



**How AI and Digitalization are
crucial for decarbonizing the
energy system while enhancing
necessary capacity and cost
competitiveness.**

Jens Zerbst
February 2026

The greatest danger in times of turbulence is not the turbulence, it is to act with yesterday's logic.

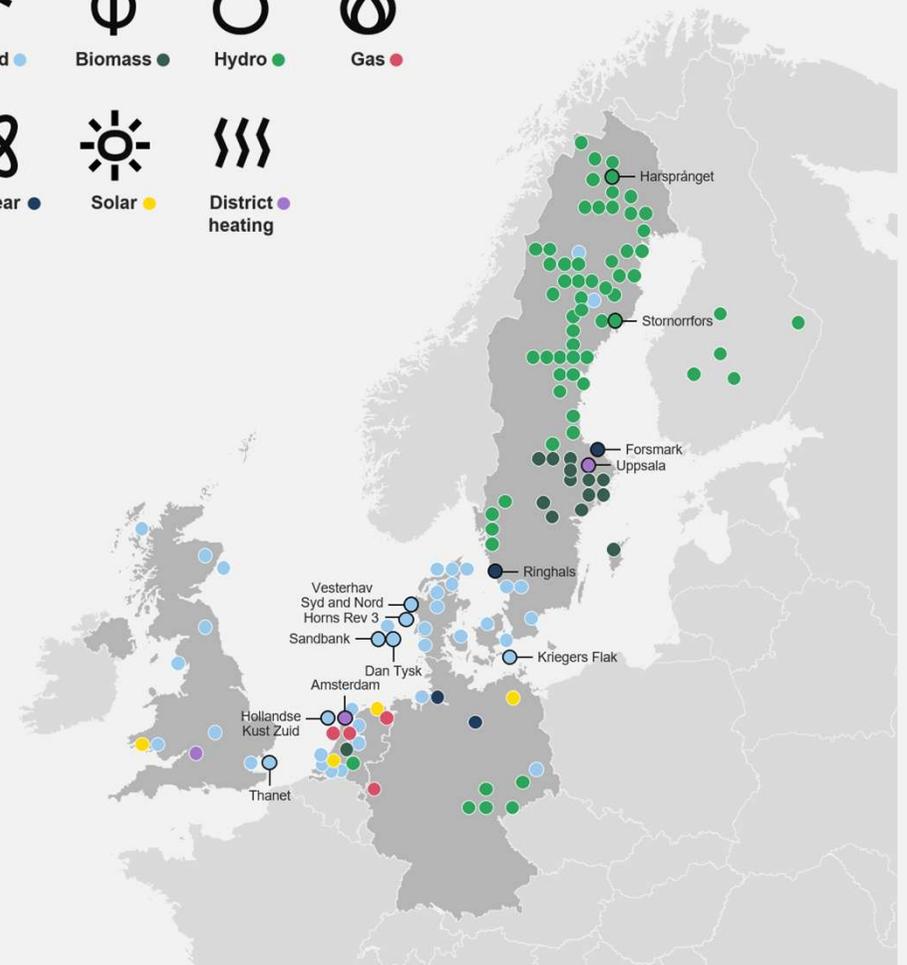
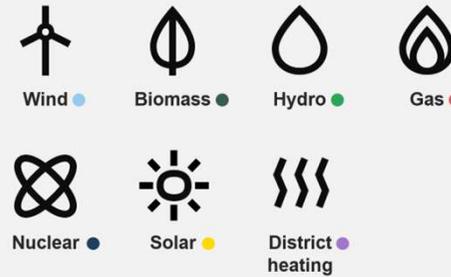
Peter Ducker

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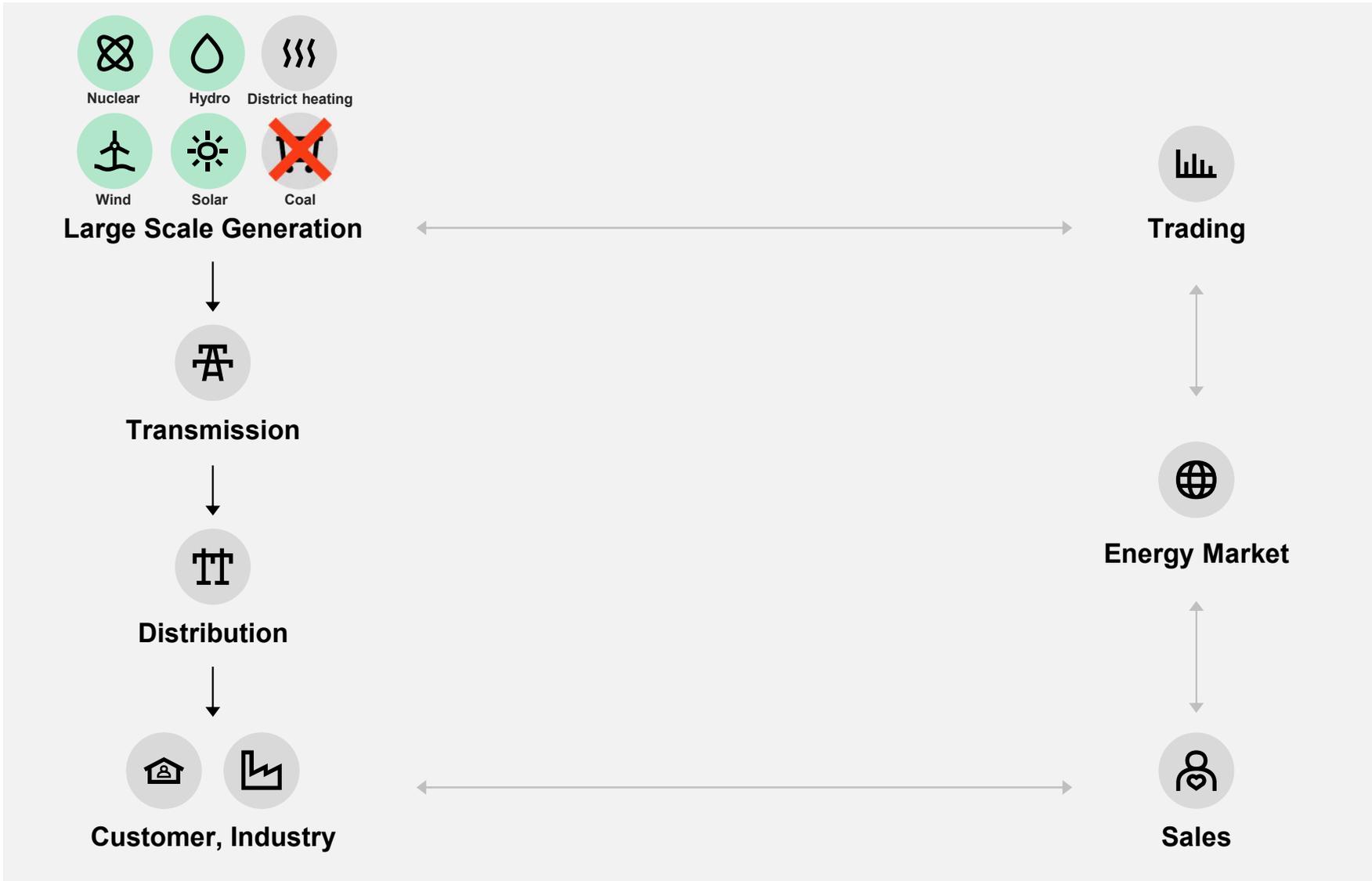




↔ 50 Hertz
 ↔ Logical



**The EU aims to be climate-neutral by 2050
an economy with net-zero greenhouse gas
emissions.**



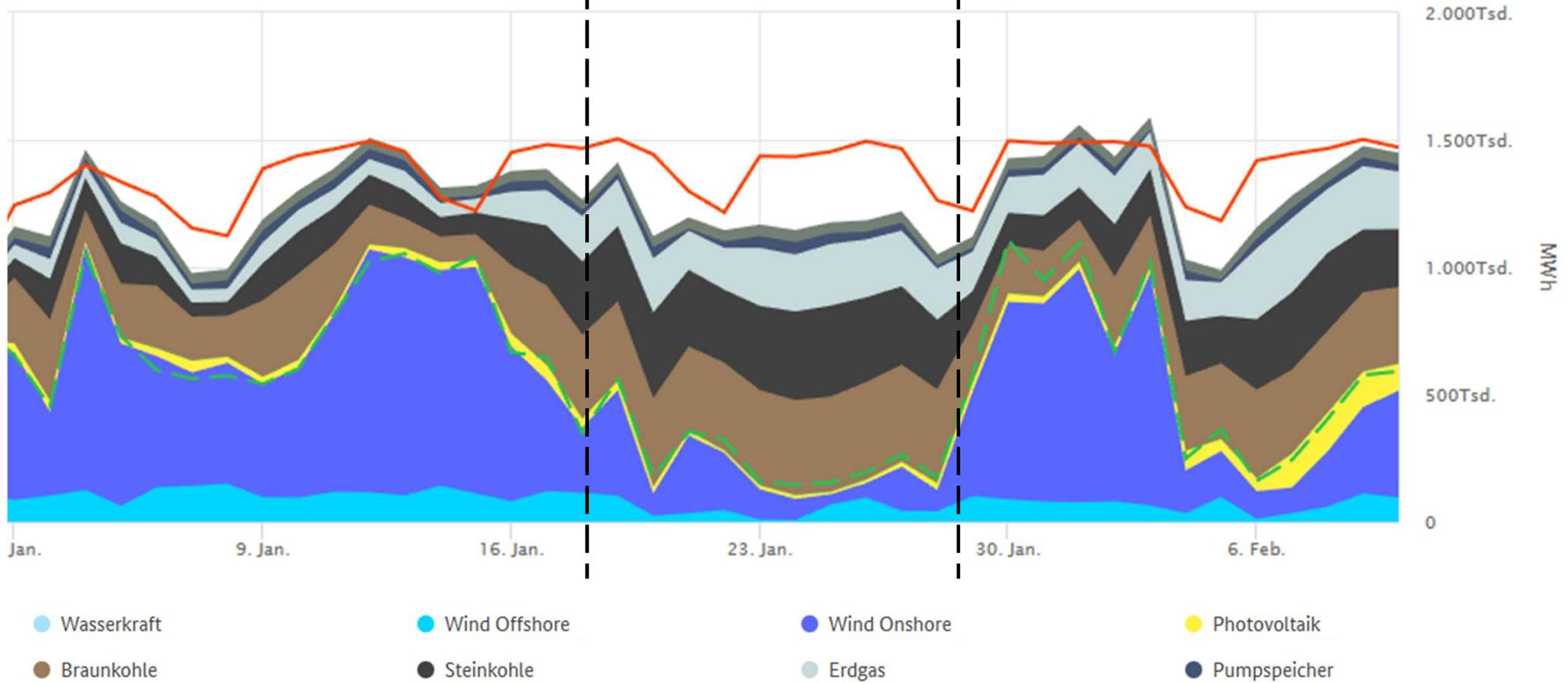
↔ 50 Hertz

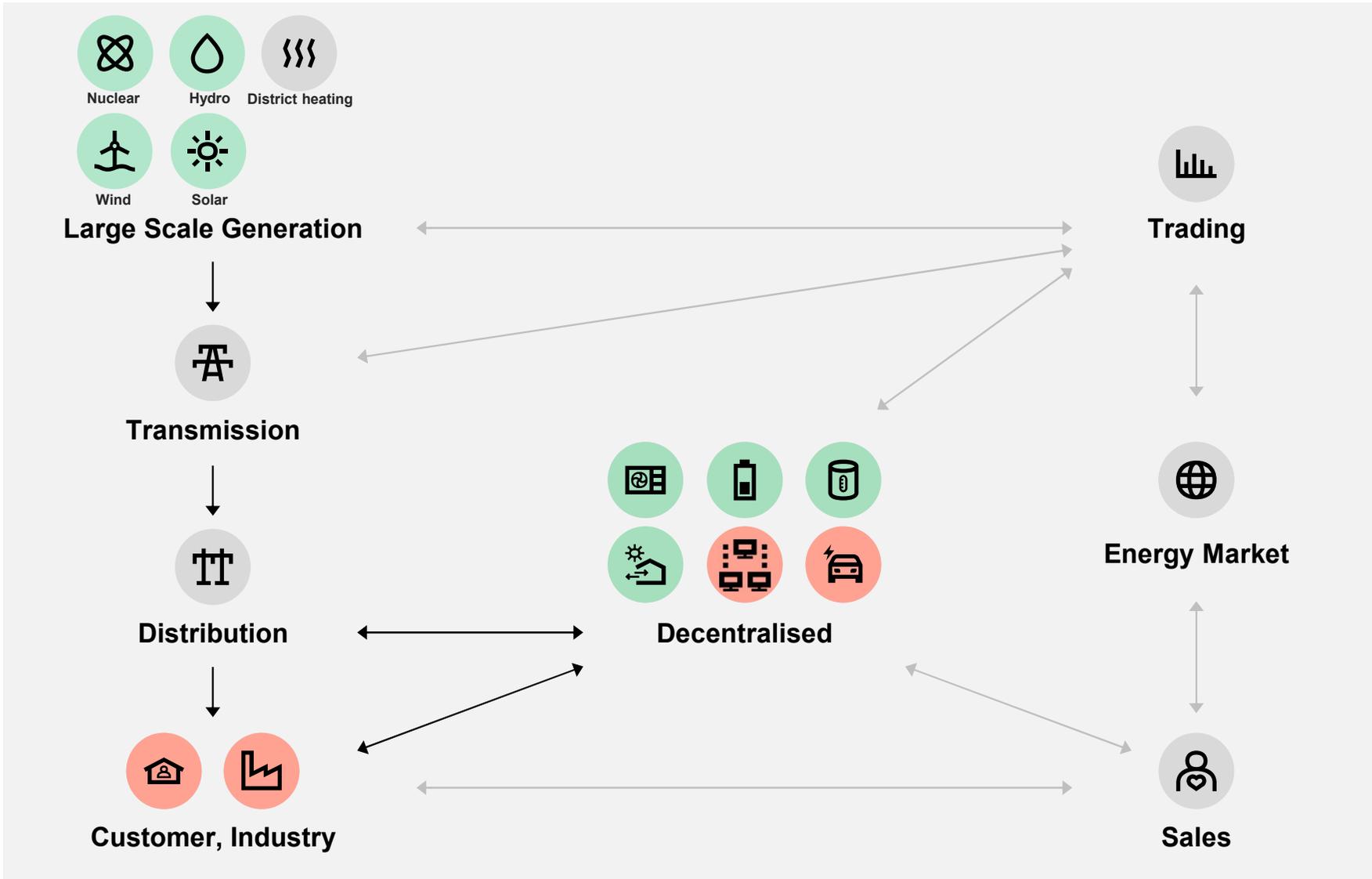
↔ Logical

☁️ CO₂ Decarbonisation of the energy system

● Introduction of Renewables

“Dunkelflaute”





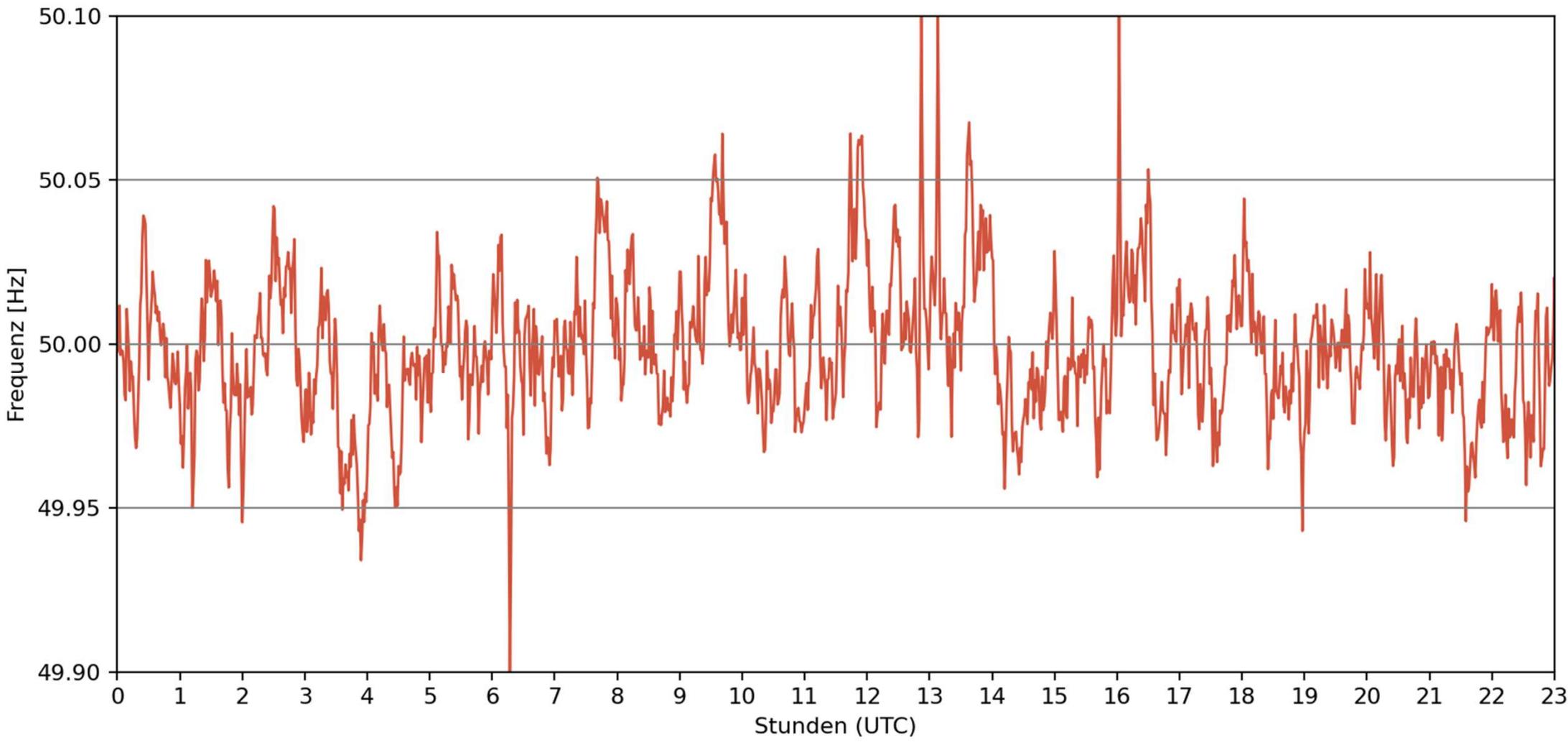
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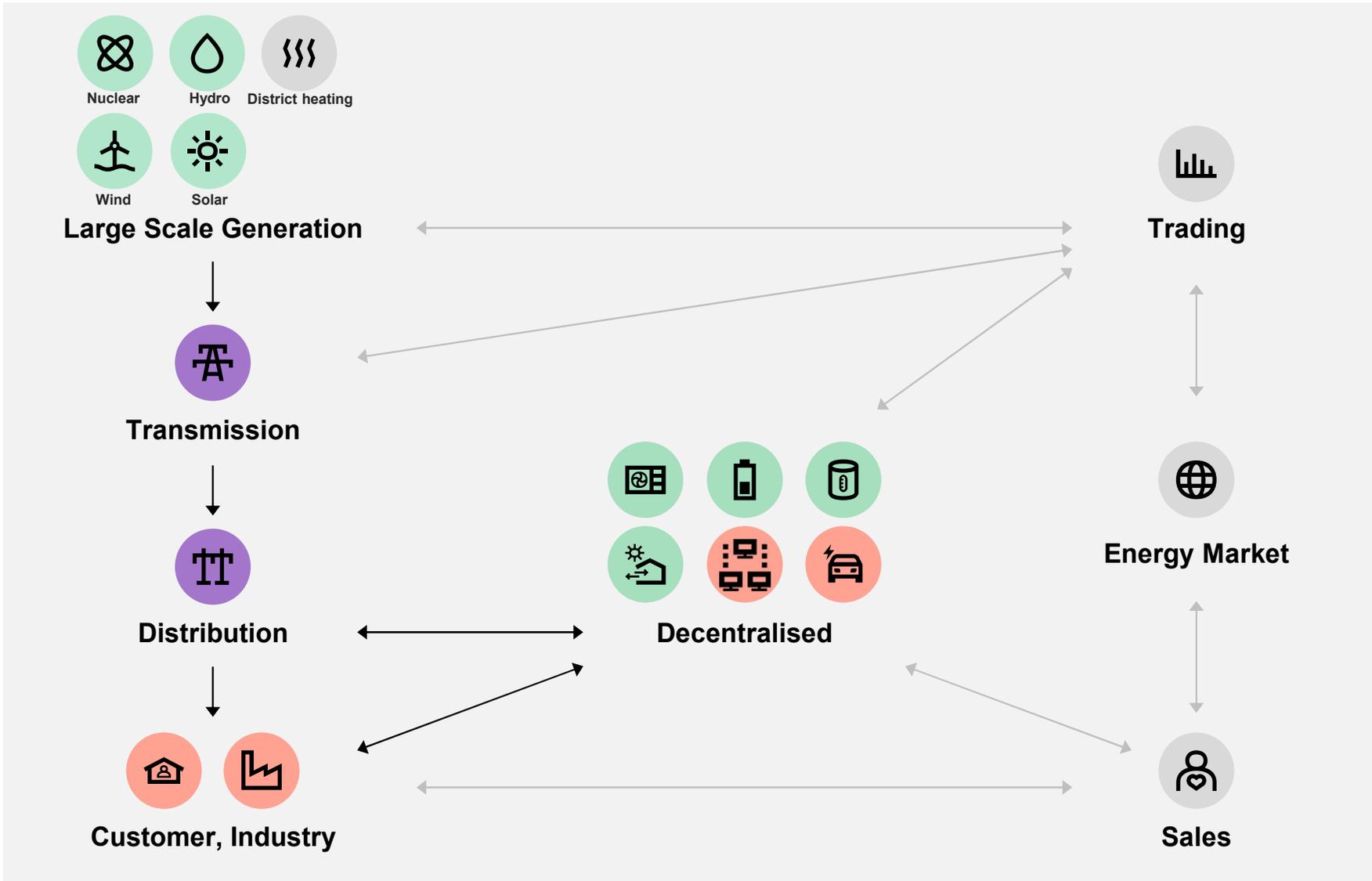
↔ Logical

Decarbonisation of the energy system

Introduction of Renewables & Decentralised

Volatile demand





↔ 50 Hertz

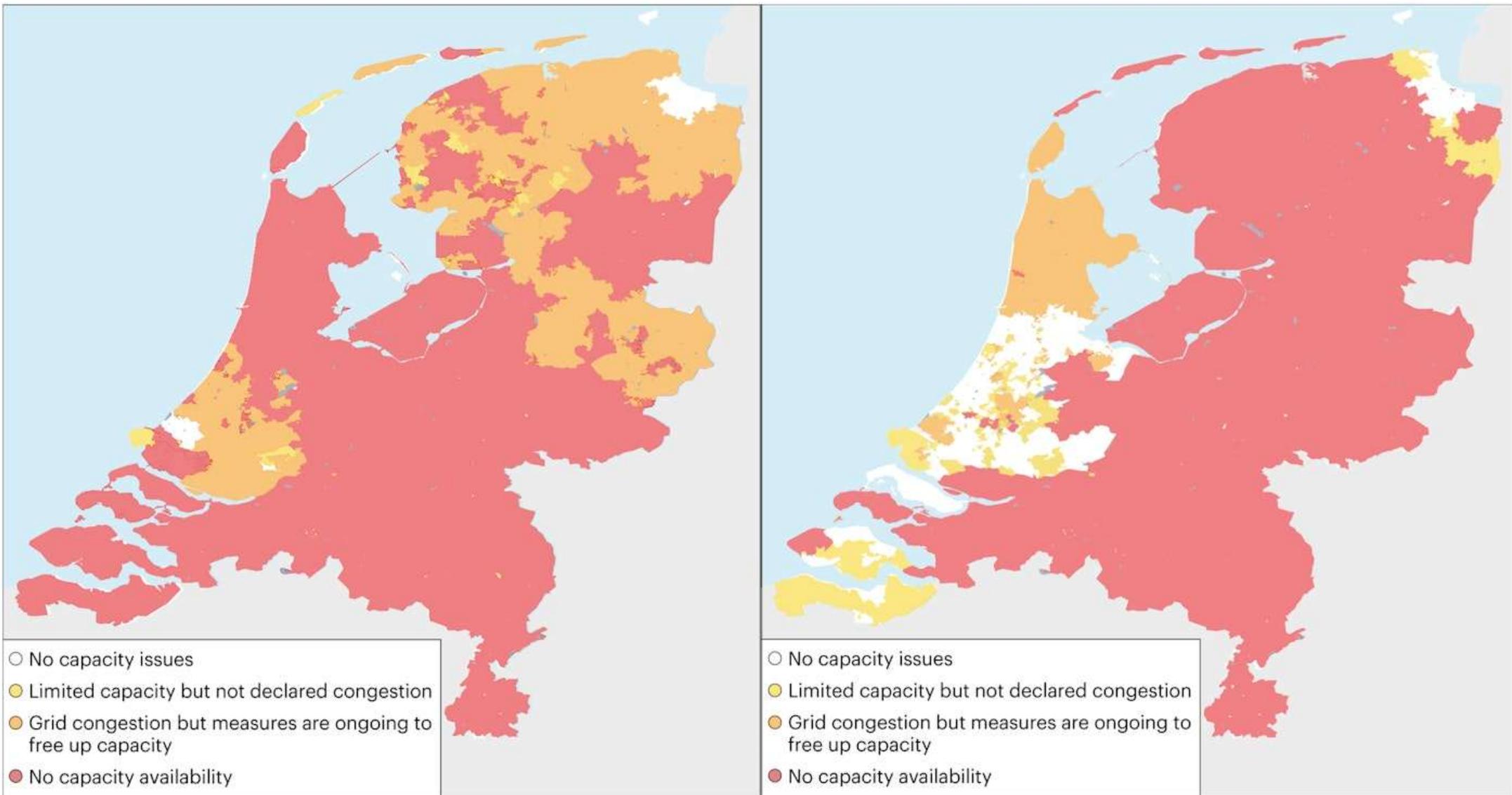
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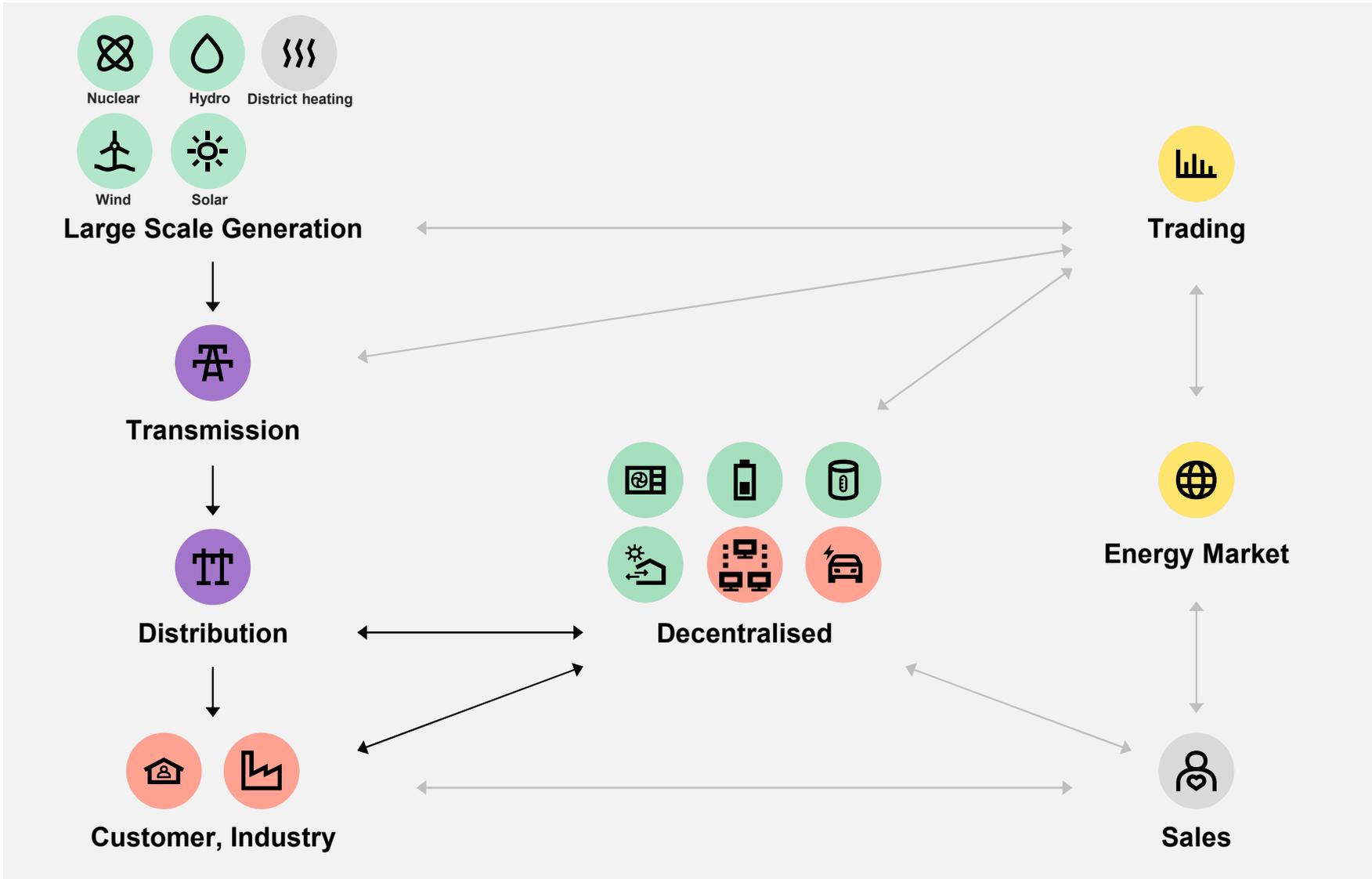
Decarbonisation of the energy system

Introduction of Renewables & Decentralised

Volatile demand

Limitation in capacity





↔ 50 Hertz

↔ Logical

☁️ CO₂ ↓
Decarbonisation of the energy system

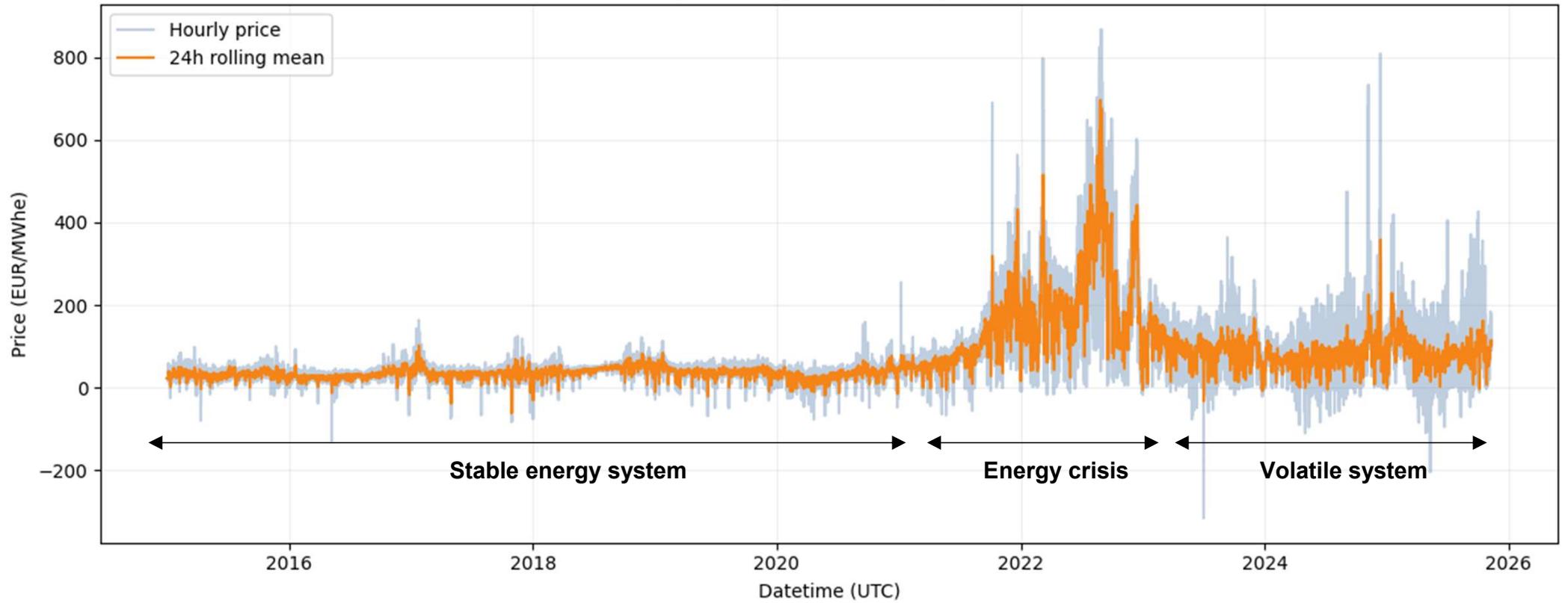
● Introduction of Renewables & Decentralised

● Volatile demand

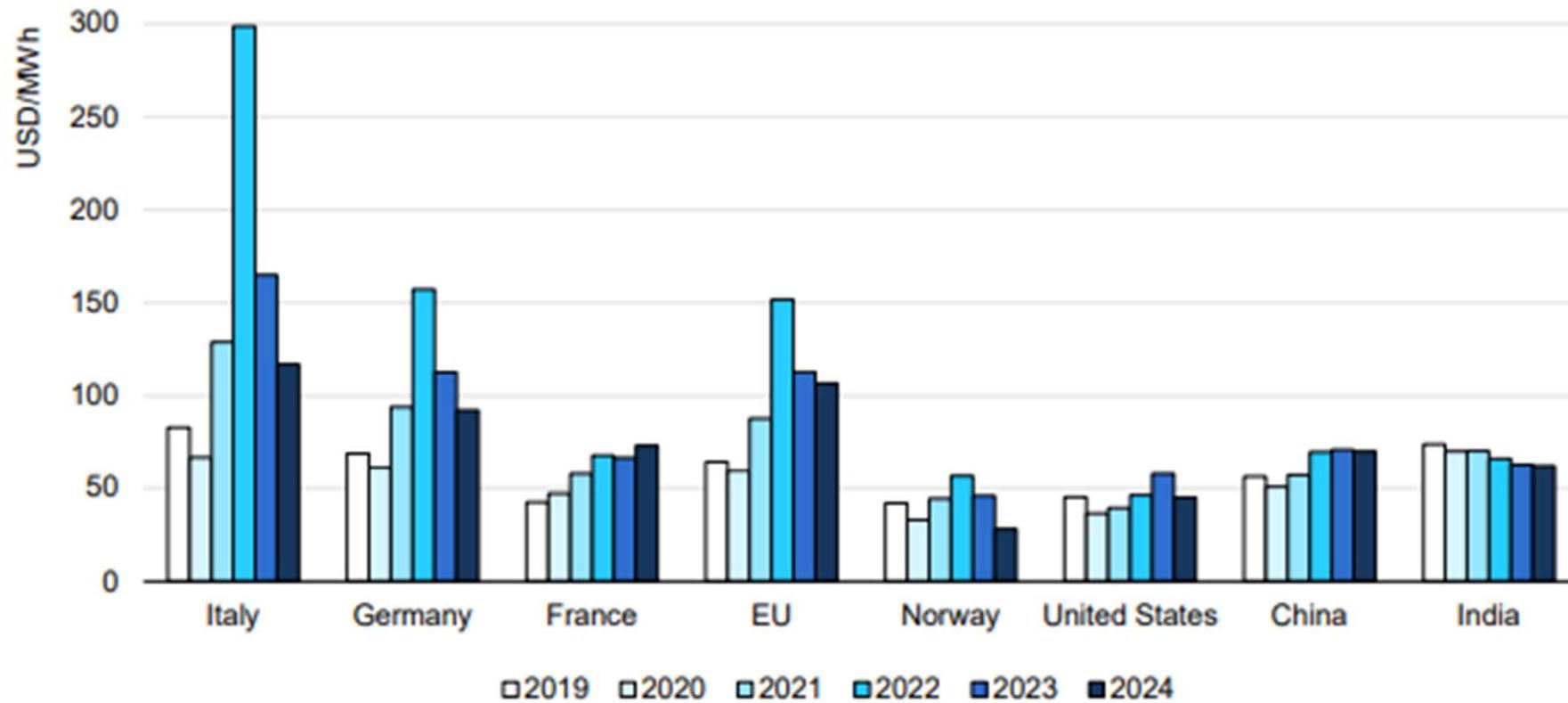
● Limitation in capacity

● Volatile Markets

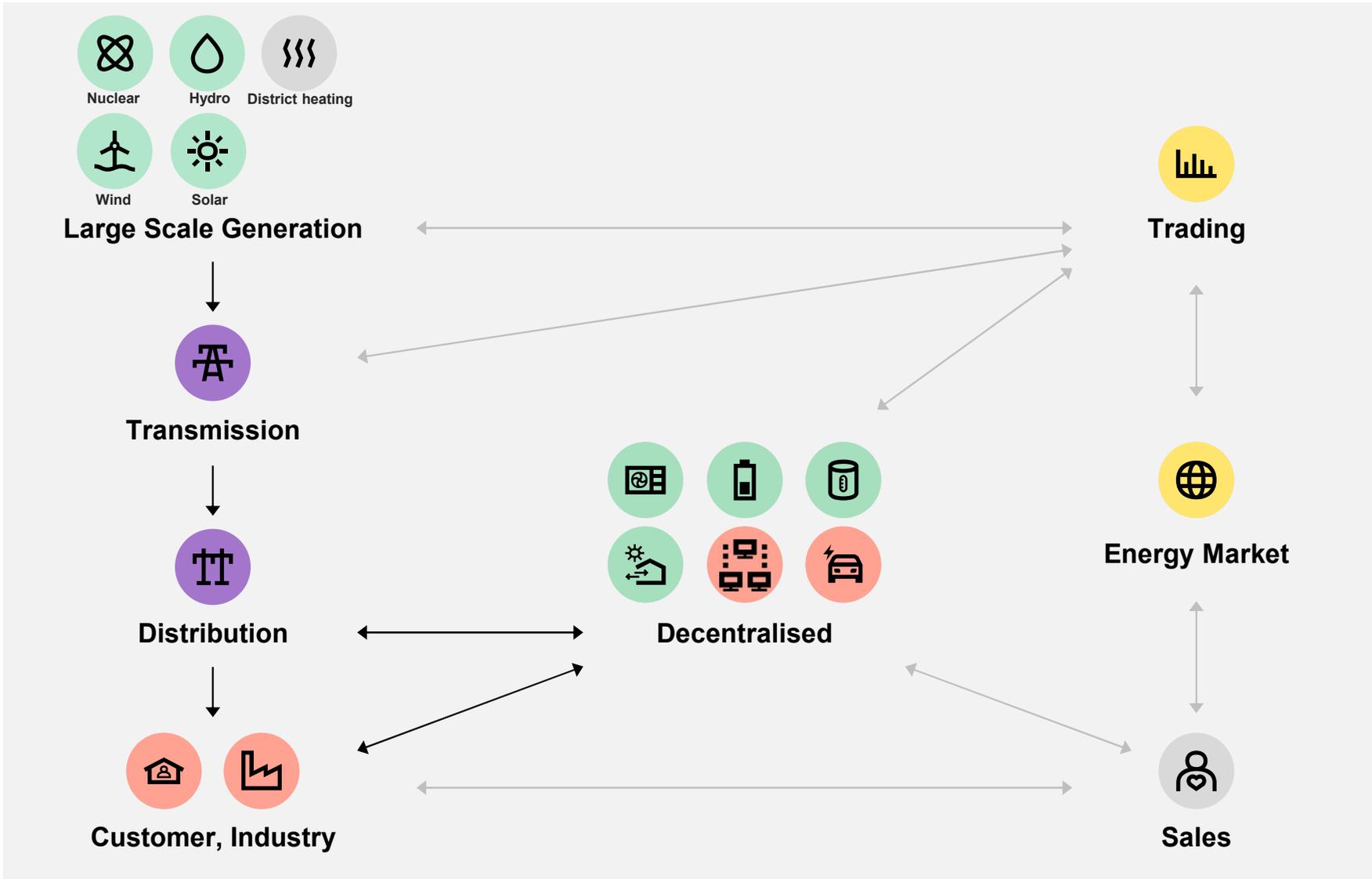
Germany — Hourly Power Price (EUR/MWhe)



Estimated final electricity price for large industrial customers in energy-intensive industries, 2019-2024



IEA. CC BY 4.0.



↔ 50 Hertz

↔ Logical

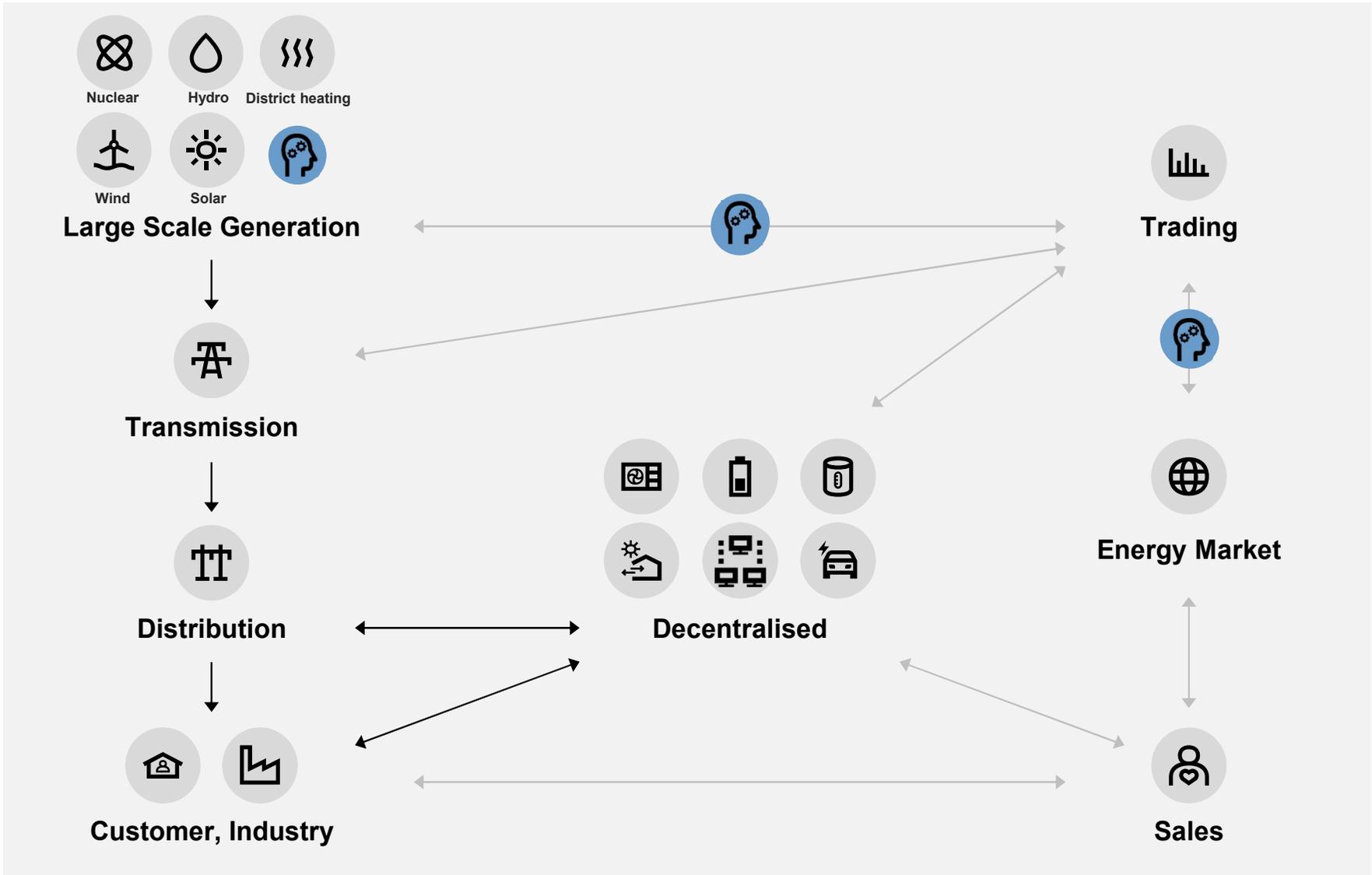
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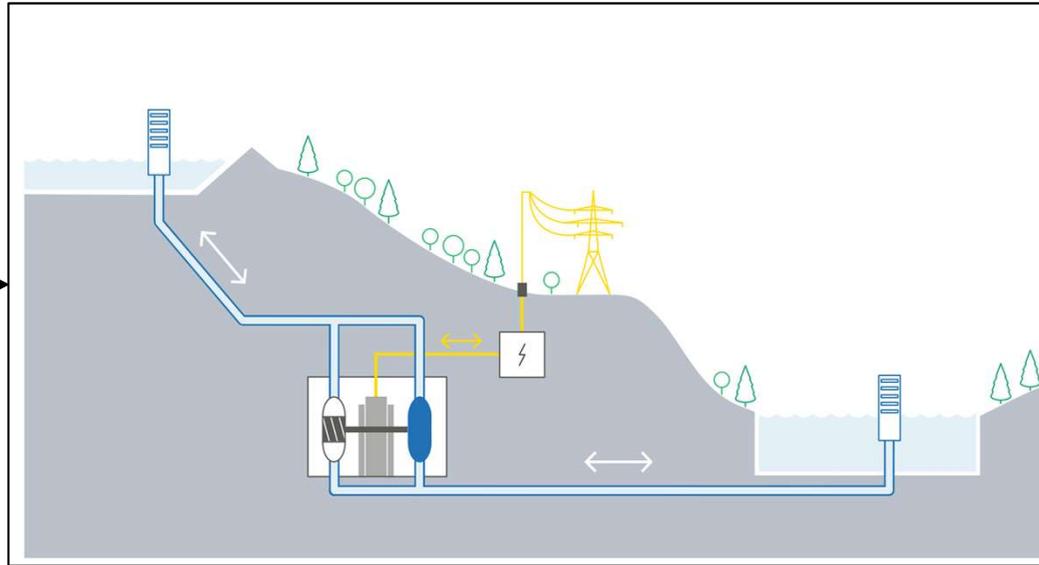
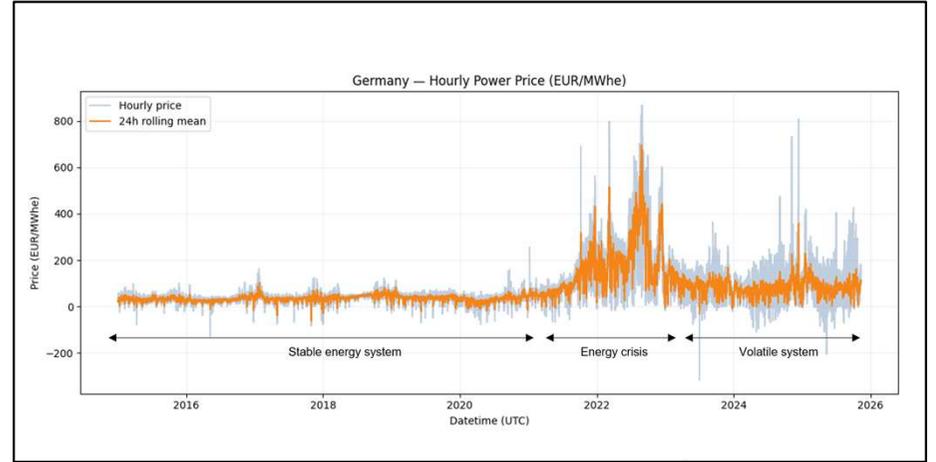
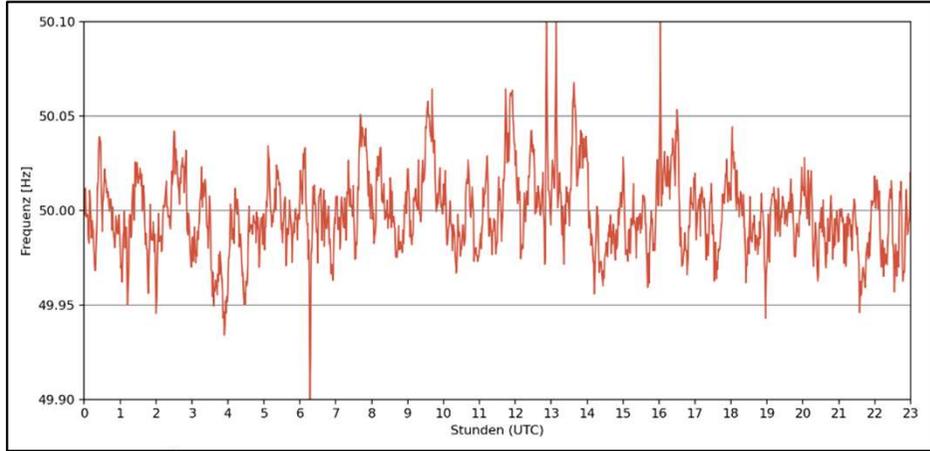
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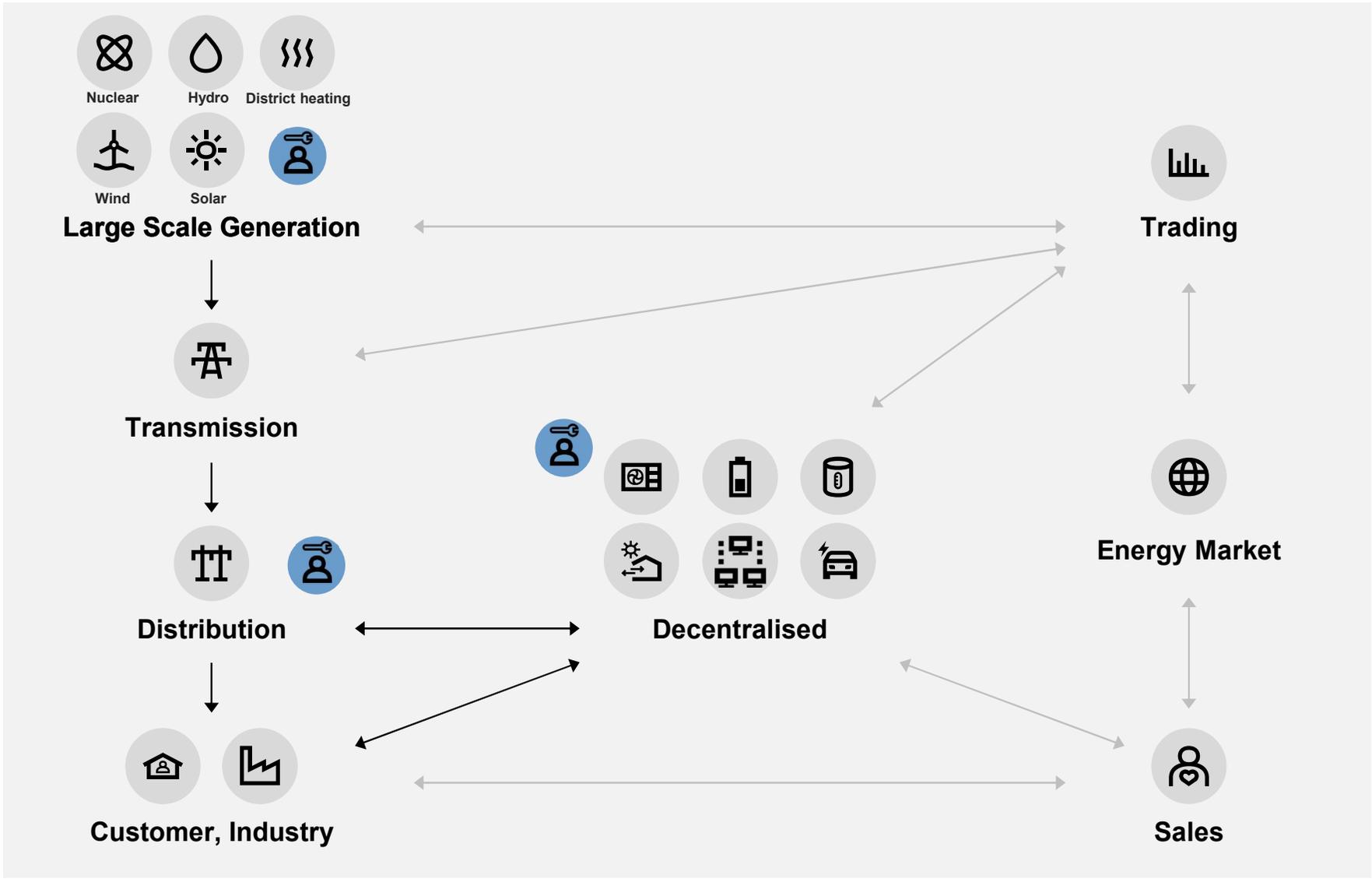


Asset value optimization

Optimizing asset steering and sourcing

- Forecasting of production and demand
- Optimization models
- Autonomous decision making & process execution





↔ 50 Hertz

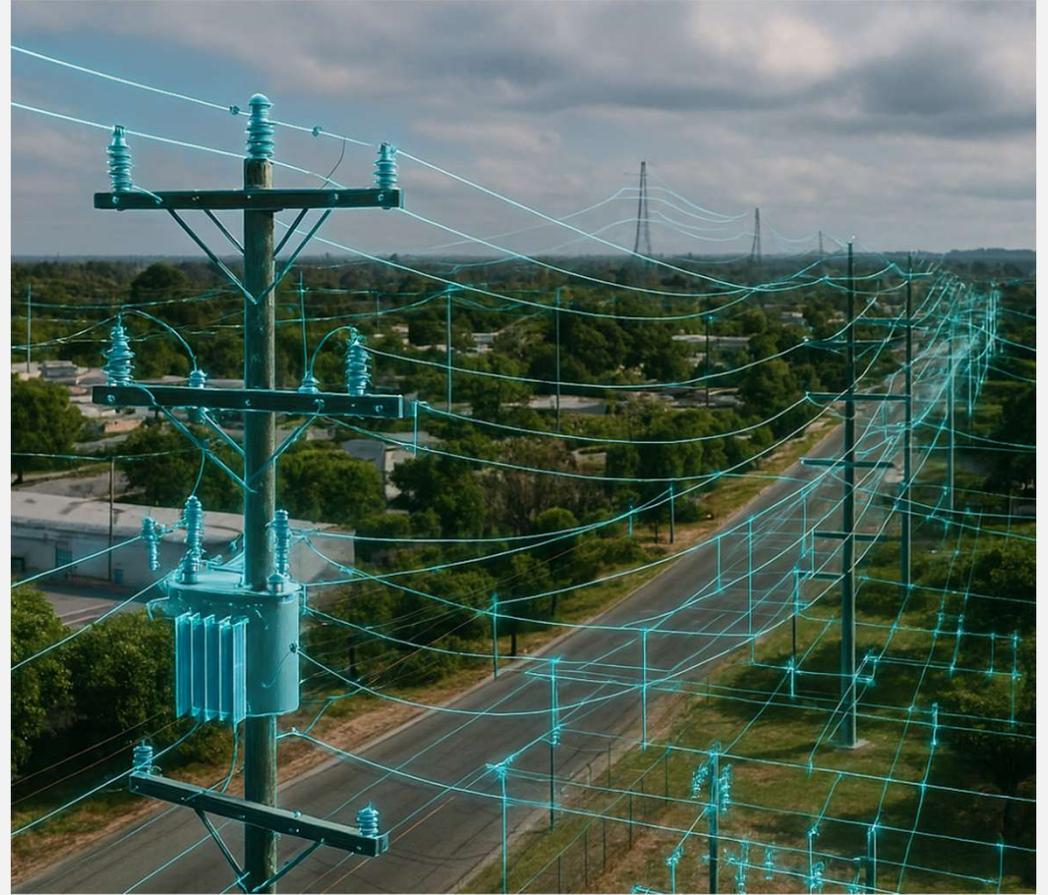
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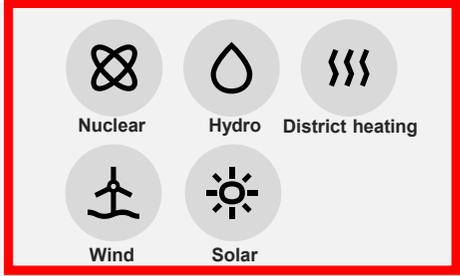
Asset Develop, construction & maintenance

Reshape core business process incl.

- Predict states,
- Automation of processes
- Autonomous decision making



Pictures generated by AI



Large Scale Generation



Transmission



Distribution



Customer, Industry



Decentralised



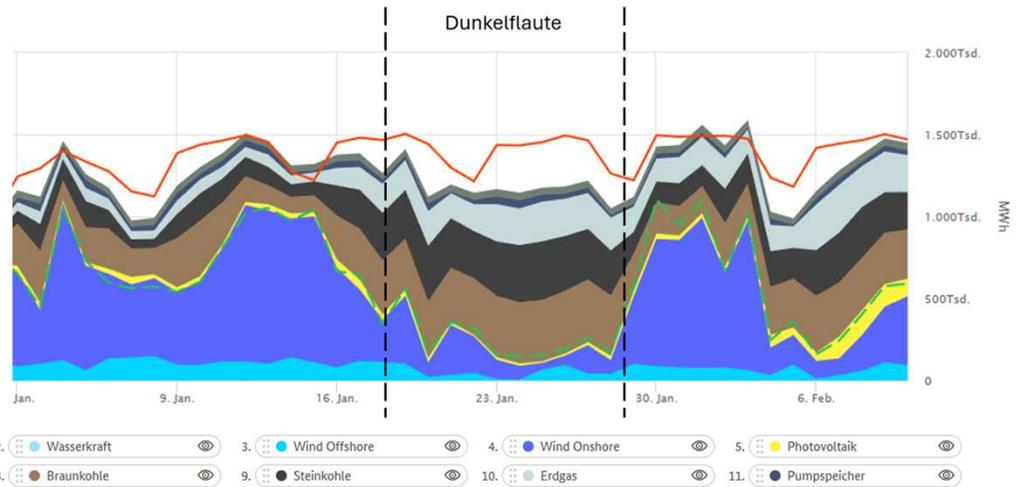
Energy Market

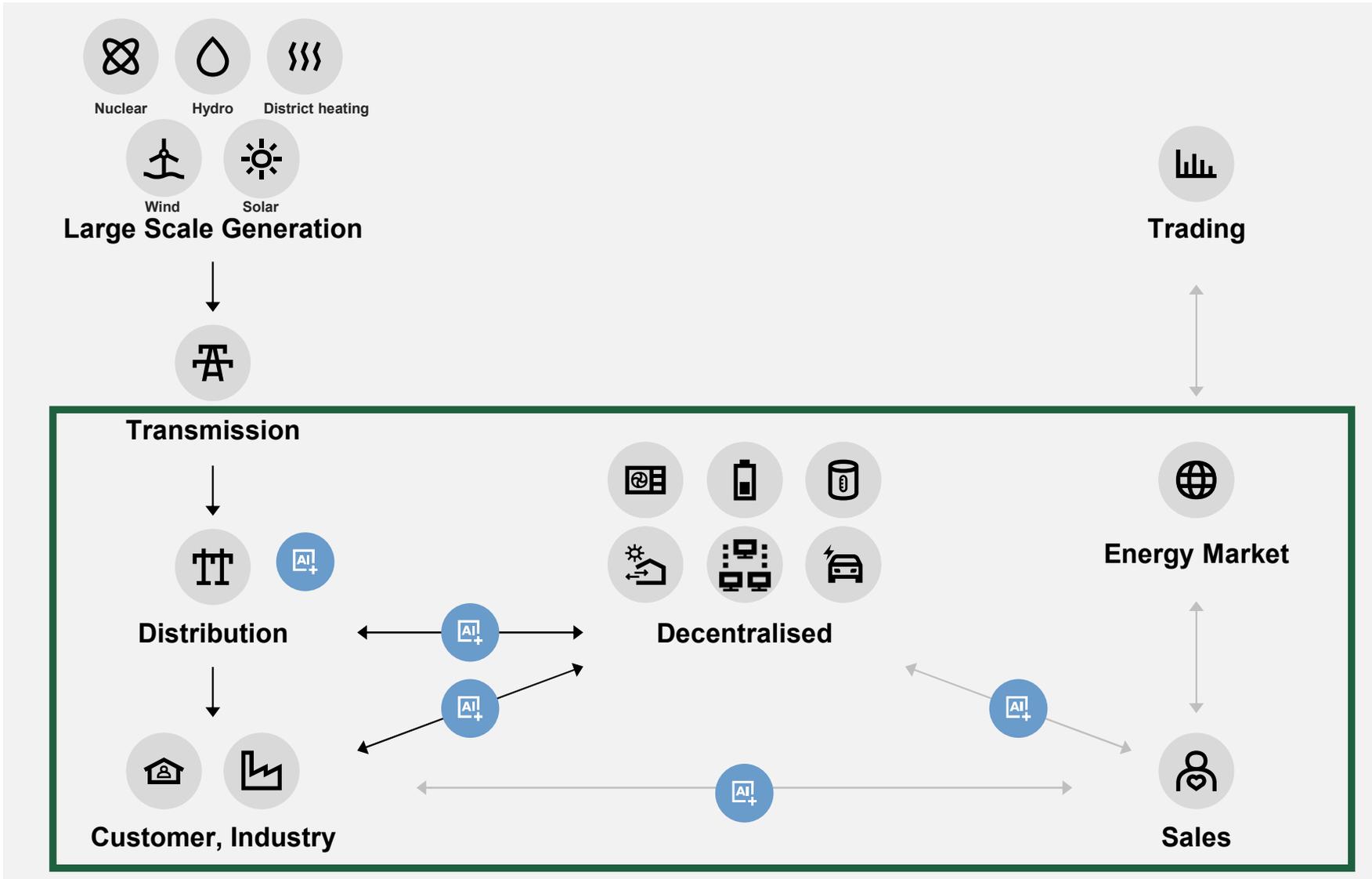


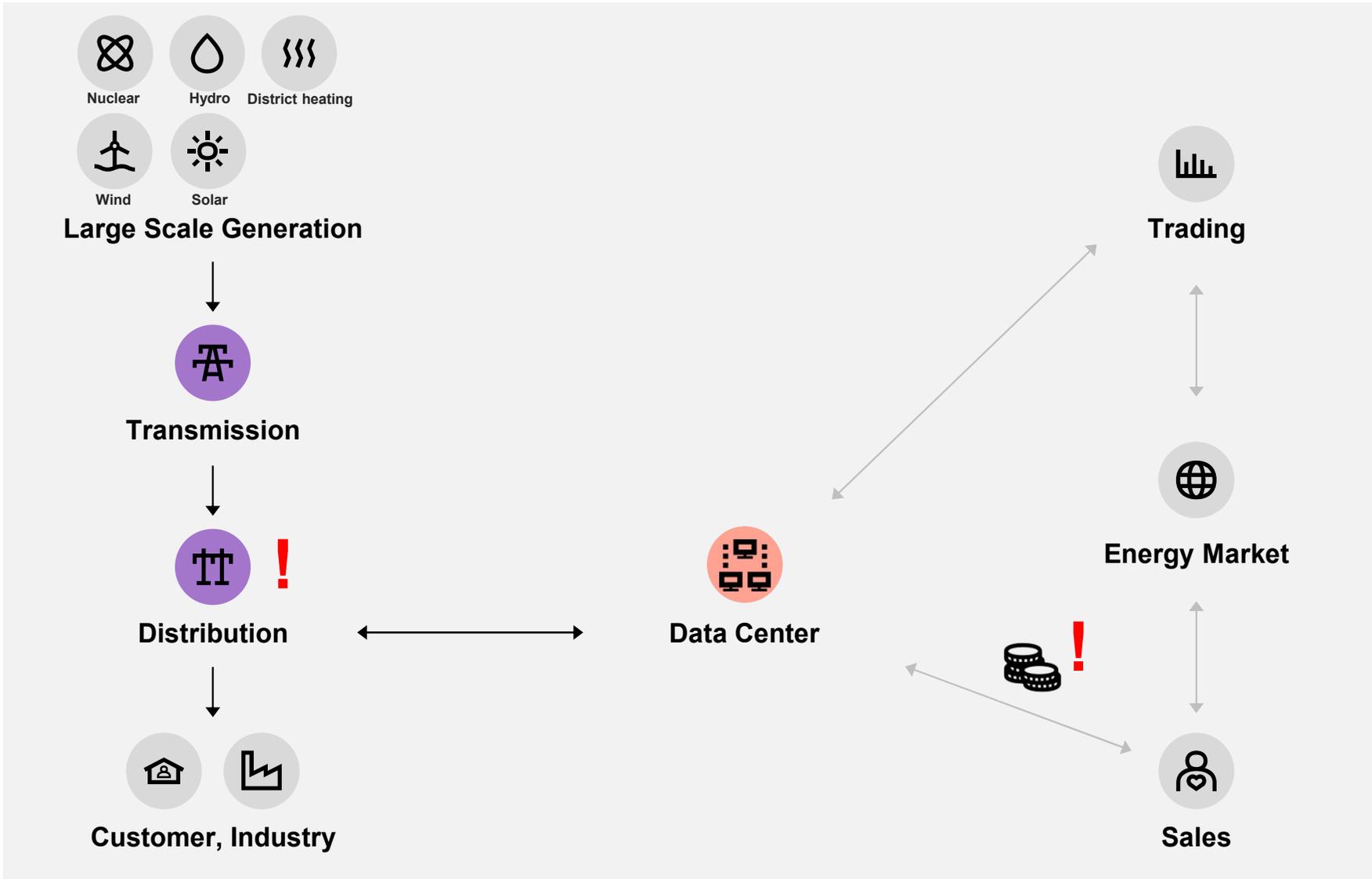
Sales

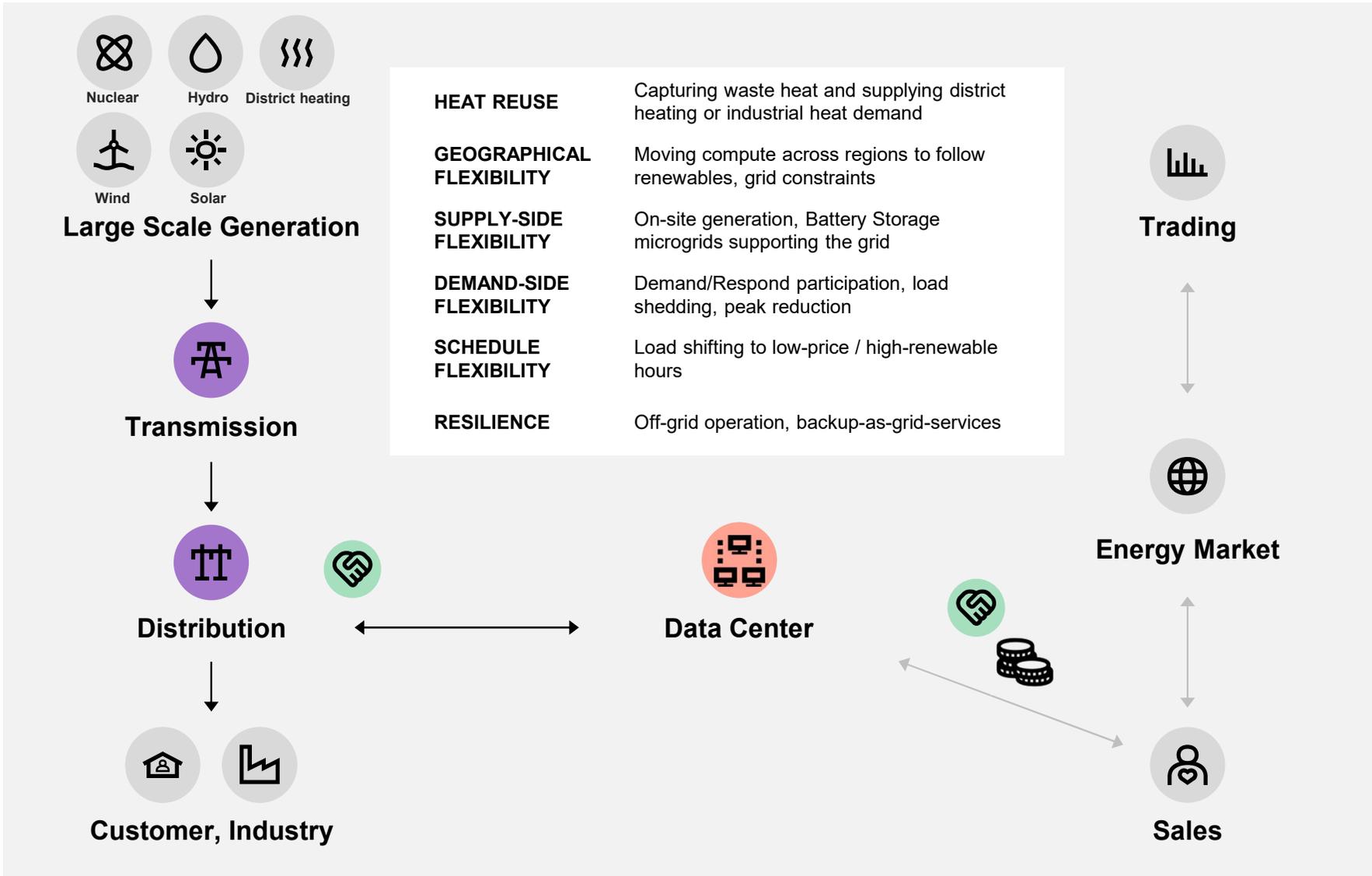
Produced MWh

Consumed MWh



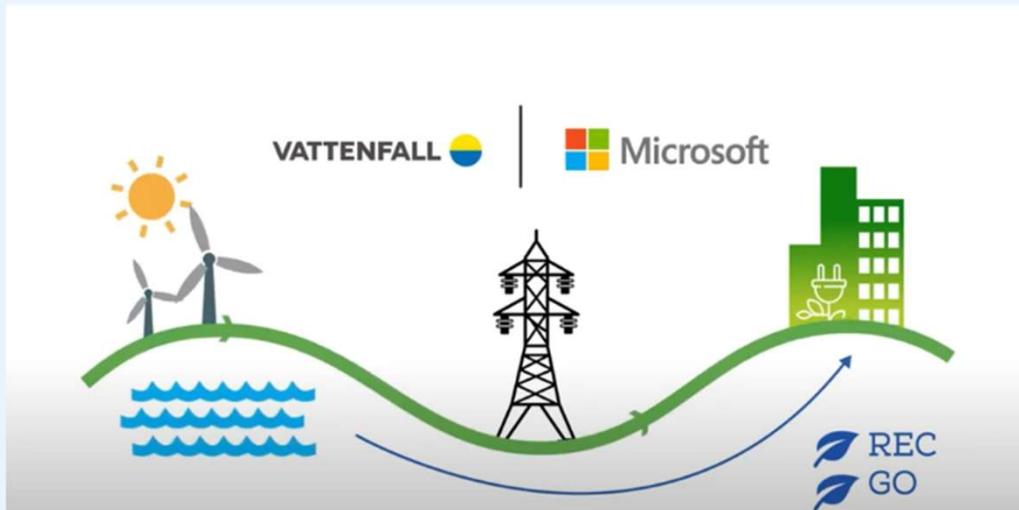






Achieving 100 percent renewable energy with 24/7 monitoring in Microsoft Sweden

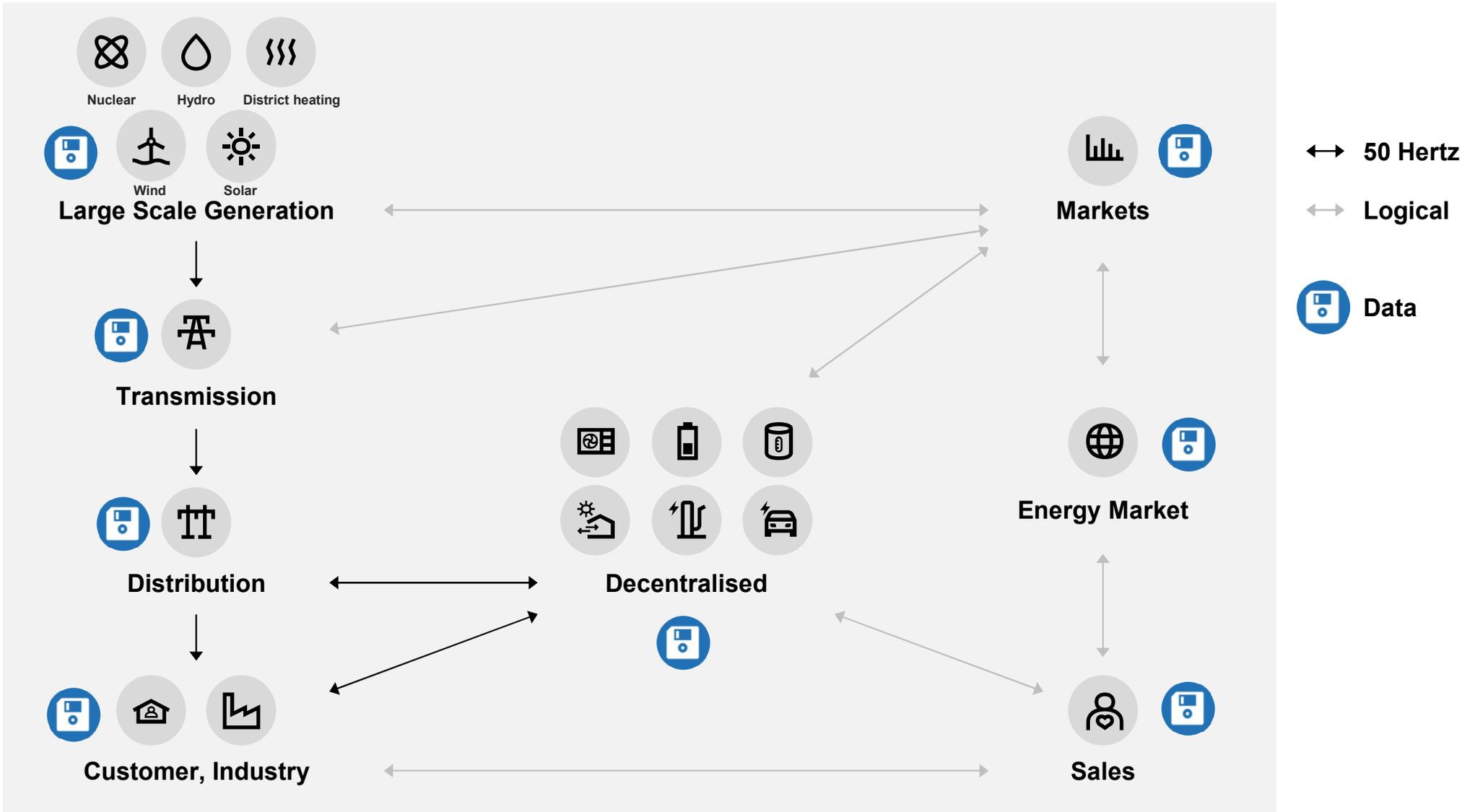
By [Noelle Walsh-Elwell](#), President of Cloud Operations and Innovation, Microsoft

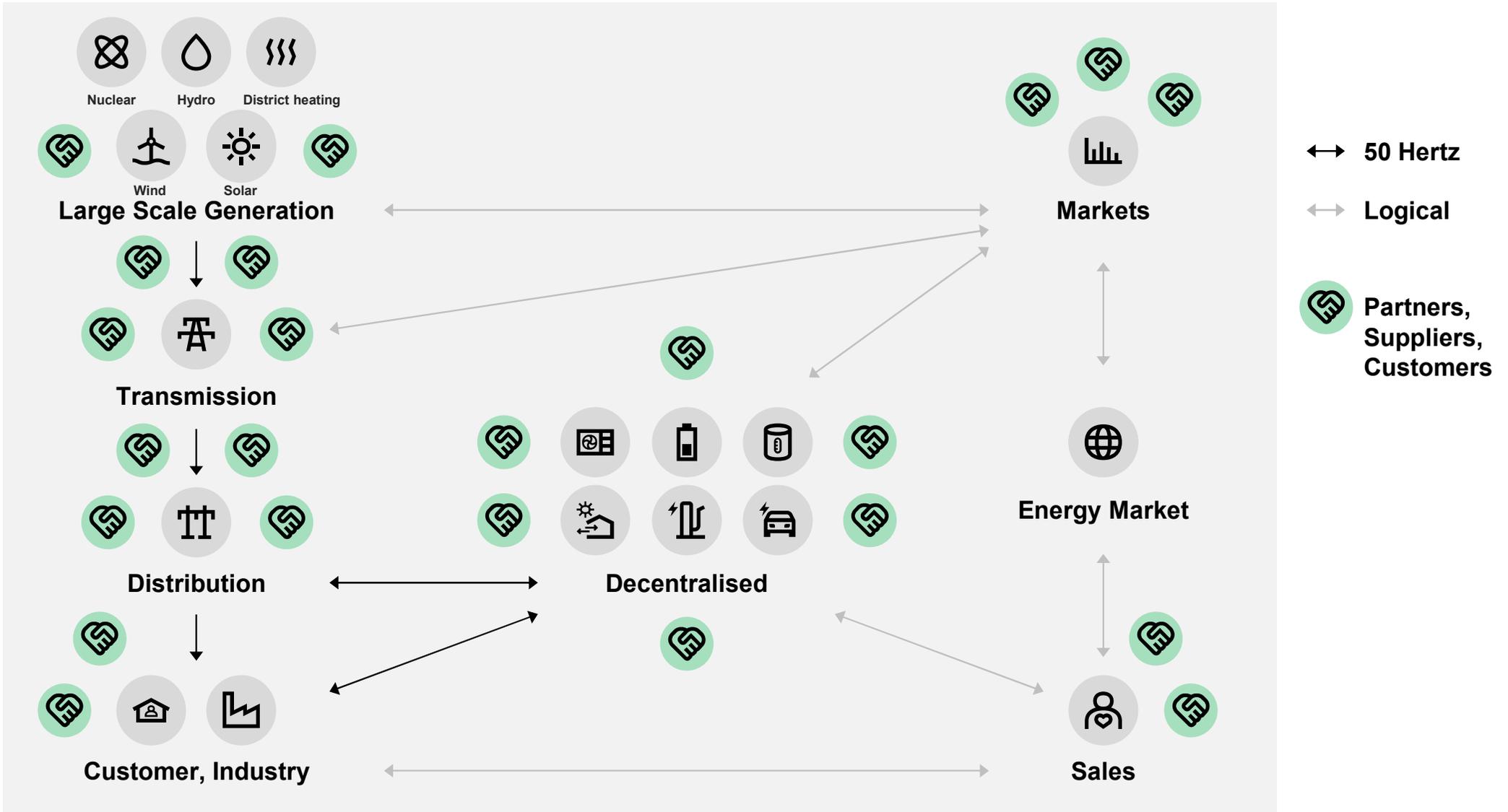


Earlier this year, we made a commitment to shift to 100 percent renewable energy supply in our buildings and datacenters by 2025. On this journey, we recognize that how we track our progress is just as important as how we get there.

Today, we are announcing that Microsoft will be the first hyperscale cloud provider to track hourly energy consumption and renewable energy matching in a commercial product using the Vattenfall 24/7 Matching solution for [our new datacenter regions in Sweden](#), which will be available in 2021.

Vattenfall and Microsoft are [also announcing](#) that the 24/7 hourly matching solution—the first commercial product of its kind—is now generally available. Vattenfall is a leading European energy company with a strong commitment to make fossil-free living possible within one generation. The solution is built using Microsoft's Azure services, including [Azure IoT Central](#) and [Microsoft Power BI](#).





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