Political interventions to overcome the security & supply energy crisis

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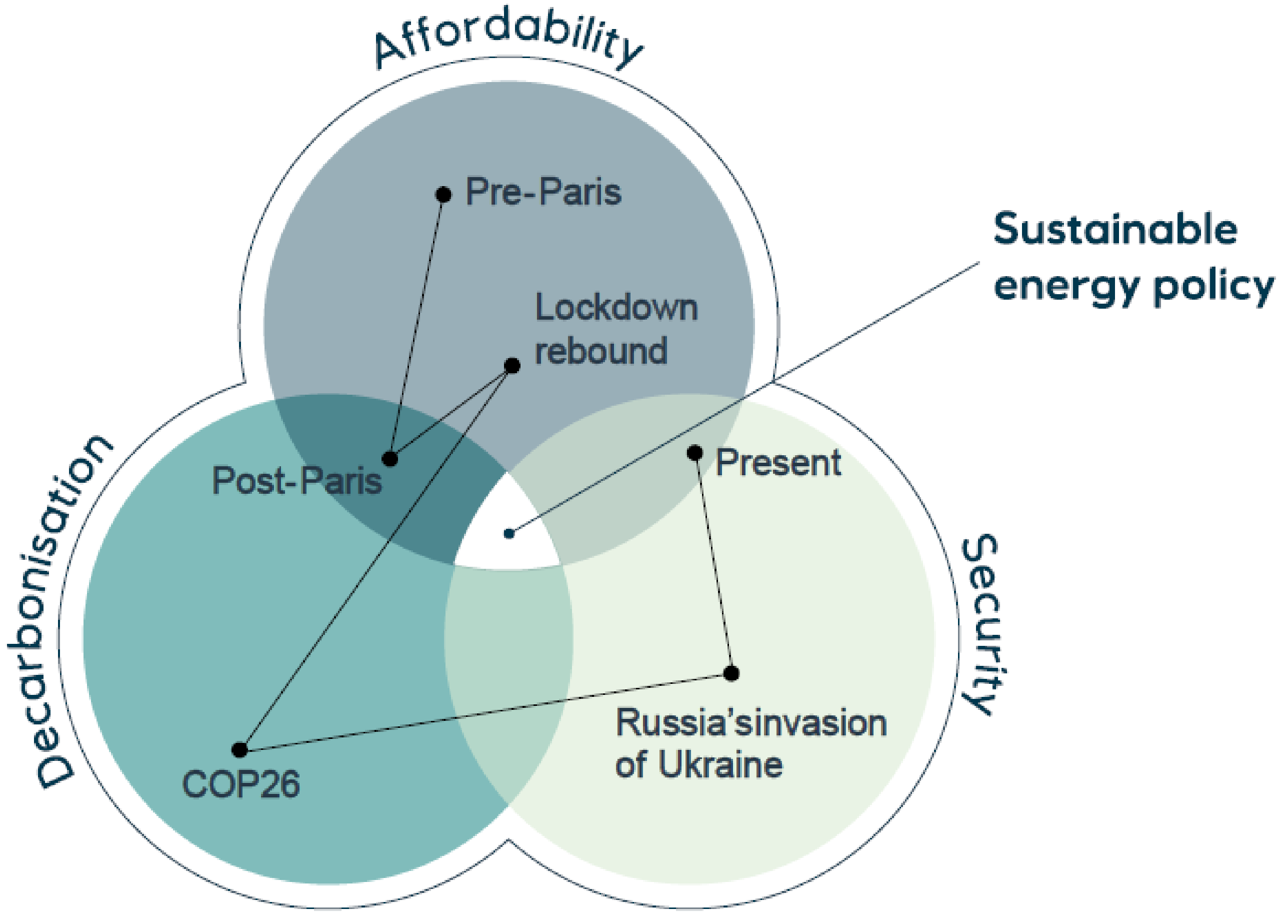
The challenge of overcoming the Energy Trilemma



Source: Equinor 2022 Energy Perspective

Energy crisis – current challenges

Independence from Russia – mainly through fuel diversification

Alternative supplies (NG/LNG) and alt. fuels **demand and supply equilibrium**

Energy supply security – global **supply chain problem**

Energy affordability – **rising prices**

Investment in existing and new **GTs difficulties** due to geopolitical situation

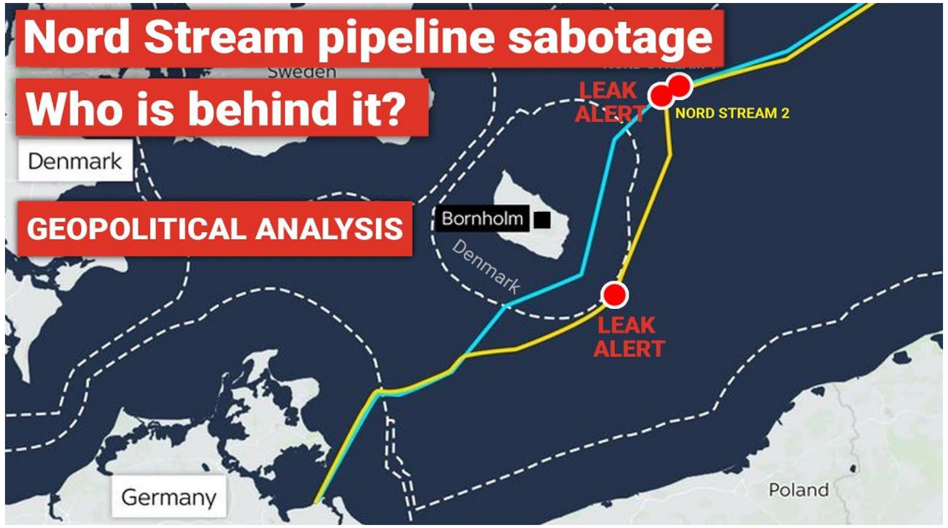
Raw materials & spare parts availability and supply

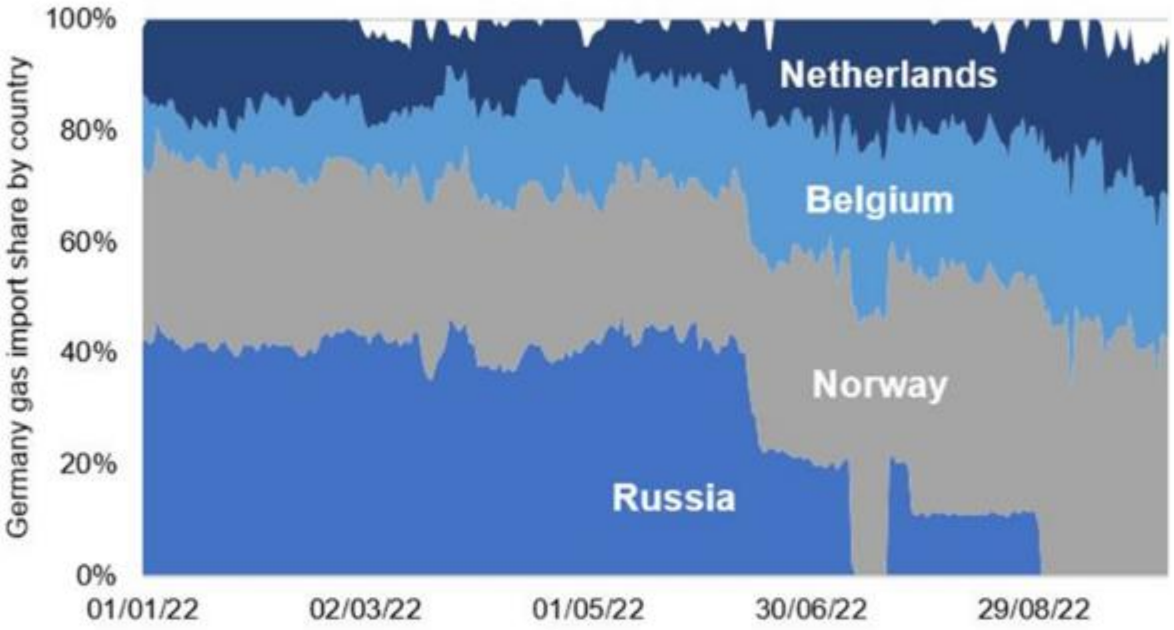
Security of Supply Challenge

Germany receives no Russian gas from end of September

Nord Stream

~~Secure~~ gas supply for Europe



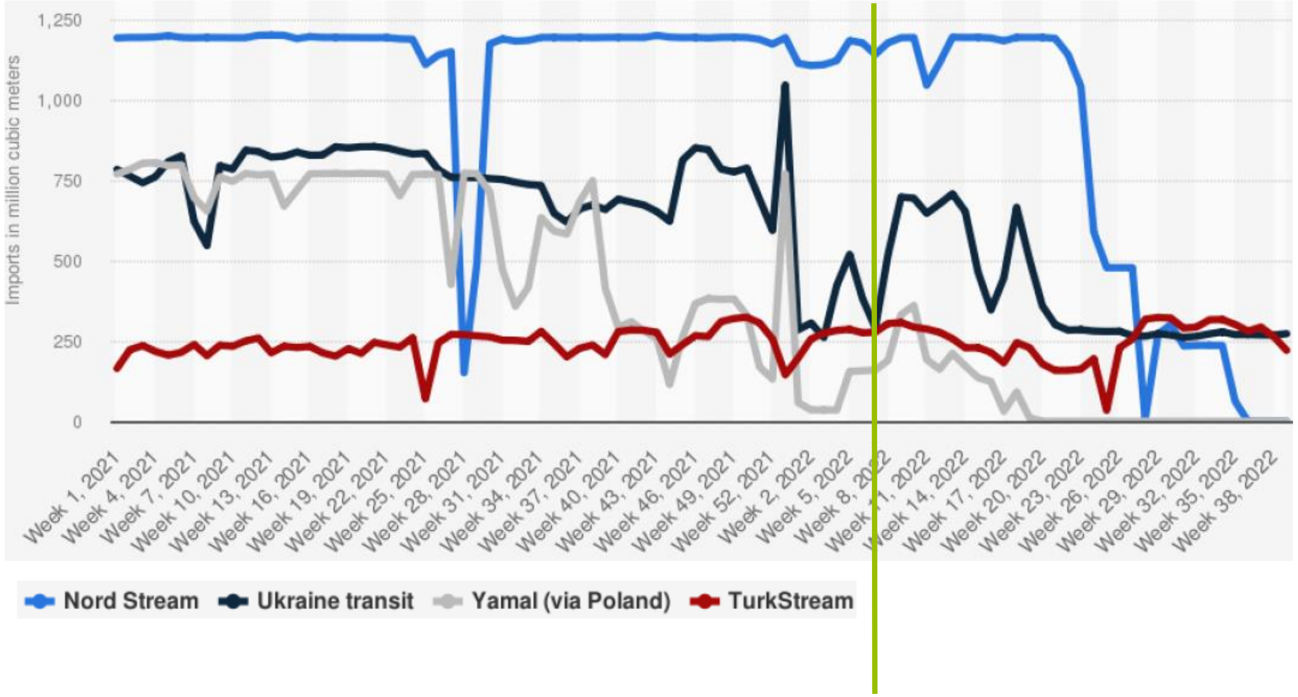


Source: ICIS, updated 4 October 2022

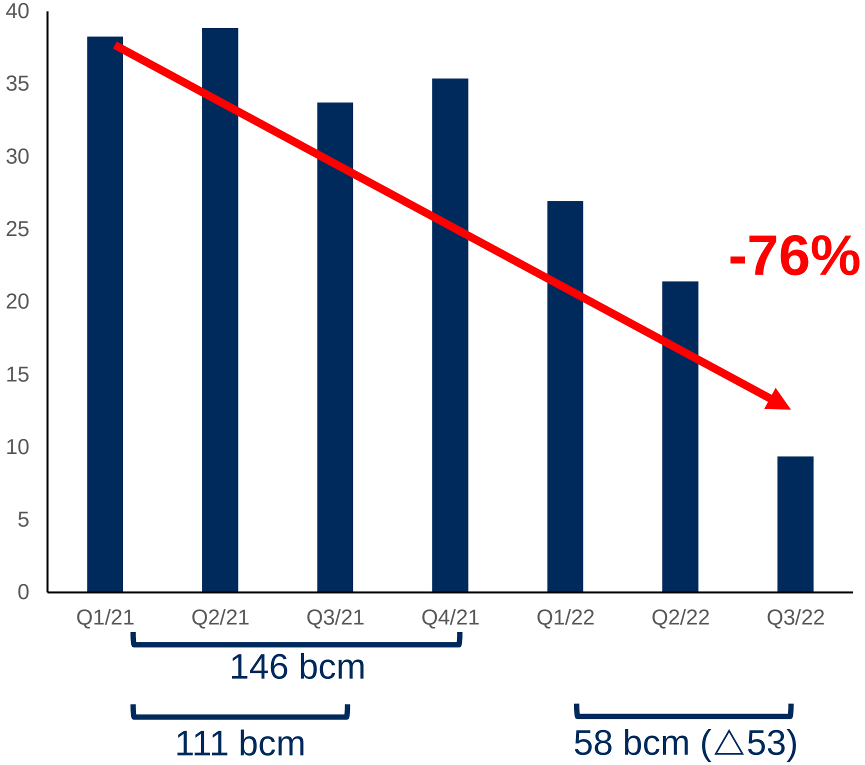
Russian gas imports to EU

EU imports dropped by 53 bcm in first 3Q of 2022

Imported volume in mcm per week and route



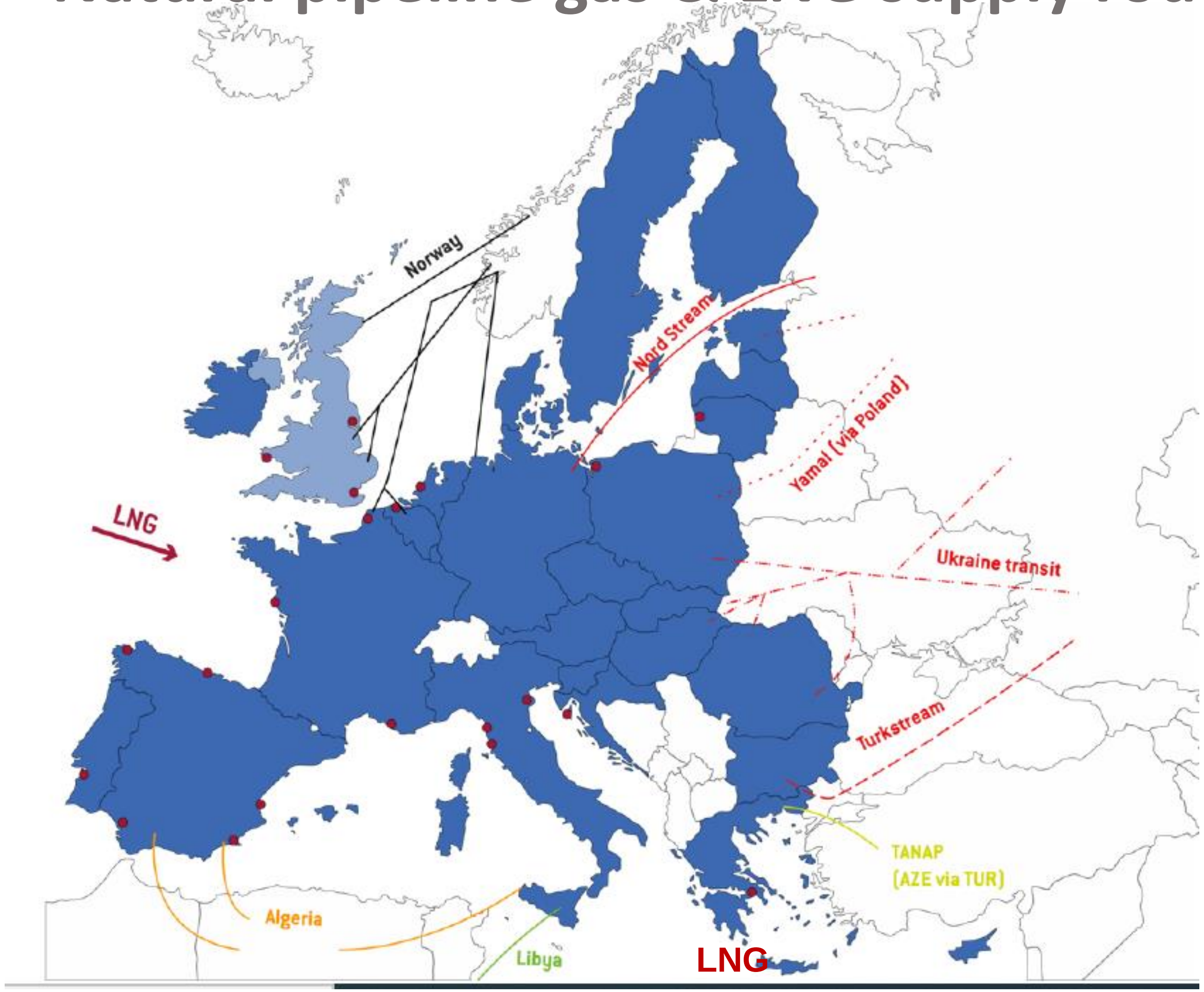
Imported volume in bcm per Q



Sources: Bruegel; ENTSO-E

Security of Supply Challenge

Natural pipeline gas & LNG supply routes



In Jan 2022 Europe imported 46% of its gas from Russia 1 October 2022 only 7.5% (11.6 bcm)

More competition on global LNG expected in 2023

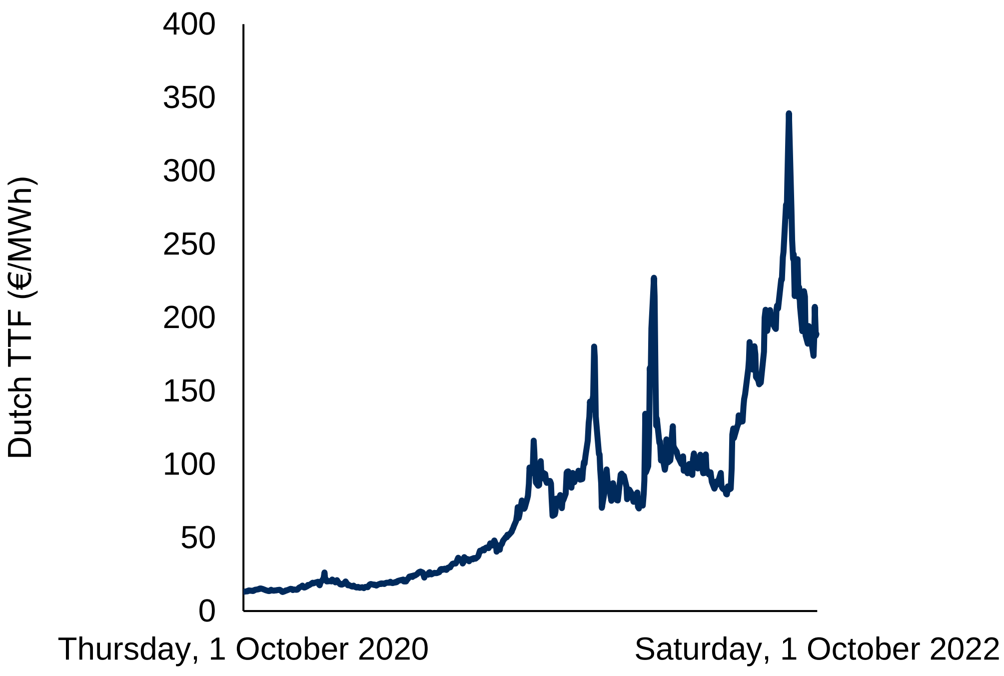
LNG demand from China down 25% in 2022 due to its Zero Covid policy and resulting economy slowdown

Affordability Challenge

Unprecedented price increases of natural gas and price of carbon

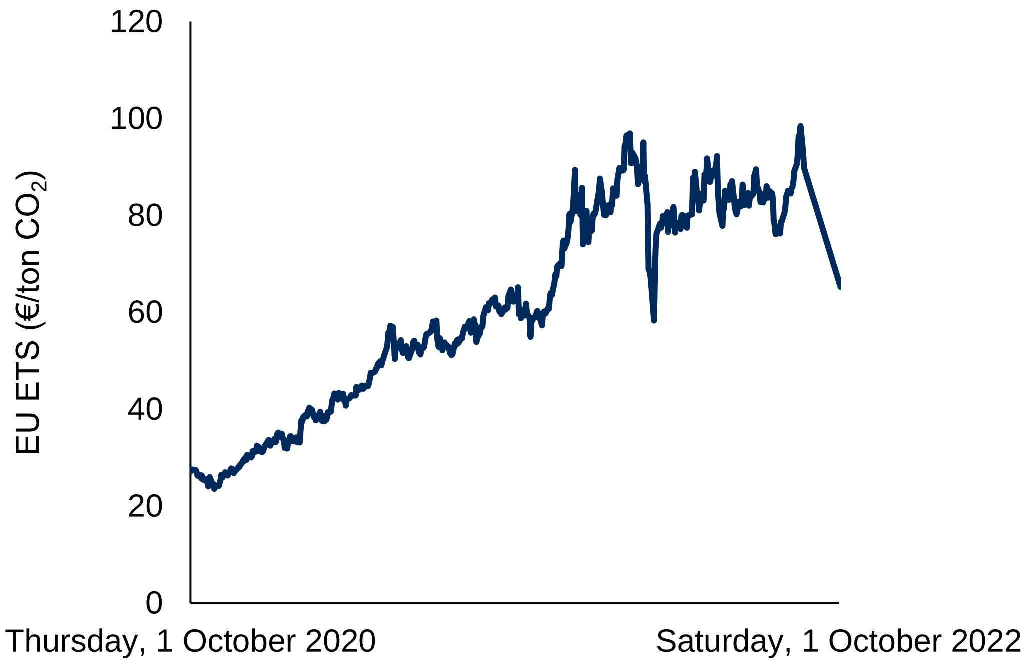
Natural Gas (Dutch TTF)

€13/MWh → €190/MWh



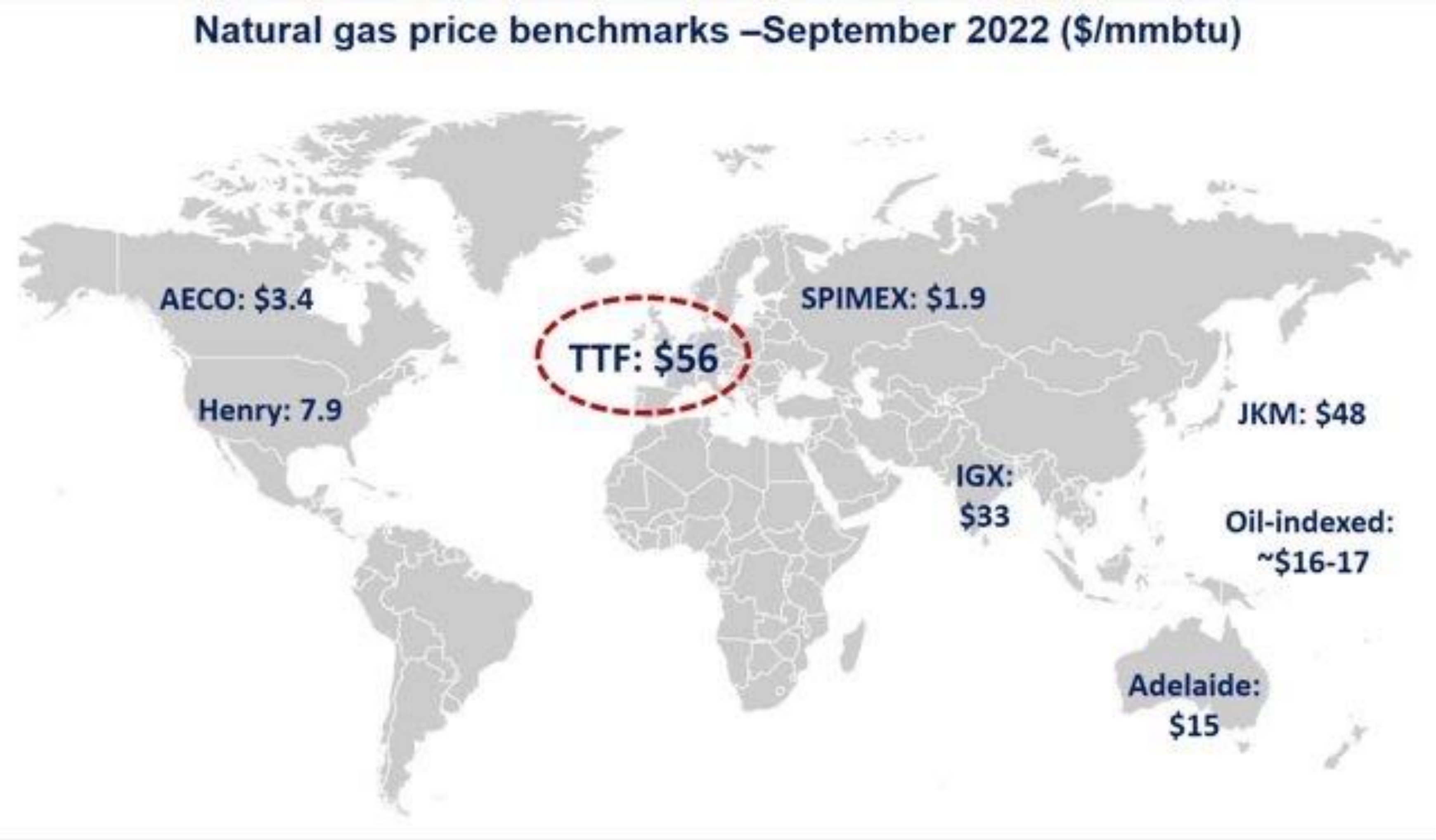
Carbon (EU ETS)

€27/ton → €65/ton



Affordability Challenge

Global Market unbalance



Policy interventions and future strategy

REPowerEU

EU initiative to reduce its gas dependency

REPowerEU

Reduce demand	Supply	Accelerate Energy transition	Financing
Energy savings 2°C less replaces the whole Nordstream 1 supply of gas	Diversifying away from Russia	implementation of renewabels	Faster permitting and innovation

EU Green Deal

EU response to the current energy crisis [1/2]

timeline not to scale

18 May 2022 — 27 June 2022 — 20 July 2022

REPowerEU

- End EU's dependency on Russian fossil fuels by 2027
- Securing energy supply to the EU energy system with long-term sustainability and affordability

Gas storage regulation

- 80% storage filling by 1 November 2022
- Exceeded by almost 10% to date!

Save gas for a safe winter

- Voluntary target for all EU countries to reduce natural gas demand by 15%
- Mandatory if EU declares a Union Alert

EU response to the current energy crisis [2/2]

Electricity price mitigation

6 October 2022

Future initiatives

High electricity prices mitigation

- **Coordinated electricity demand reduction**
  - -10% overall: voluntary
  - -5% min in peak hours: mandatory (10% of all hrs identified as peak)
- **Revenue cap for low-cost power generation** (= inframarginal operators)
  - Cap @ 180 €/MWh
  - Surplus revenues ~117 €bn/y – support to households and companies
- **Solidarity contribution from fossil fuel companies**
  - ~25 €bn will be collected on excess profits in 2022 – support for households and companies

Ongoing work

- Improve liquidity for market operators
- Reduce the gas price
- Reform the electricity market design

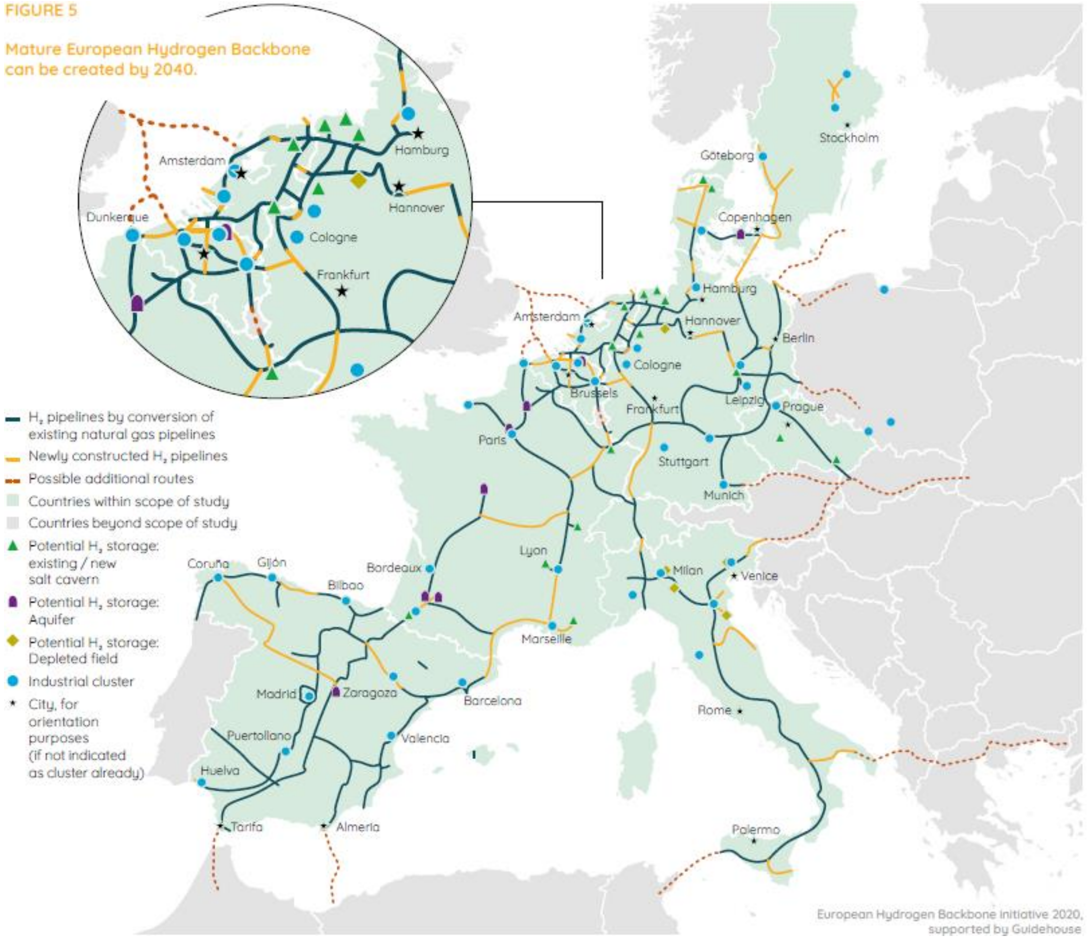
Additional security of supply actions

Supported by the REPowerEU proposal

210 billion euros ad. investments up to 2027, on top of the “Fit for 55” budget

- Making the European gas grid more robust and resilient
- More LNG import terminals
- Increased gas storage facilities
- Enforce the power grid and cross-border transmission
- European H_2 Backbone Development

European H_2 Backbone Development 2040 plan



Strategy to overcome the supply crisis on EU level

New supply gas pipeline routes established/strengthened

- Baltic pipe inaugurated, enabling flow of 10 bcm from Norway to Poland
- Algeria (increase its deliveries to Italy by 20%)
- EU-Azerbaijan to double gas imports by 2027 (in 2023 already 12 bcm)

New LNG routes established/strengthened

- New LNG export and import terminals are being built
- LNG from US and Egypt +67% (41 bcm more then 2021)
- Qatar: additional supply under negotiations-most likely not before 2026

New solidarity arrangements signed among EU countries

- 6 in total, 4 new (EST-LVA, LTU-LVA, ITA-SVN, FIN-EST)