



Universität St.Gallen

# Energy crisis: Challenges for the industry

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HSG Alumni

Energy x AI: Webinar with Holcim & Merantix Momentum

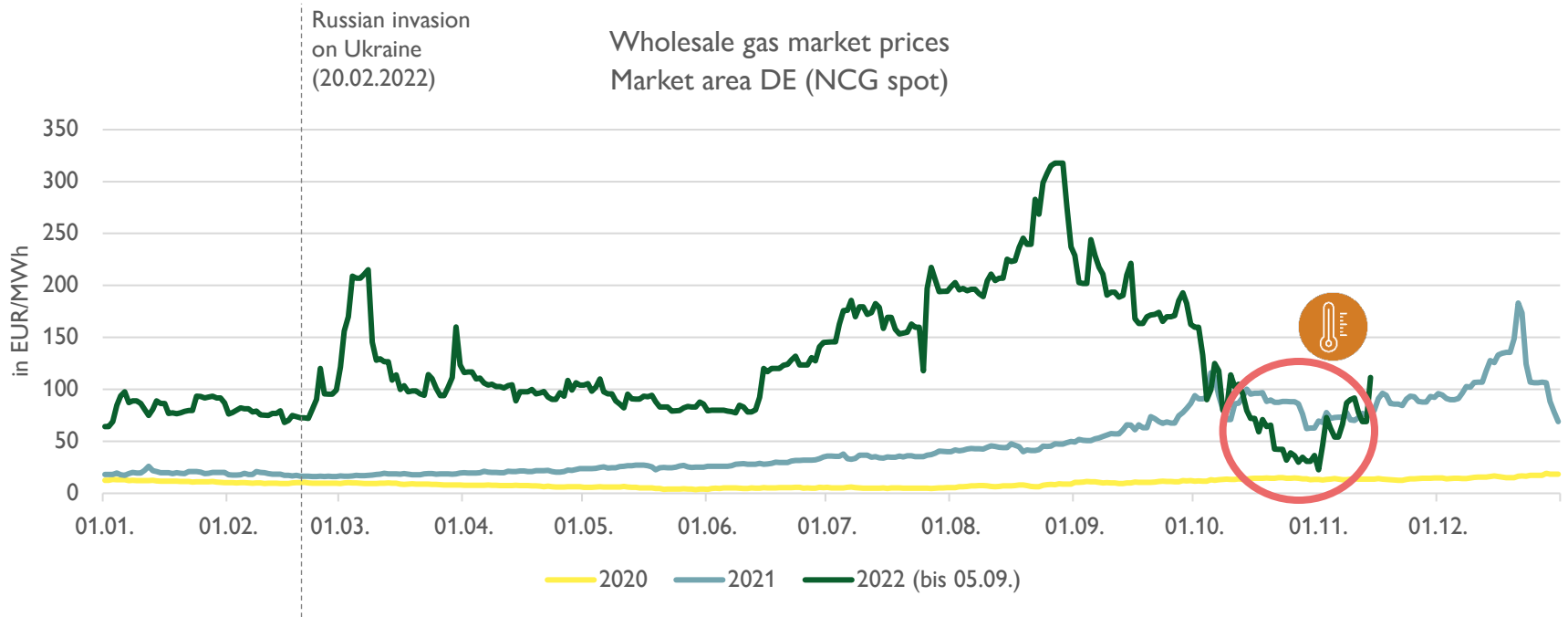


From insight to impact.

# Development of wholesale gas prices (2020-22)

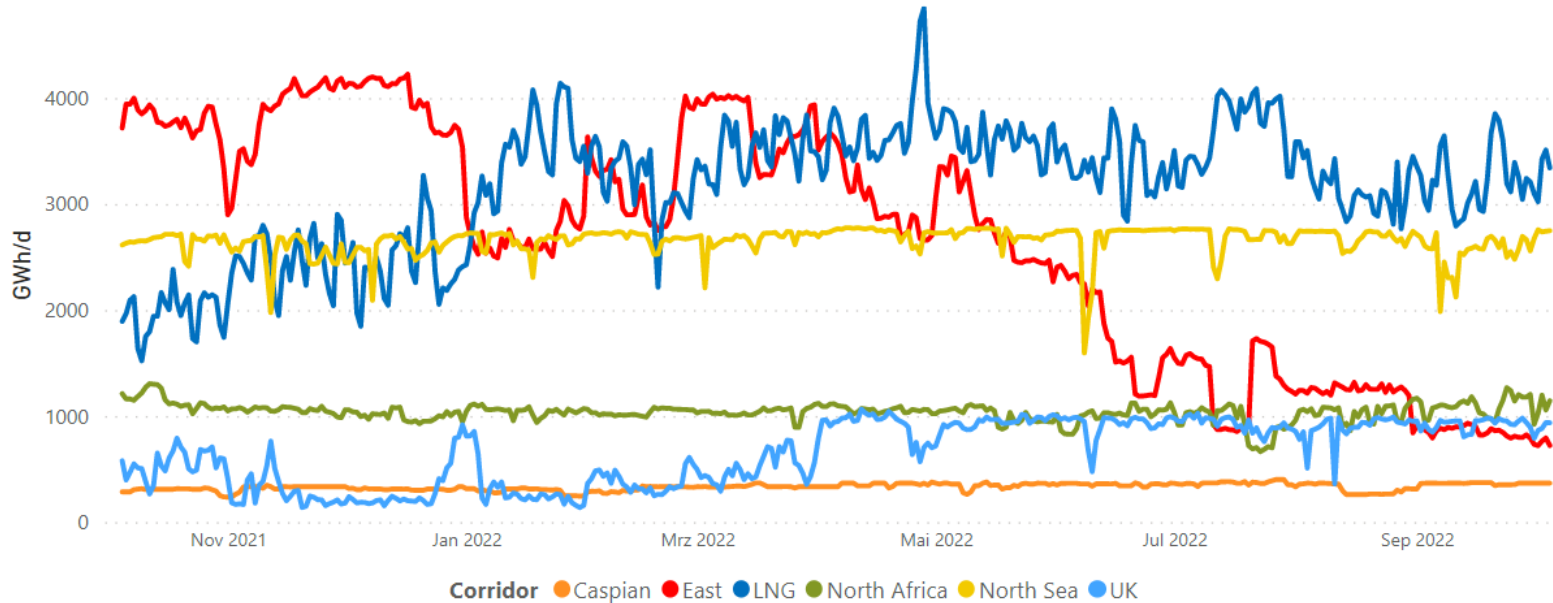


Source: Own illustration, data taken from: Bloomberg.



# Supply side

## Development of EU import portfolio (10/2021-10/2022)

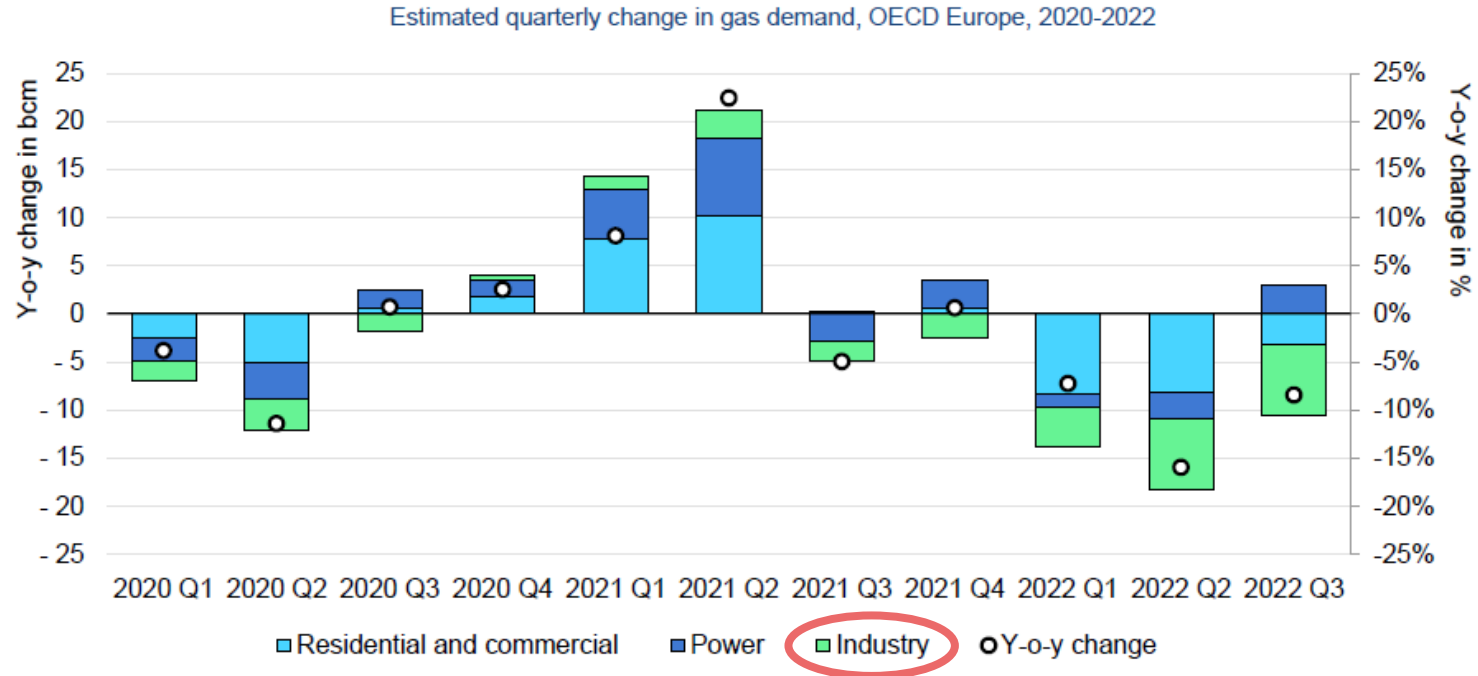


# Demand side

## Change in EU gas demand (2020-22)



Source: Illustration taken from: IEA 2022, p. 59.

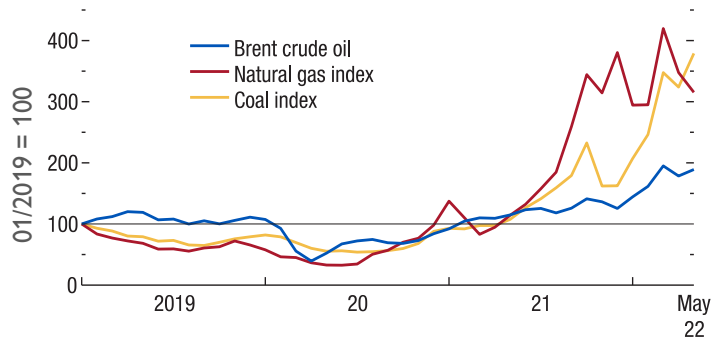


# Interdependencies between energy markets



Source: Illustration taken from: IMF 2022, S. 4.

## Fossil fuel price development (01/2019-05/2022)



Sources: IMF, Primary Commodity Price System; and IMF staff calculations.

Note: Cereal index comprises barley, maize (corn), oats, rice, sorghum, and wheat; natural gas index comprises European, Japanese, and US natural gas price indices; coal index comprises Australian and South African coal.

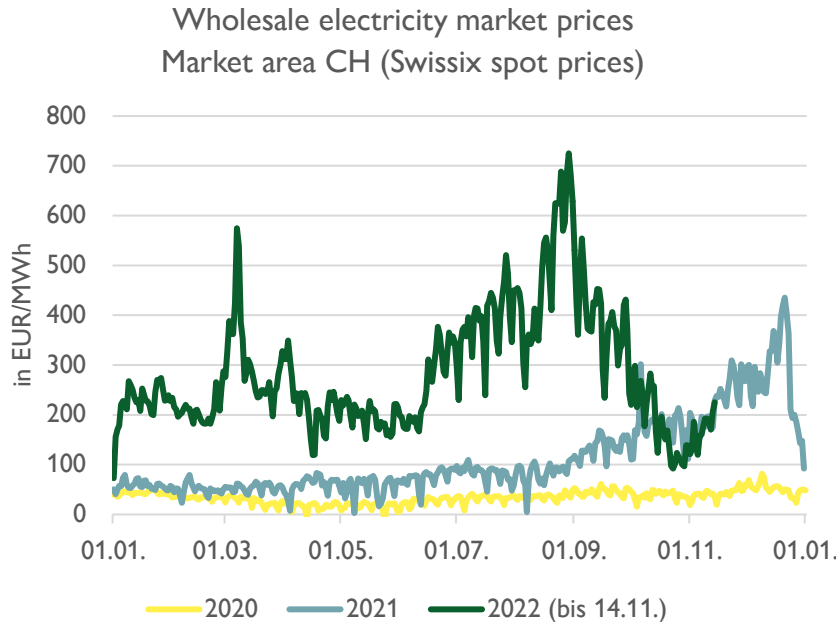
## Reasons for an electricity price increase CH

- Ukraine conflict: supply (natural gas, coal, oil) declining or uncertain, price effect
- EU net power generation (2021): 16.9% natural gas, 15.7% coal (ENTSO-E)
- 50% of French nuclear power plants out of operation since 2021
- Heat/drought (underproduction of hydropower, output reduction of thermal power plants)
- ...

# Development of wholesale electricity prices (2020-22)



Source: Own illustration, data taken from: Bloomberg; quote taken from: Economiesuisse 28.11.2022, p. 1.



«Illustration: for a **large consumer** with 100 GWh consumption, 1 Rp./kWh price increase accounts for one million francs per year – for comparison: at the moment, prices for 2023 are about 30 Rp./kWh more expensive than the long-term average.»

Economiesuisse  
Roadmap for the economy – Dealing with high electricity prices

# Measures in case of an electricity shortage situation



Source: Illustration taken from: WBF 23.11.2022, p. 1; quote taken from: enerGate-Messenger CH 11.11.2022.



«For the economy, contingencies and cyclical shutdowns would be fatal. [...] Especially the **electricity-intensive industry** runs the risk of having to close down parts of the business already in the case of contingencies. [...] Above all, let's **save energy** now where it is possible. This is the only way to reduce the risk of such drastic measures.»

Government Councilor Carmen Walker Späh  
Director of Economic Affairs Canton of Zurich

# Implications for the industry

Time horizon	Measures
short-term	energy efficiency & process optimization, contingency concepts, emergency power generation, etc.
medium/longer-term	procurement concepts, (decentralized) renewable energy production, storage capacities, etc.





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