

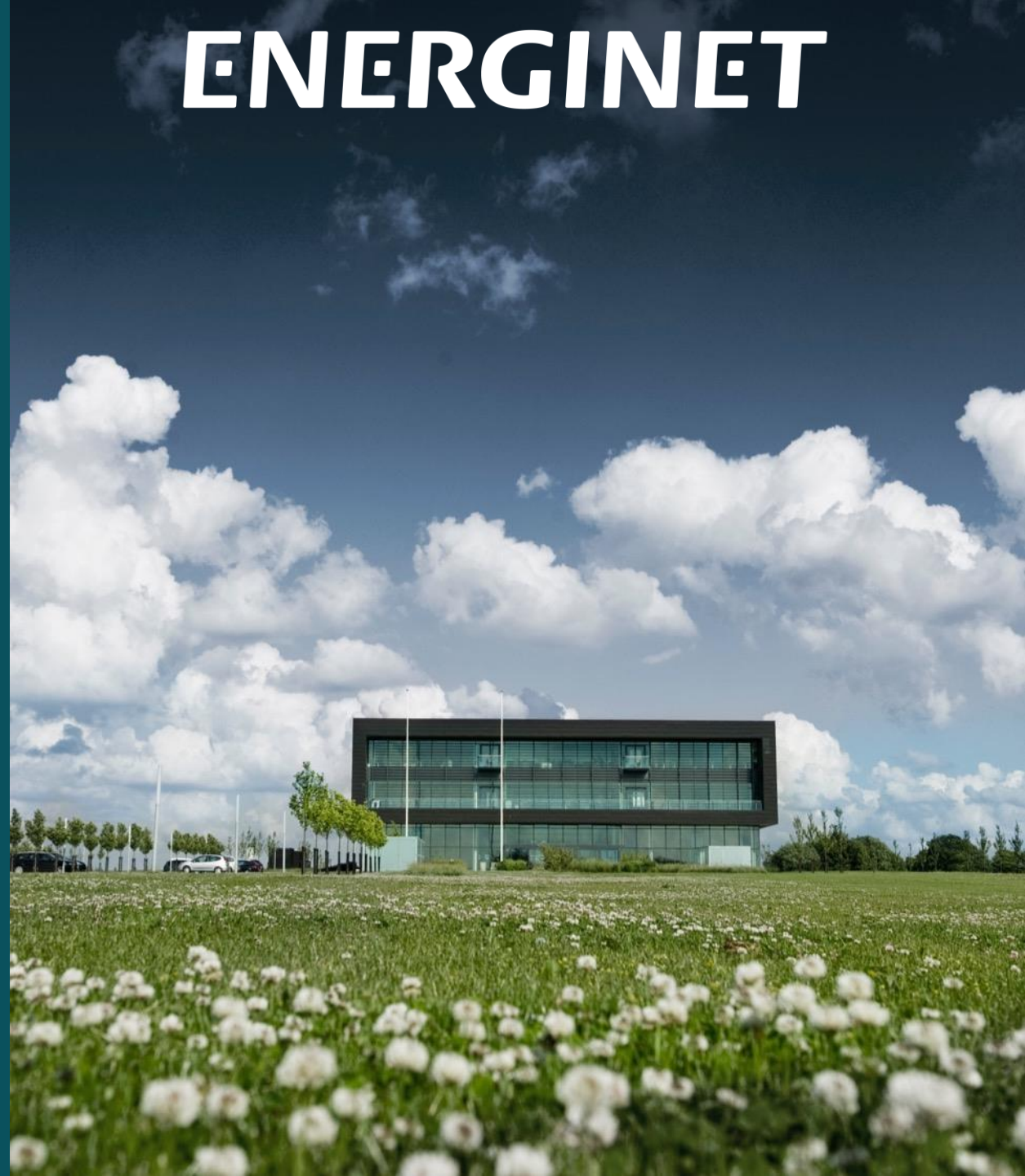
ENERGY SECURITY AND RENEWABLE ENERGY TRANSITION, SESSION 1

*REVISION 2030 - OVERCOMING THE ENERGY CRISIS
WITH RENEWABLES*

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ENERGINET



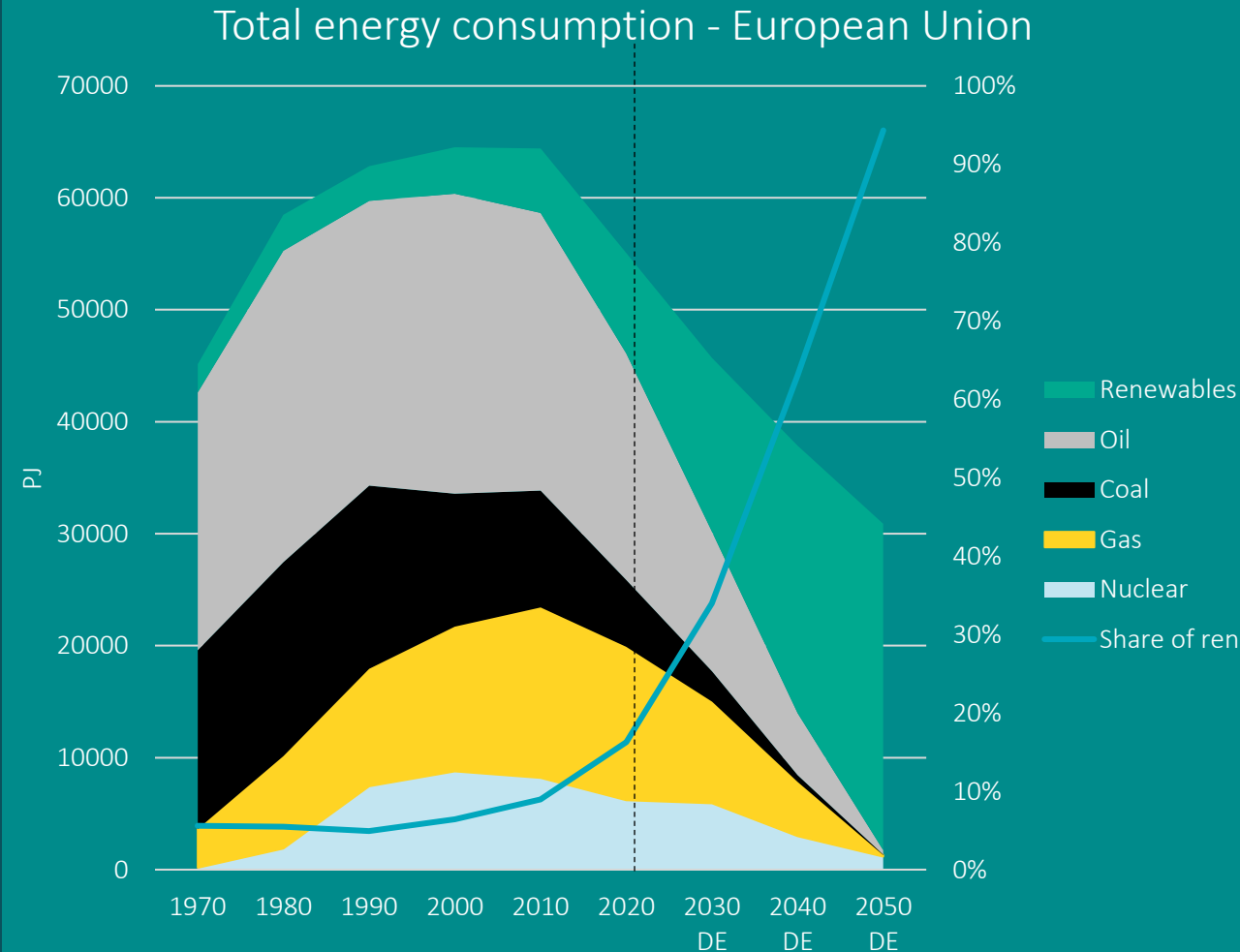
ACCELERATION OF EUROPEAN GREEN TRANSITION

KEY ELEMENTS TOWARDS 2050:

- Energy efficiency (-50% total demand)
- Electrification (+100% electricity demand)
- Renewables (+500% energy production)

HOW TO GET THERE:

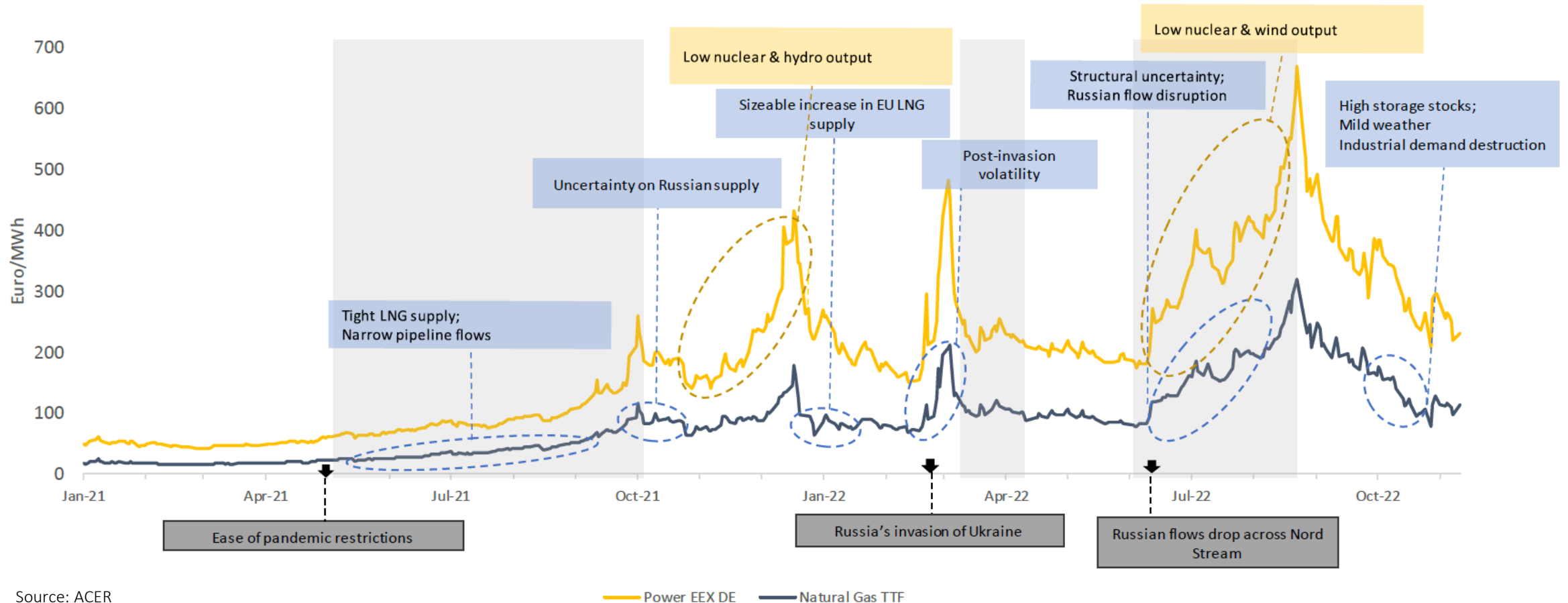
- Green Deal, 2019 (fx 600 bill Euro grants, accelerated approval, state-aid)
- REPower EU, 2022 (accelerate Green Deal), fx:
 - From 40% to 45% green energy in 2030 (appr. 20% today)
 - Increase VRE capacity to 1200 GW instead of 1000 GW (250 GW today) – 70% green electricity in 2030
 - Save 35 BCM natural gas in 2030 – and produce 35 BCM biogas



Source: historic [Primary energy consumption by source, World \(ourworldindata.org\)](#) & [Statistical Review of World Energy | Energy economics | Home \(bp.com\)](#), Future Energy consumption in TYNDP 2022, Distributed Energy scenario: https://2022.entsos-tyndp-scenarios.eu/wp-content/uploads/2022/04/TYNDP2022_Joint_Scenario_Full-Report-April-2022.pdf (simple interpolation for each decade)

ENERGY MARKET SITUATION – LOW AVAILABILITY OF GAS AND LOW PRODUCTION CAPACITY IN THE EUROPEAN ELECTRICITY SYSTEM IN THE AUTUMN 2022

Electricity & natural gas price evolution, 2021-2022 (Month Ahead)



EU EMERGENCY ELECTRICITY MARKET MEASURES – SHORT TERM*

- Demand reduction requirements in the electricity sector
- Temporary inframarginal taxation (for financing the consumer support measures)
- "Solidarity contribution" from the fossil energy sector

*) Adopted September 30th 2022

EU LONG TERM ELECTRICITY MARKET REFORM

EU TARGET MARKET REFORM:

- Decoupling of electricity and gas prices
- Future-proof market for net zero

ENERGINET RECOMMENDATIONS:

- Do not solve short term challenges with long term market reform
- Location signals (grid adequacy)
- Sector coupling and balancing (diversification and security of supply)
- Strategic reserves (avoid dunkelflaute, capacity adequacy)
- Utilisation of digital solutions!

NO TRANSITION WITHOUT GRID – ELECTRICITY, GAS AND HYDROGEN

- Electricity interconnector capacity increased with 20% last 10 years to 60 GW – beneficial with +100% increase to 2030
- Future need for coordinated planning of electricity, gas and hydrogen – also imports of hydrogen from outside EU
- Both onshore and offshore electricity and hydrogen grid with political objective of more than 350 GW of offshore wind

FUTURE COORDINATION OF GAS, ELECTRICITY AND HYDROGEN INFRASTRUCTURE

European hydrogen backbone



ENERGINET

THE ENERGY BACKBONE

We operate and develop the transmission grids and gas pipelines in Denmark.

ENSURE BALANCE

We have the day-to-day and long-term responsibility for the overall electricity and gas system in Denmark.

WORKING FOR THE SOCIETY

Owned by the Danish Ministry of Climate, Energy and Utilities we safeguard society's interests as we move to a 100% green energy

