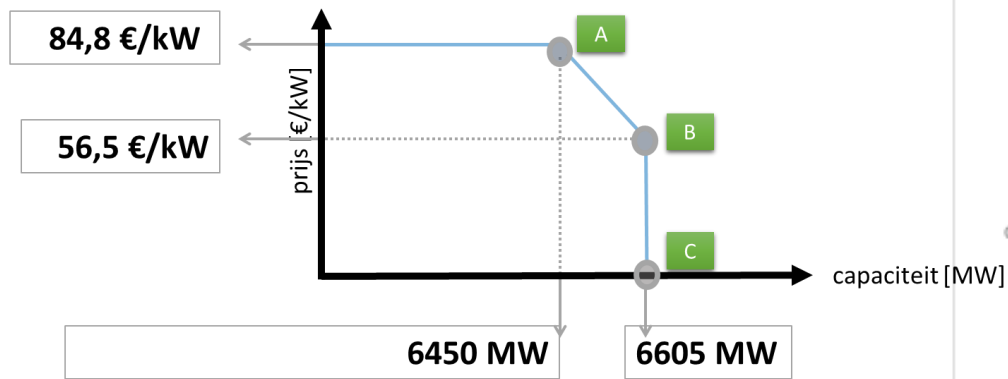


Improving price stability for producers and consumers

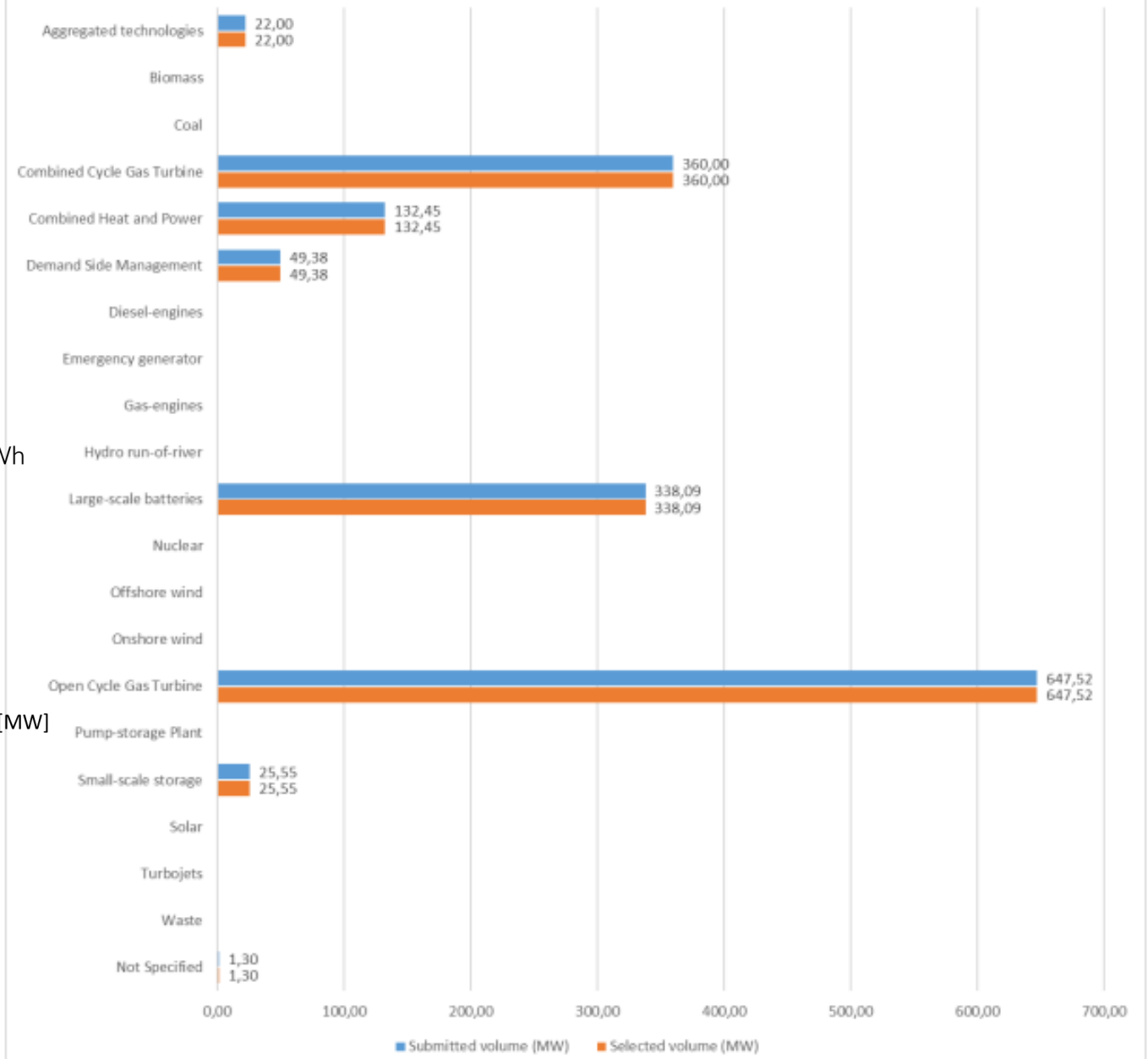


De vraagcurve voor Y-4 Veiling 2023 met het oog op leveringsjaar 2027

- IPC: 26€/kW
- Uitoefenprijs: 417€/MWh



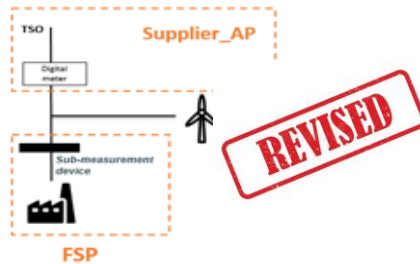
Capacity volumes by Delivery Point technology



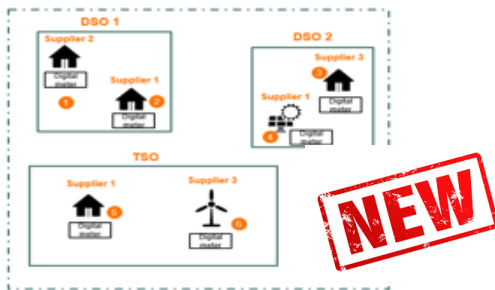
Exchange of energy

Nieuw marktmodel gebaseerd op individuele correctie

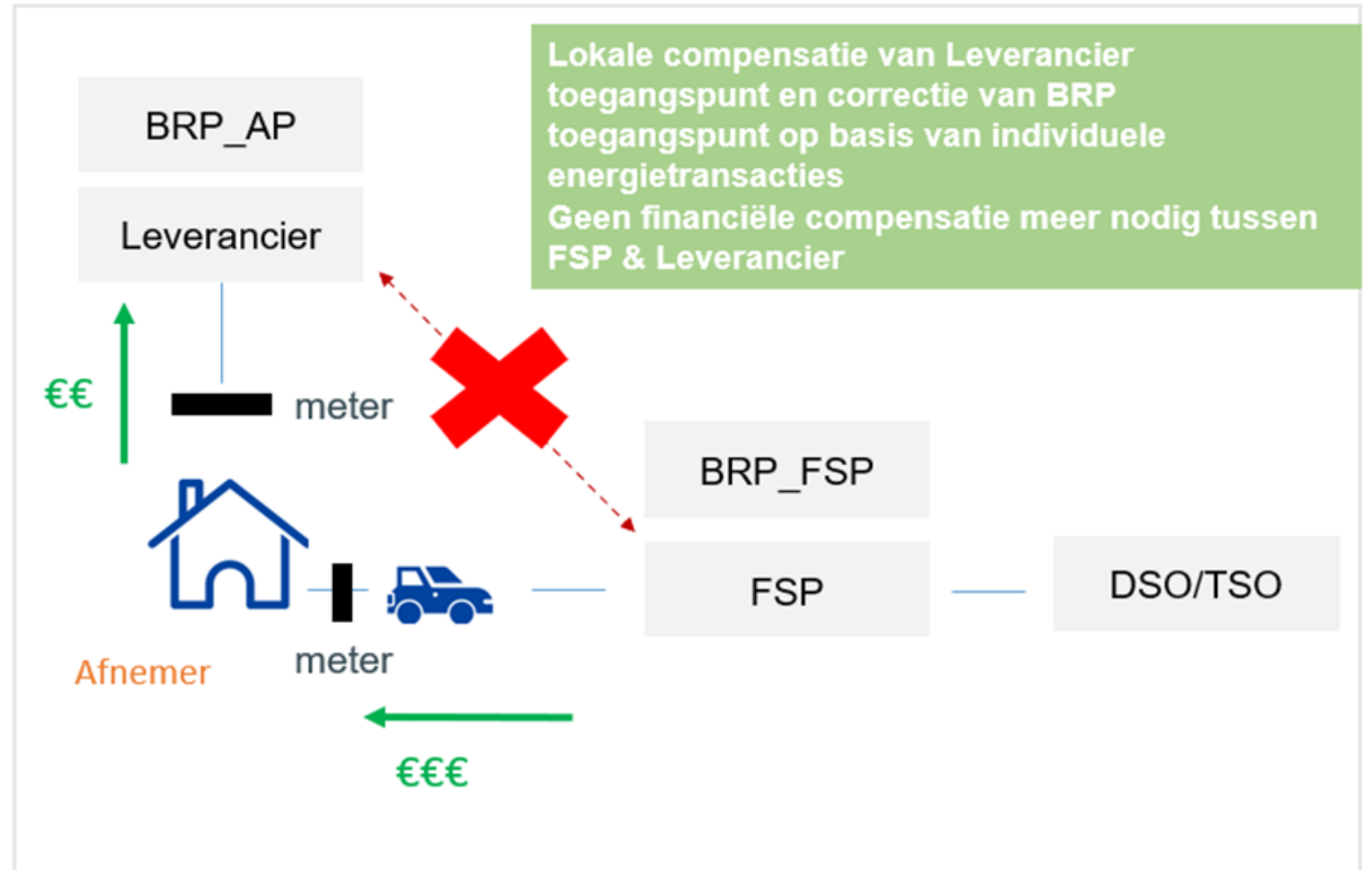
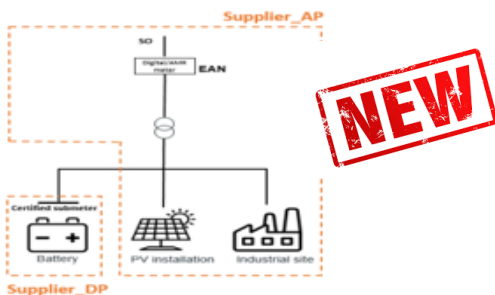
1. Expliciete flexibiliteit (bv. balancing)



2. Energie-gemeenschappen



3. Verschillende leveranciers



Hope

'Hope is not the same thing as optimism, nor the conviction that something will turn out well.

It is, however, the certainty that something makes sense, regardless of its outcome or result'

Vaclav Havel

Thank you for your attention.

