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ECB forum on Central Banking, Sintra

European Commission

Structural changes in energy markets and price implications

Effects of the recent energy crisis and perspectives of the green transition

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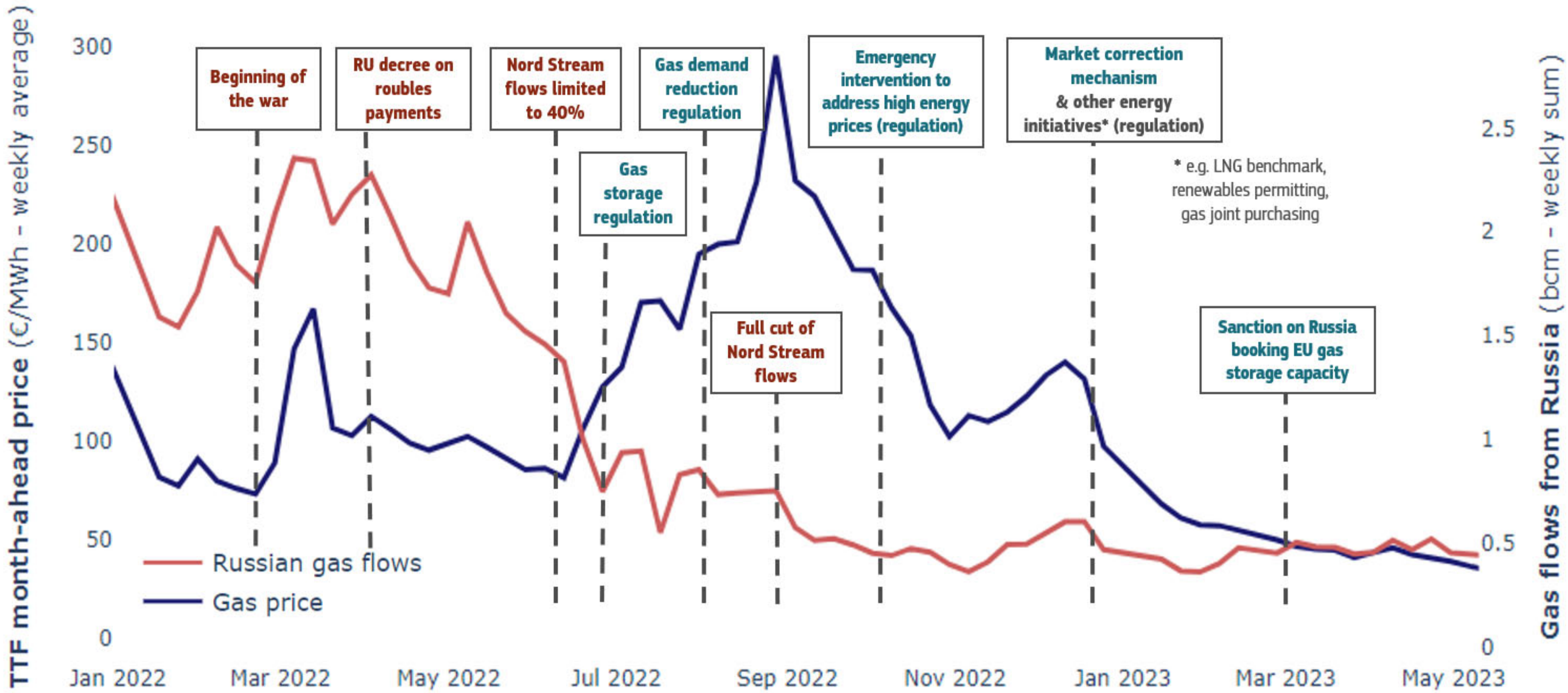
European Commission

2021-2022 energy crisis not related to the green transition: a (Russian) natural gas crisis…



Source: ENER/CET based on S&P Global Platts and ENTSO-G Transparency Platform

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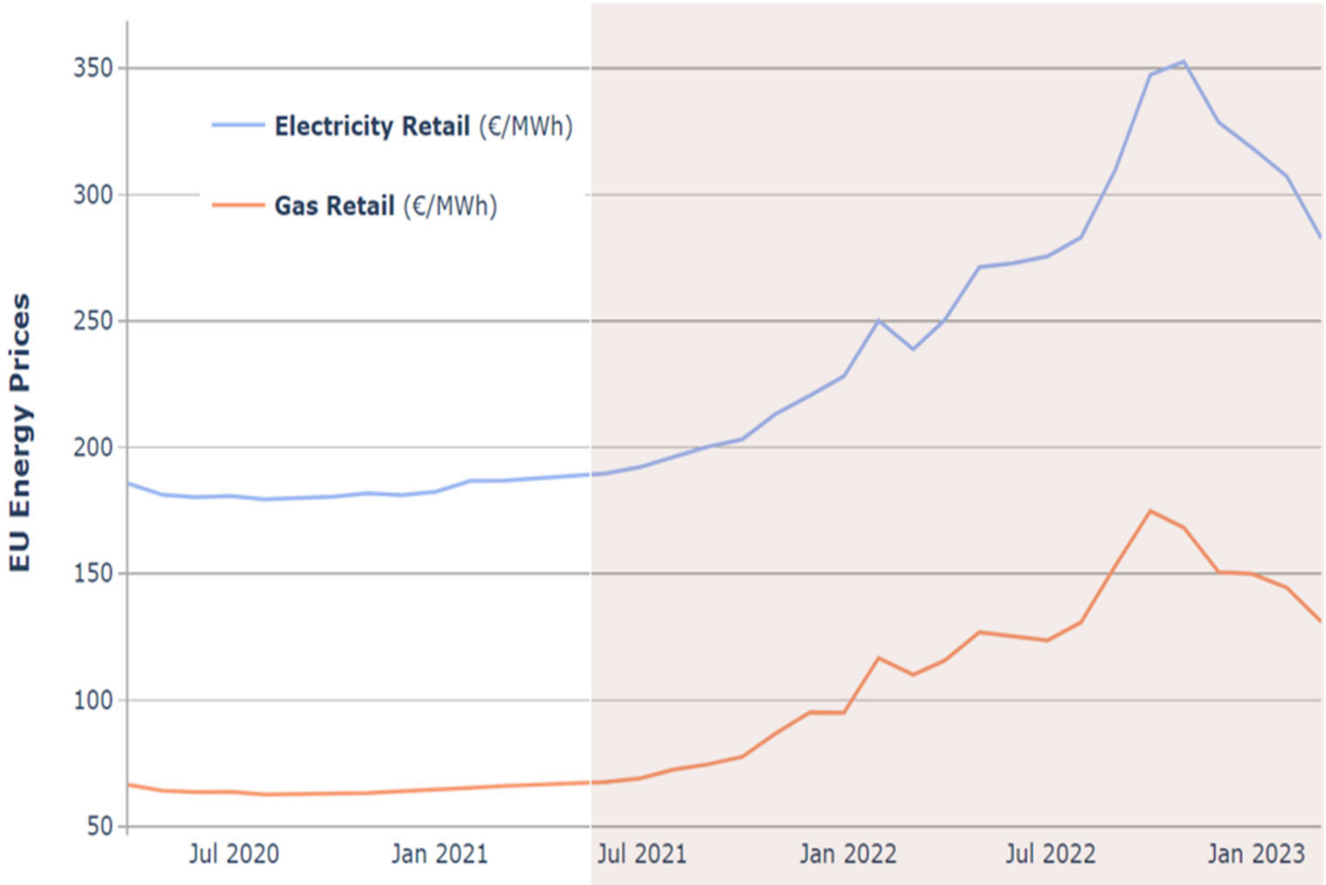
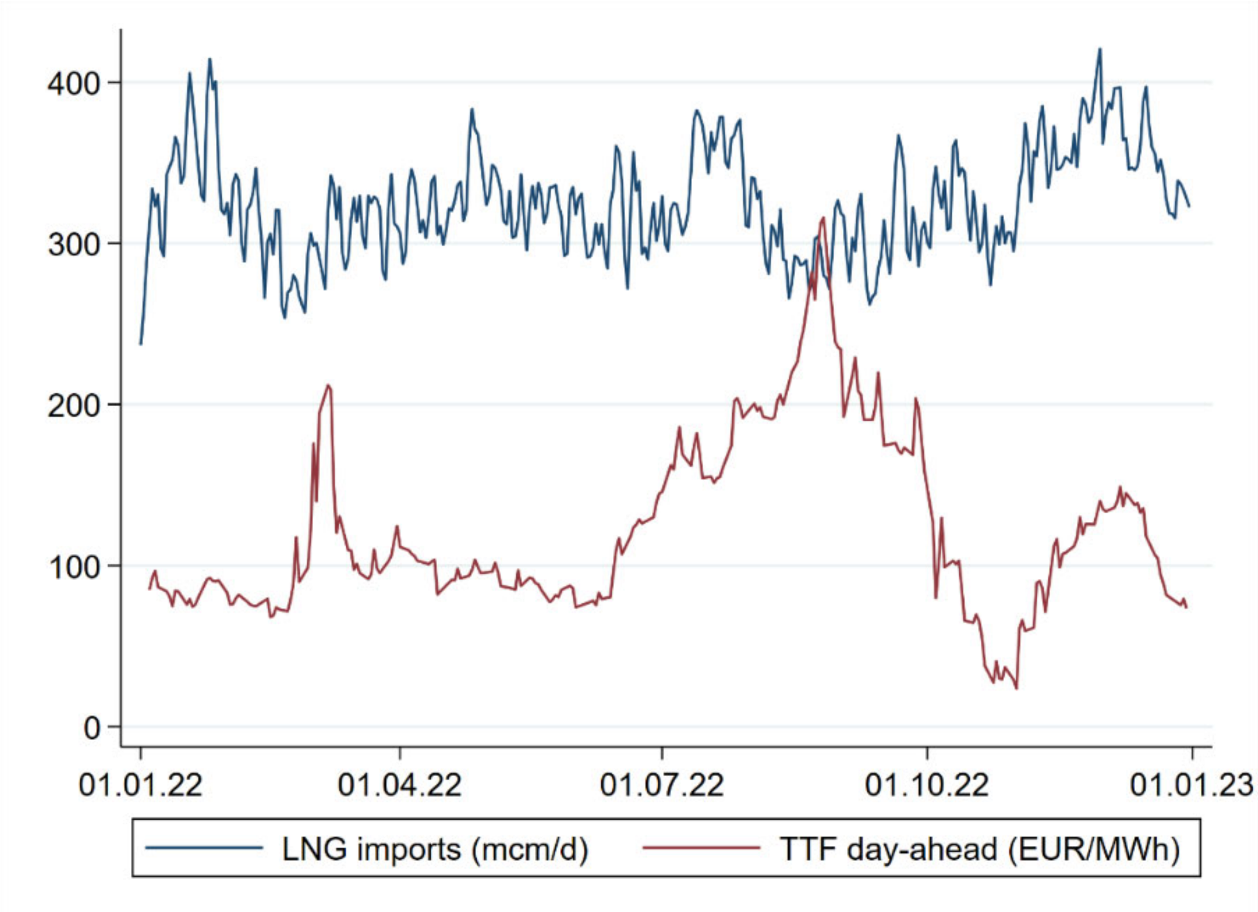
…translating into high electricity prices



Source: European Commission based on VaasaETT

Summer 2022: fear of shortages met with a temporarily infrastructure constraint



Source: ENER Chief Economist Team based on ENTSO-G and Platts

Decisive EU policy action and market rebalancing

Similar spikes as those experienced in the summer of 2022 less probable this year all things being equal:

1. **High storage levels**: 68.6% at 1st of June 2023 versus 49.0% on average on the same day during the reference years (2016-2021) – on track to be filled by the end of august
2. **Natural gas demand reduction**: 18% reduction until march 2023 (part of it structural)
3. **More infrastructure added to remove bottlenecks**: 30bcm additional regasification capacity + 56GW renewables in 2023
4. **Lower possibility for Russia to weaponise energy markets**: from 45% of total EU natural gas imports at the start of the war to less than 10% now
5. **Less uncertainty**: no fear of shortages – EU premium market

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Lessons learned from the crisis

1. Expanding installed capacity of **renewable energy sources can help limit prices spikes** by minimising the role of gas in electricity generation…**but it will take time for very dramatic effects and will vary between countries**.

2. **The pass-through from wholesale to retail energy prices differs significantly across Member States** driven, among others, by taxation, contract indexation, public support, etc.

3. In the context of a turbulent market, **natural gas futures have proven not to be an accurate predictor of future price developments.**

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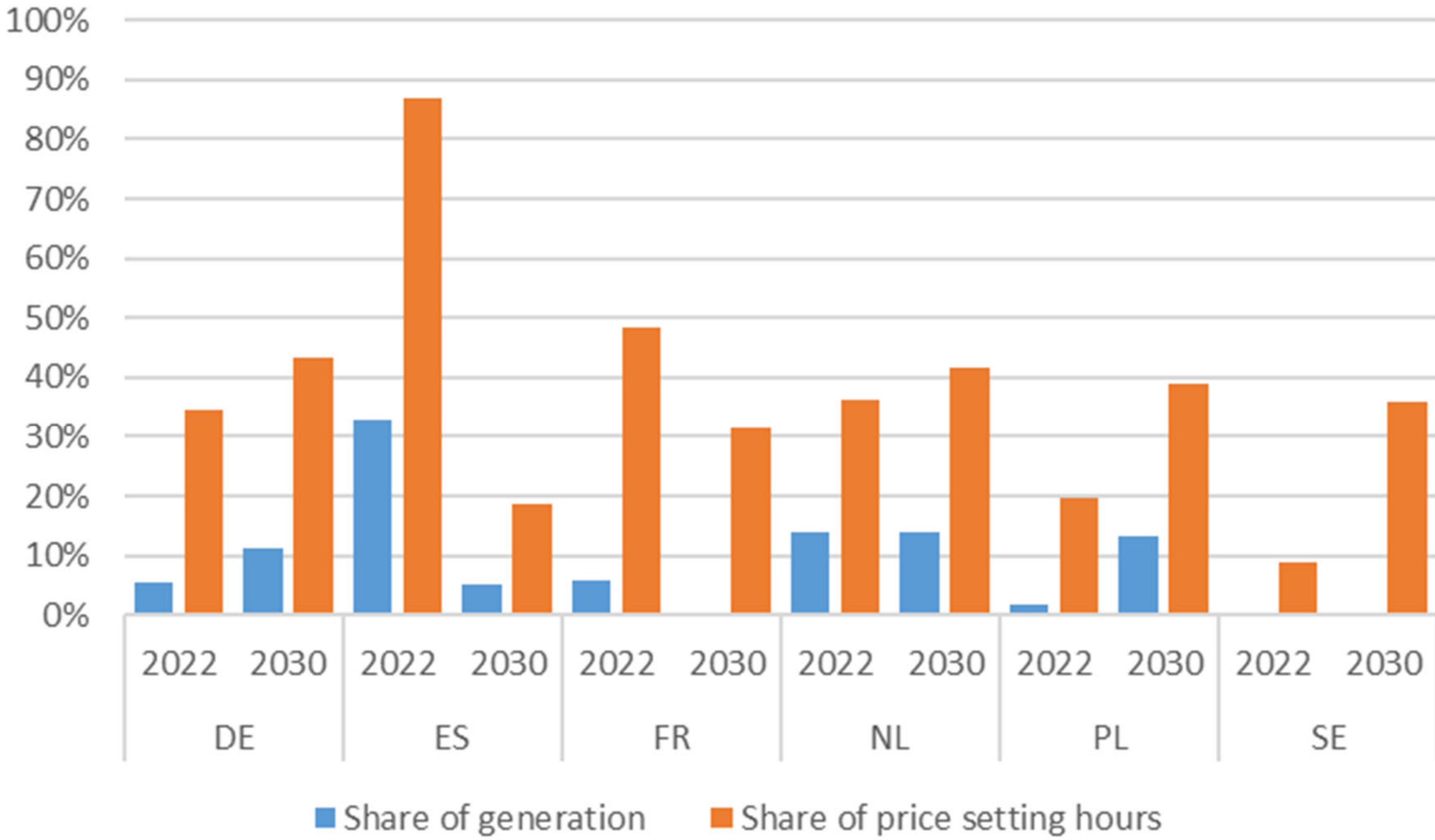
Fossil fuels still expected to set electricity prices during a significant number of hours in 2030



Source: DG ENER Chief Economist Team based on METIS model

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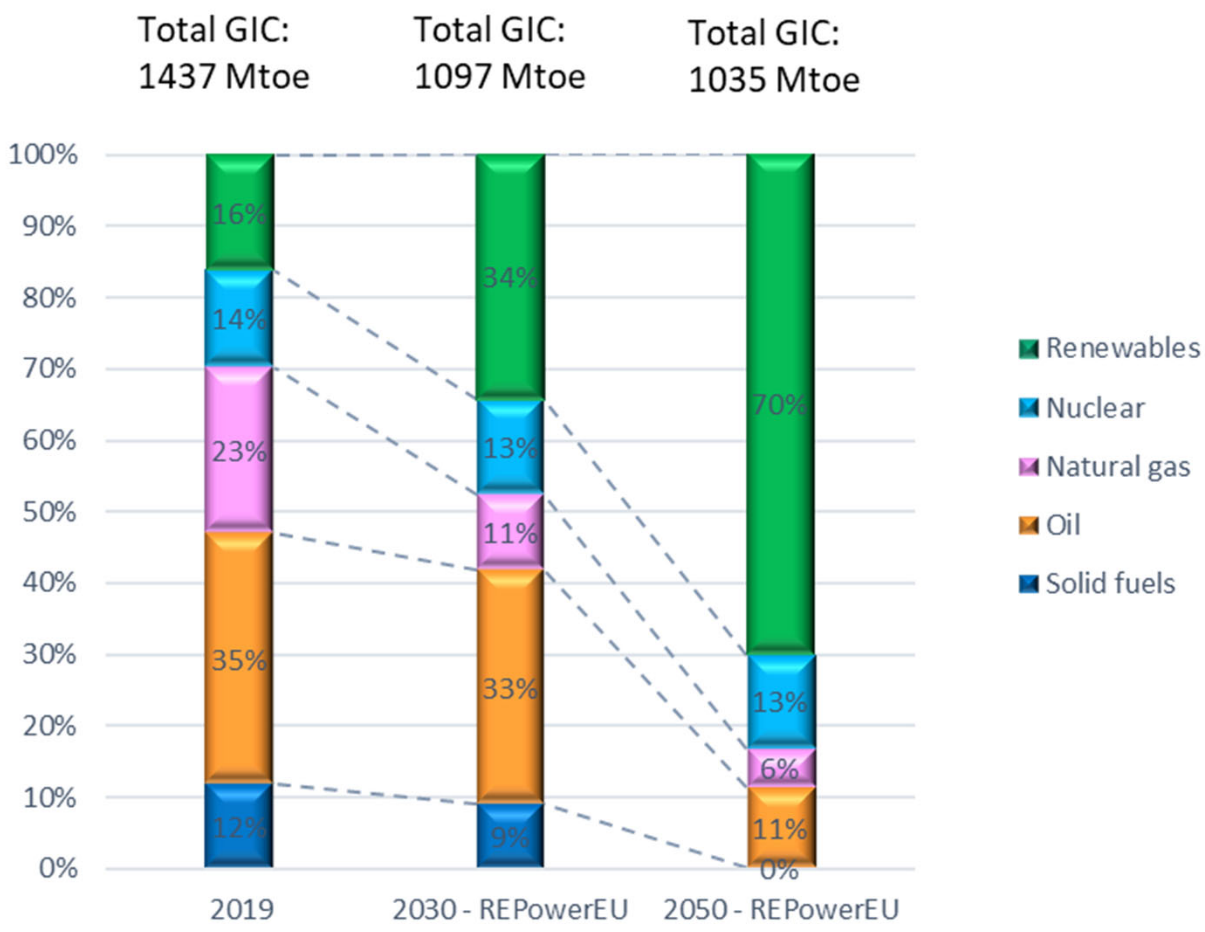
Historical natural gas prices vs futures

Source: DG ENER Chief Economist Team based on BNEF

Energy sector:
massive structural change with the green transition



Source: Eurostat and European Commission ENER Chief Economist Team on the basis of projections from PRIMES model

Need to differentiate

Short-term contribution of energy to inflation

vs.

Long term structural changes in relative prices brought by the green transition

Impacts **during the transition**

vs.

Structural effects **once the transition has been achieved**

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Price pressures: sequence and policy choices matter

Changes in commodities and the energy mix, if no cheap and stable access to: • Critical raw materials • Diminishing volumes of fossil fuels setting electricity prices during the transition	
Changes in overall demand and consumption patterns, including: • Demand-response and self-consumption • A higher capital expenditure with lower operating costs	
Increase in the share of renewables in the electricity generation coupled with demand response, storage and higher level of interconnections, but not before 2030/2035.	
Replacement of the capital stock and infrastructure (incl. skilled workforce) - about €487bn /year in the energy system alone	
Carbon prices and taxation	
Uncertainty and higher risk premiums	

Thank you

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