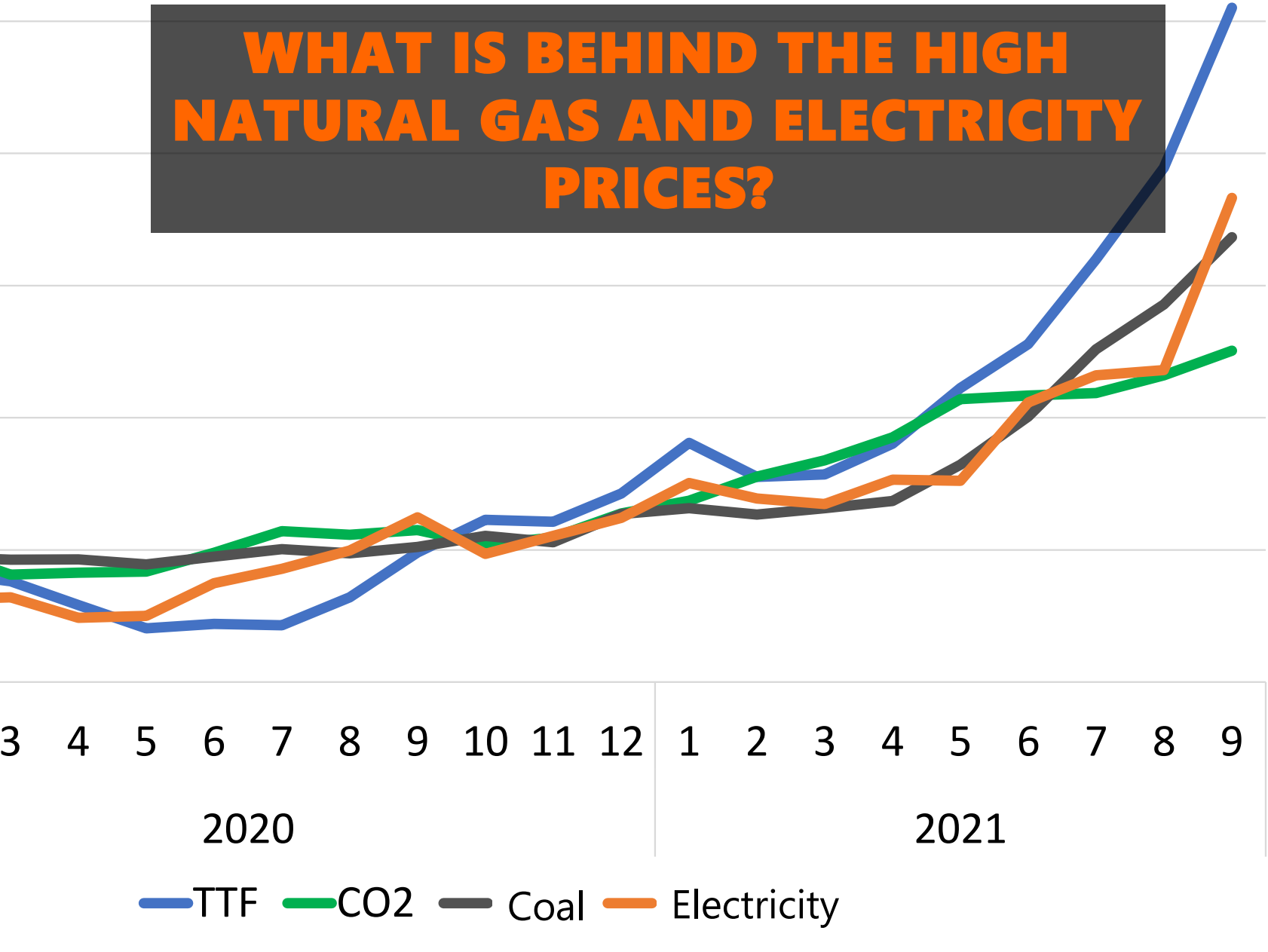
WHAT IS BEHIND THE HIGH NATURAL GAS AND ELECTRICITY PRICES?

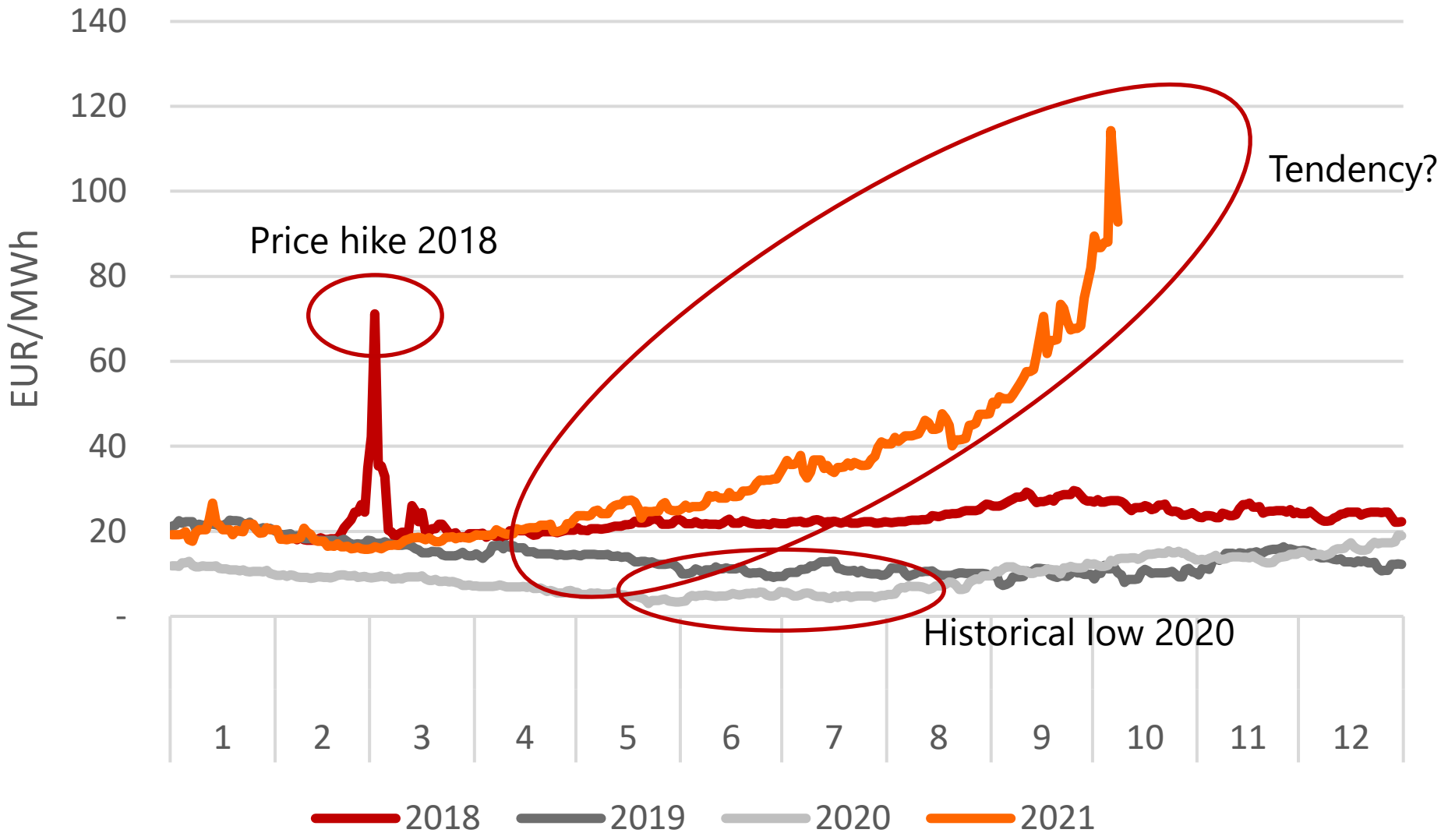


László Szabó, director
Péter Kotek, gas
András Mezősi, power

ERRA, Chairmen Meeting
26. 11. 2021

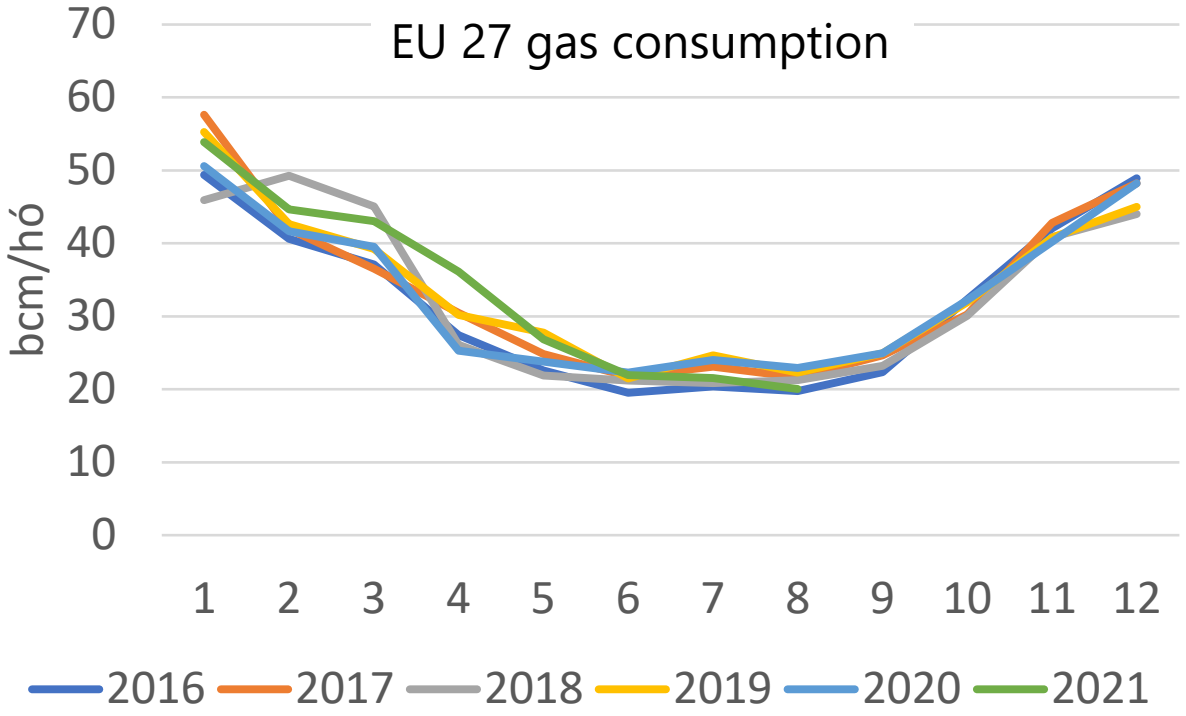
NATURAL GAS MARKETS

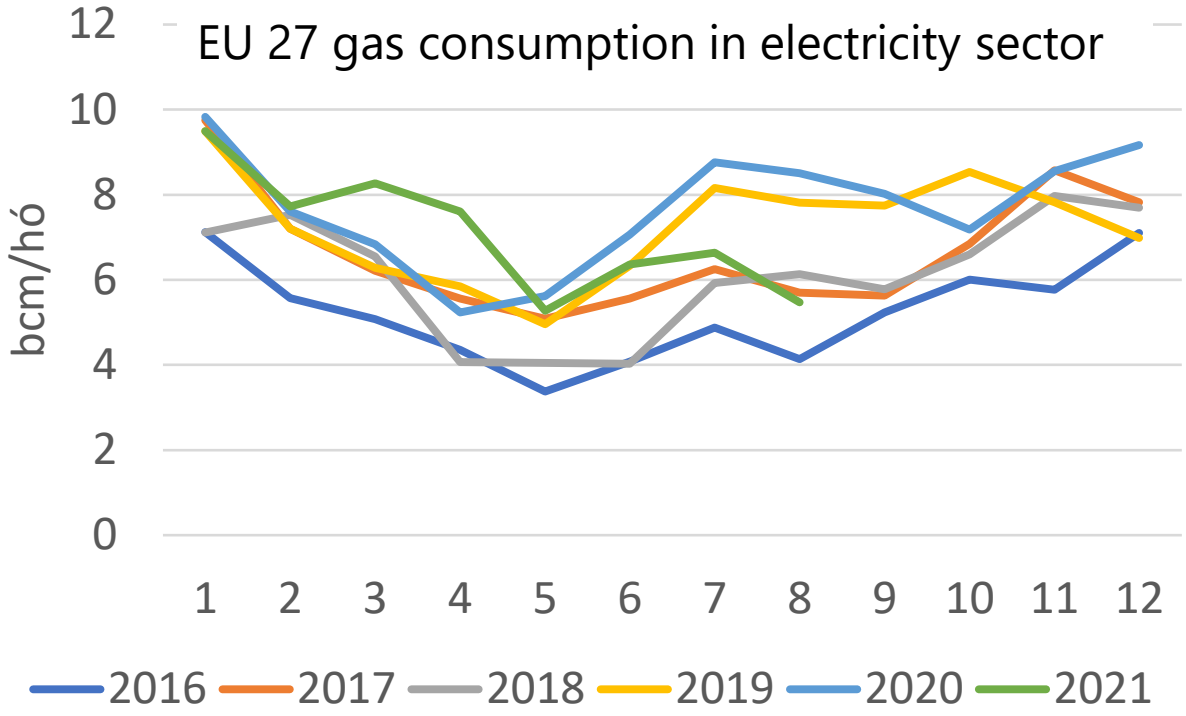
What are the trends in natural gas markets?



TTF spot, EUR/MWh

EU27 gas demand

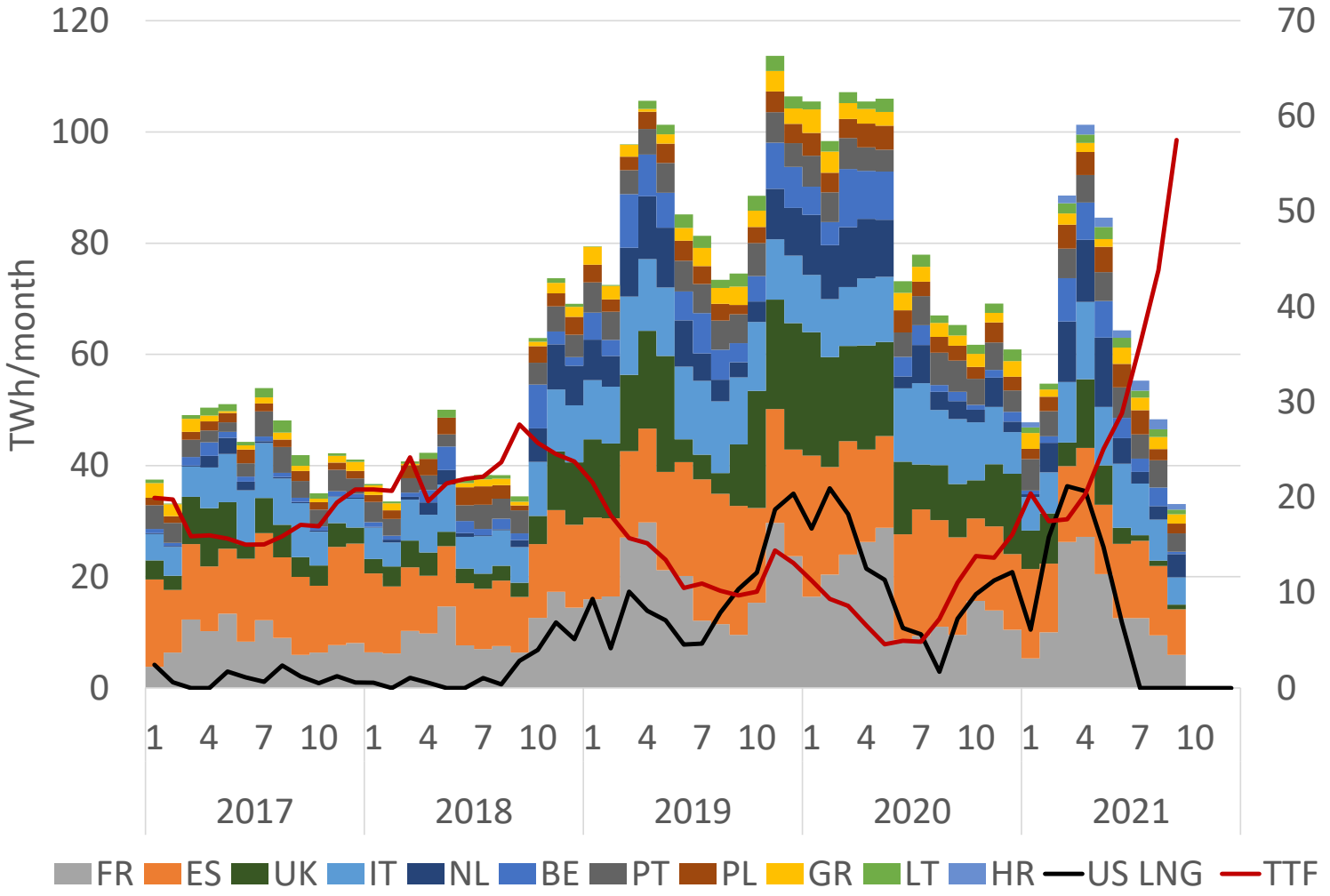


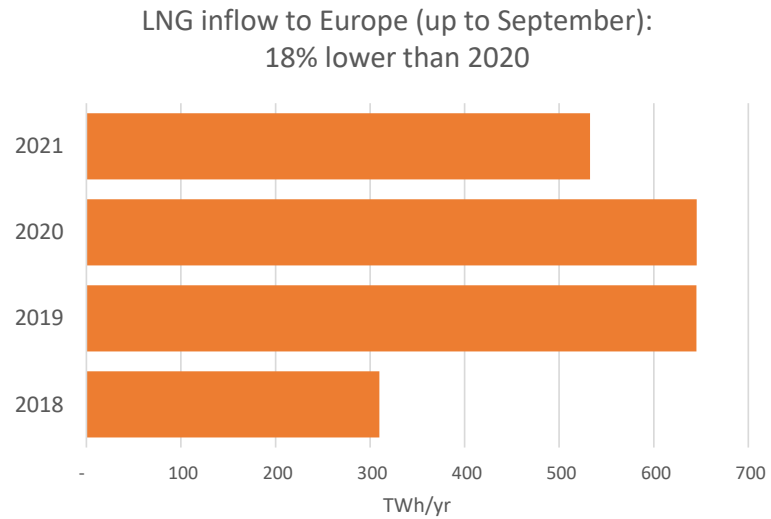


- EU gas consumption is back to the pre-Covid level (even higher in spring)
- EU power generation consumption had a jump in spring 2021, and than started a setback

Source: Eurostat

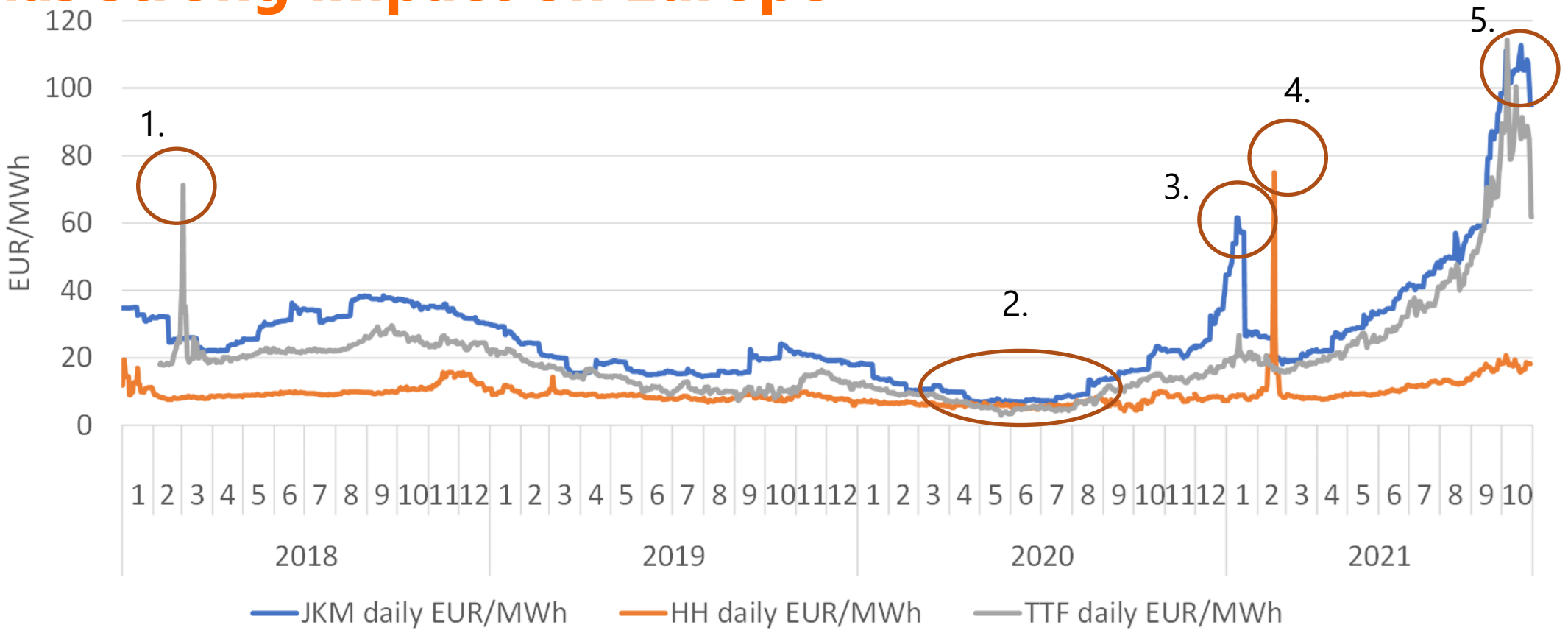
LNG import to Europe:
18% reduction compared to 2020





Utilisation of LNG capacity 2021 (28%) is still higher than the period of 2012-2018 (~20%)

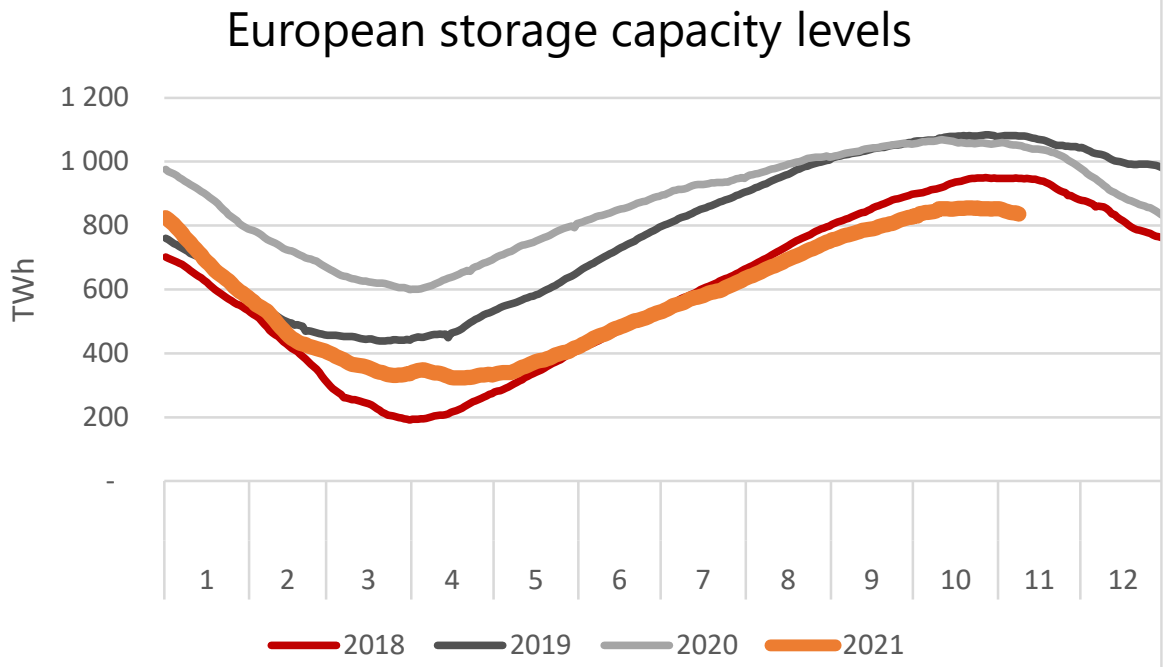
Asian natural gas demand growth has strong impact on Europe

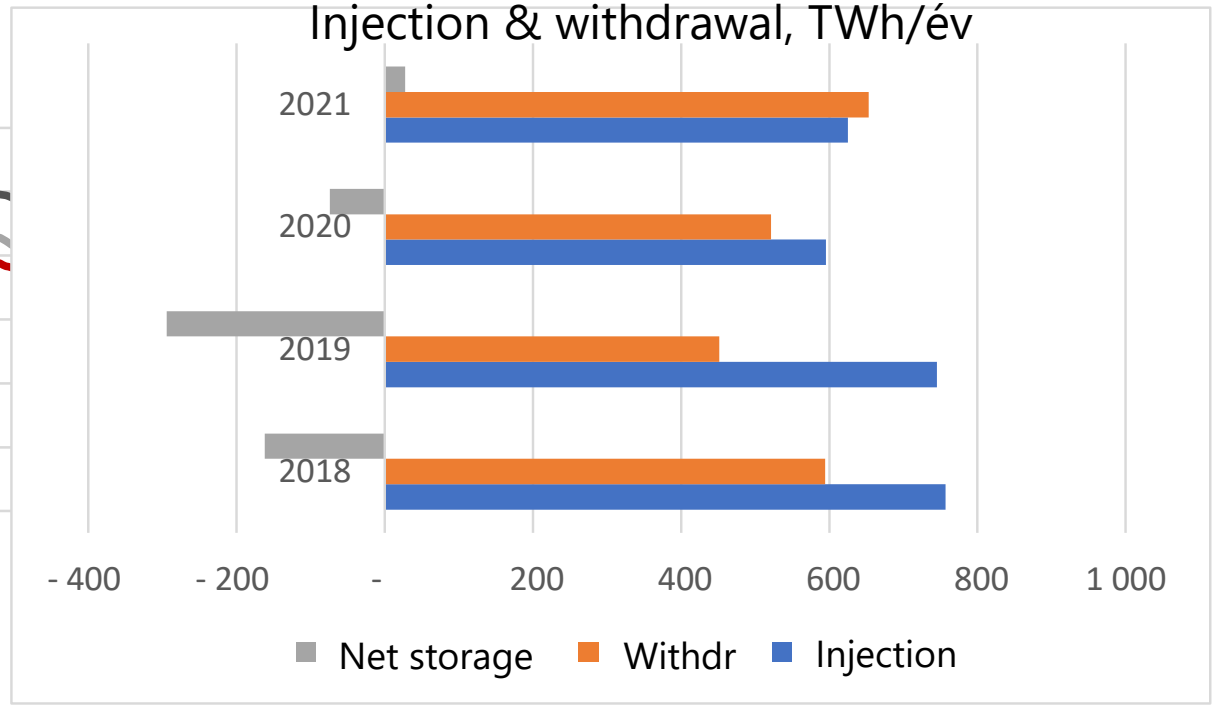


1. March 2018 price spike TTF > only European event
2. 2020 low prices > convergence of markets
3. January 2021 price spike in Asia> moderate impact in Europe
4. February 2021 price spike Henry Hub > impact in N America
5. March 2021 Asian trend increase > European ‚adaptation'

JKM ceiling,
HH threshold
Timing of injection and withdrawal

Gas storage had strong setback – storage levels are very low, net withdrawals





Storage level in September 2020 1055 TWh, 2021 September: 825 TWh

- EU average in end September 74%
- Very low storage levels in: DE, AT, NL (Gazprom?)
- HU 83%
- Net injections in (2018-2020) now it is net withdrawal – we are using storage gas as a response to high prices and less liquidity

Source:
AGSI+ transparency platform

Russian import to Europe

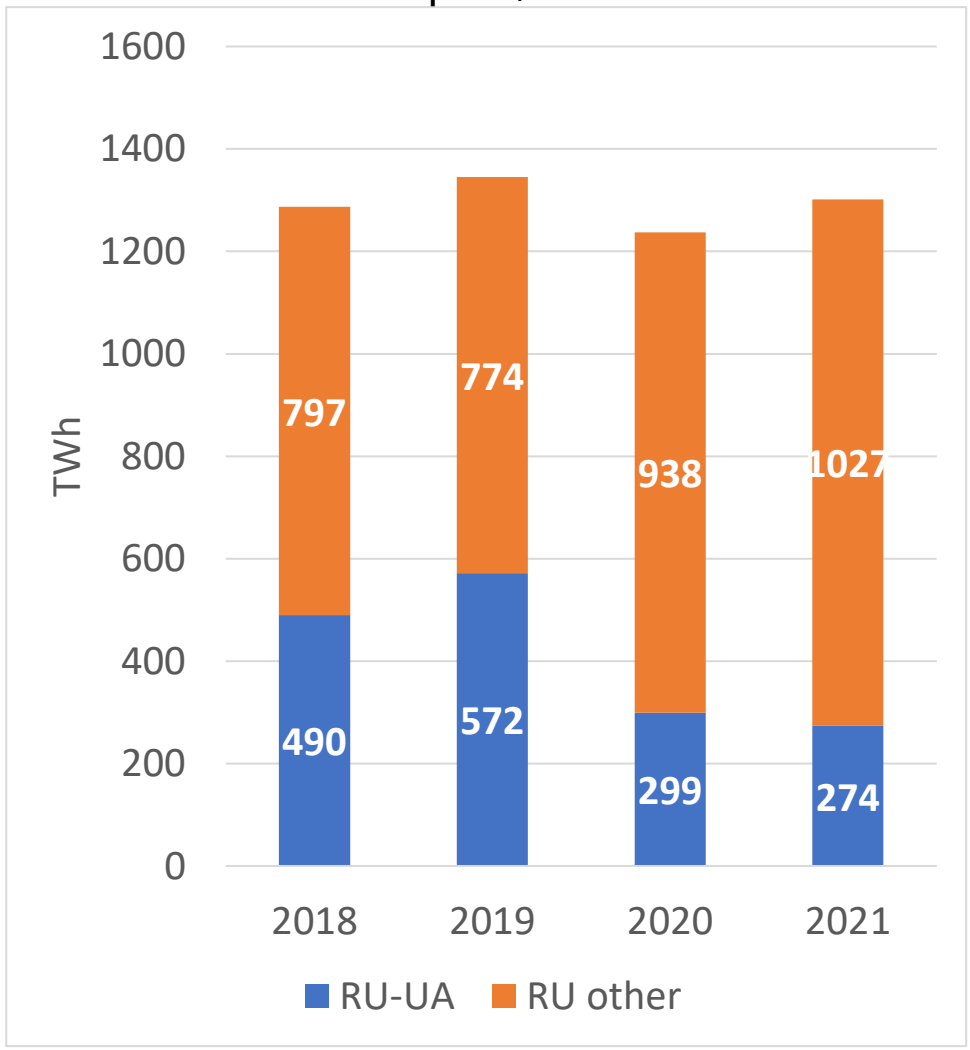
- In lack of sufficient LNG supply and with low storage levels, Russia can influence prices by limiting its export to Europe
- The total volume is unchanged (contractual deliveries are fulfilled by Russia), but on the Ukraine transit direction supply is reduced
- Europe faces scarcity

Russia Offers to Ease Europe's Gas Crisis, With Strings Attached

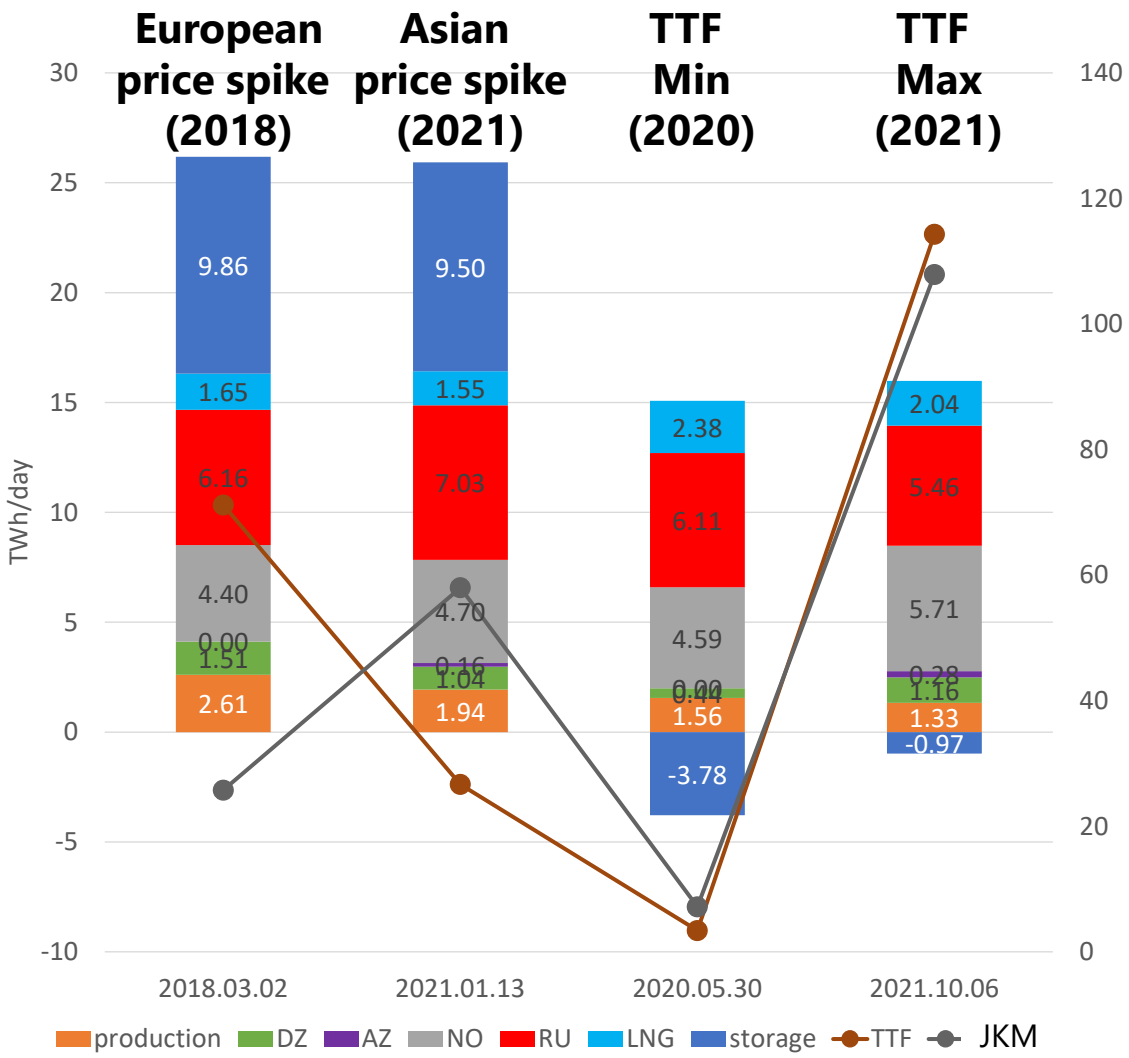
With winter fast approaching and a stunning energy price surge pummeling Europe, Russian President Vladimir Putin chose an opportune moment to use his country's leverage as an oil...

www.bloomberg.com

https://www.bloomberg.com/news/articles/2021-10-06/russia-ready-to-help-stabilize-global-energy-markets-putin-says

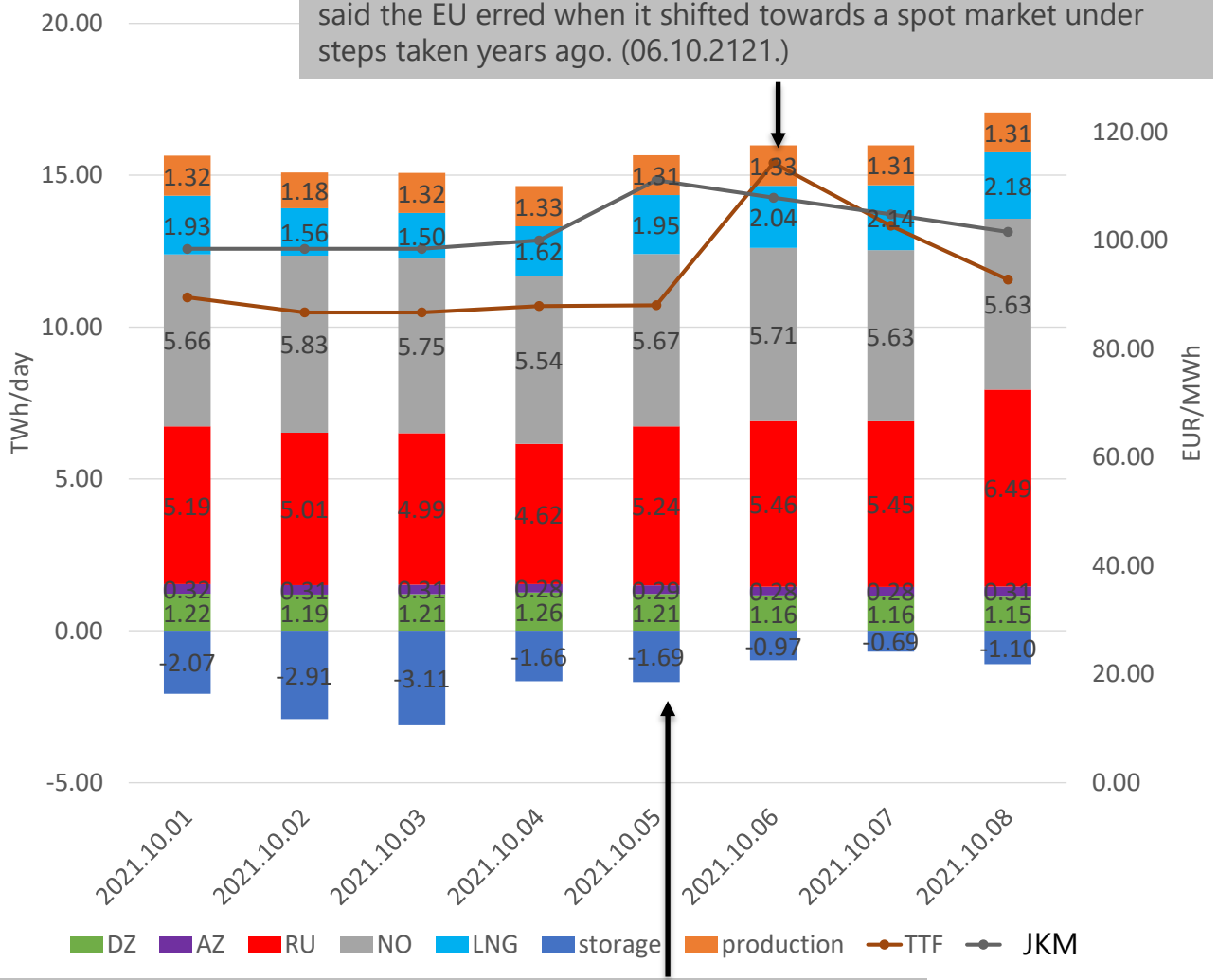


Source structure and gas prices



Can Russia influence the prices by restraining gas supply?

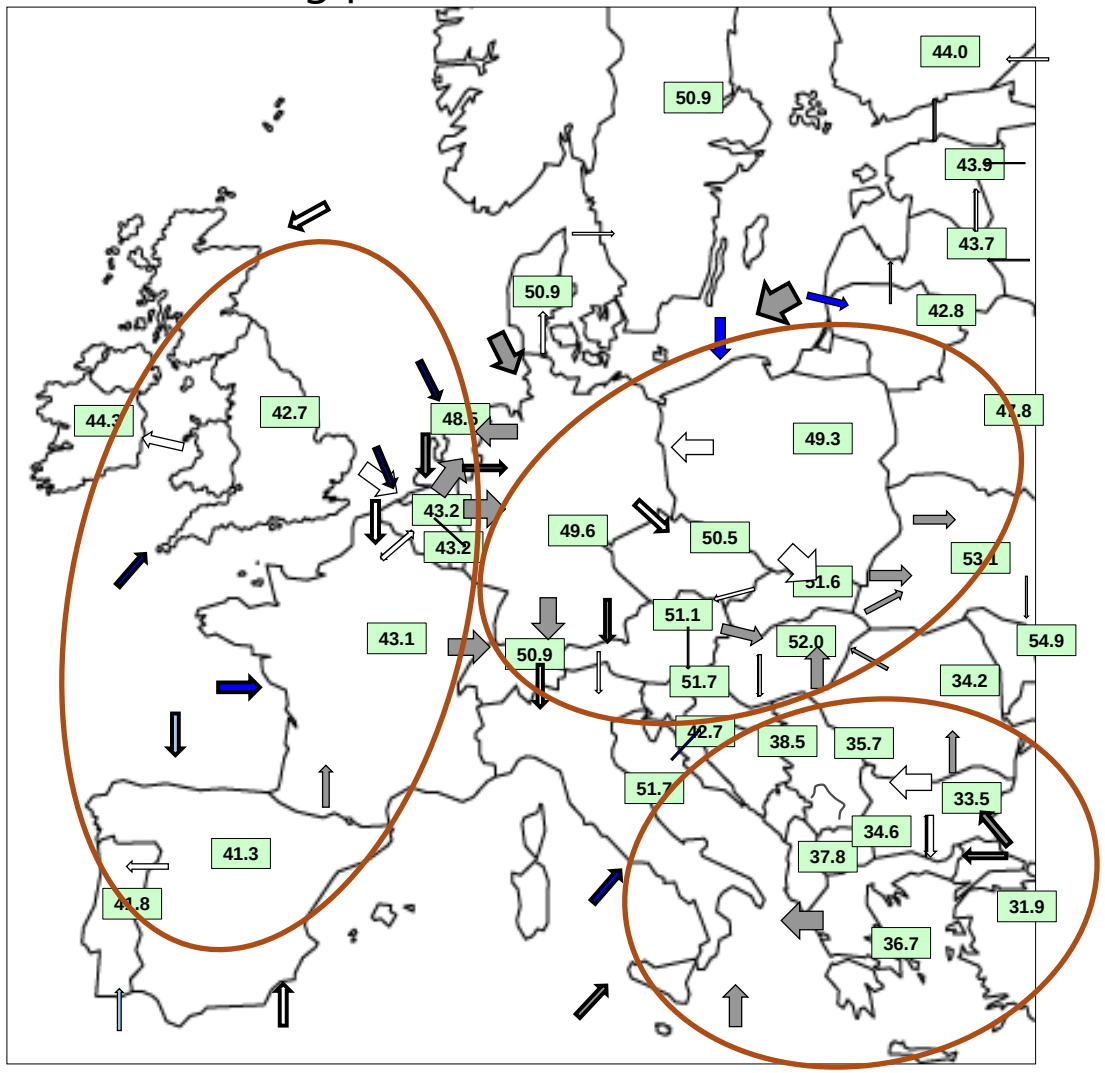
Russian President Vladimir Putin said on Wednesday that **Russia was boosting supplies and acting as a reliable partner**, but he said the EU erred when it shifted towards a spot market under steps taken years ago. (06.10.2121.)



"We are very grateful that Norway is stepping up its production, but this does not seem to be the case in Russia," European Commission President Ursula von der Leyen (05.10.2021)

Modelled gas prices (2022) in high price environment

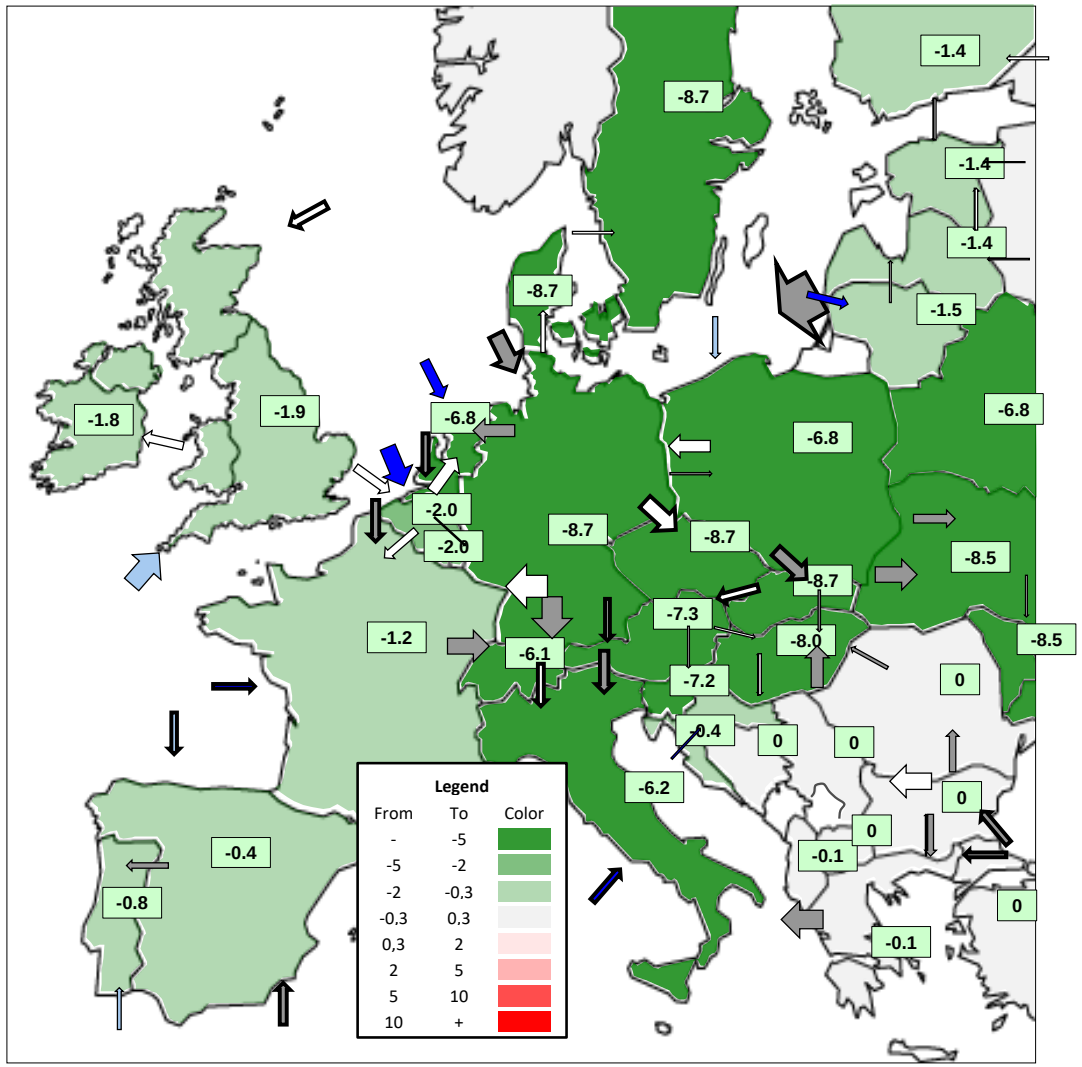
Wholesale avg price EUR/MWh



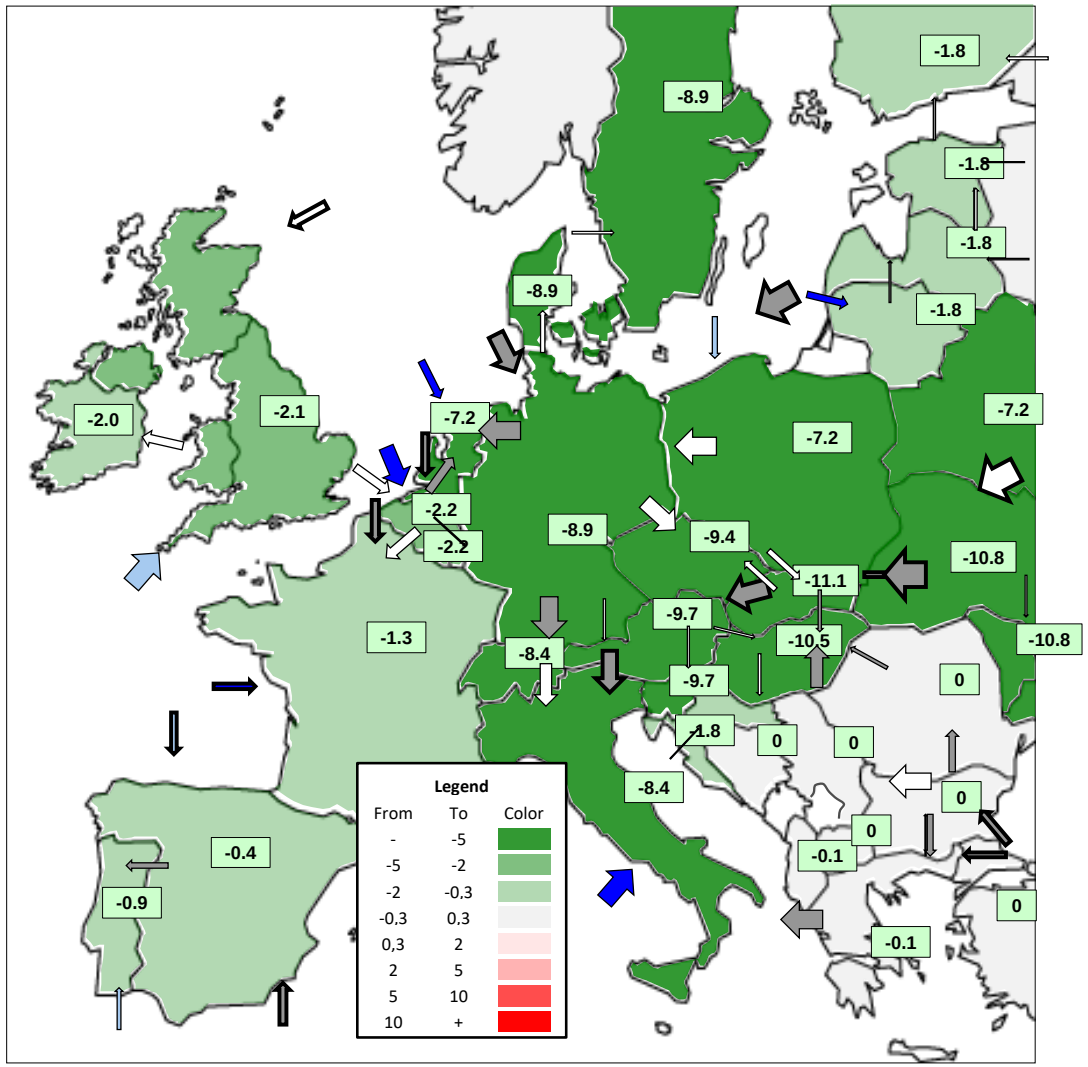
- Present European gas markets:
  - Constrained LNG market
  - Ukraine gas transit reduction (stop of new contract deliverables)
  - Nord Stream 2 not yet in operation
- Short term impacts
  - Diverging EU gas prices
  - Bottlenecks between West - and Central Europe
  - Ukraine buys gas from the EU
  - Europe is split to many price zones:
    - West, higher access to LNG markets (~40 EUR/MWh)
    - Central Eastern Europe from Germany to Ukraine (~50-55 EUR/MWh)
    - South Europe (30-35 EUR/MWh)

Entry of Nord Stream / Ukraine transit re-opening

Modelled entry of NS2

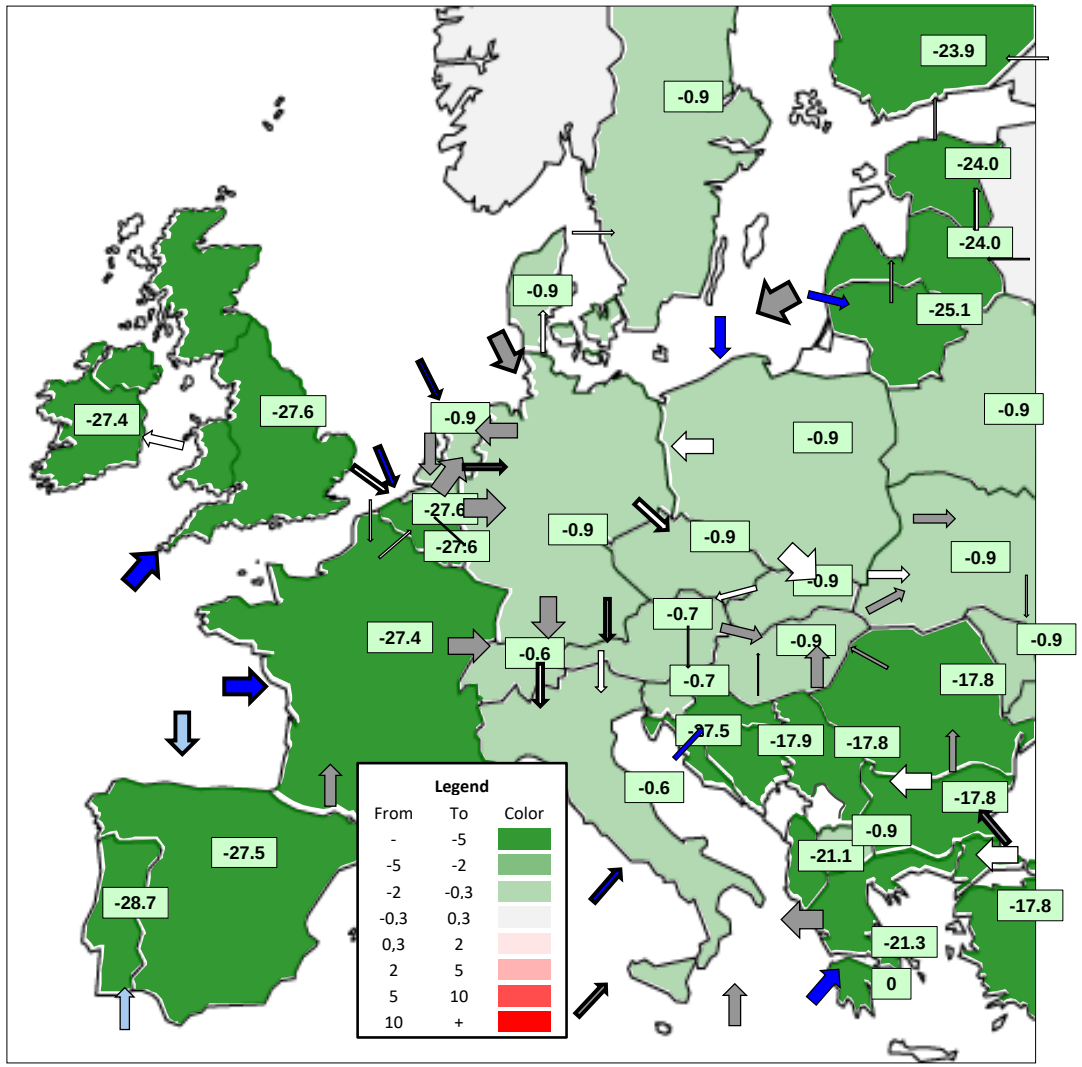


Modelled Ukraine transit re-opening



Based on REKK gas market modelling (EGMM)

Higher LNG supply to Europe



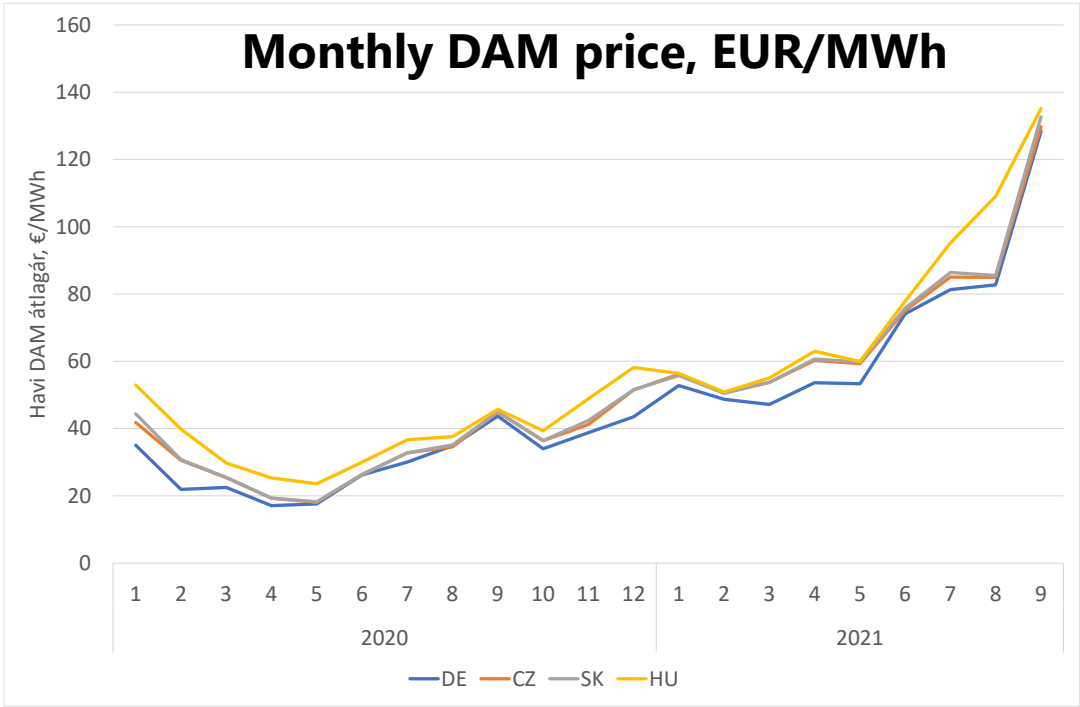
Based on REKK gas market modelling (EGMM)

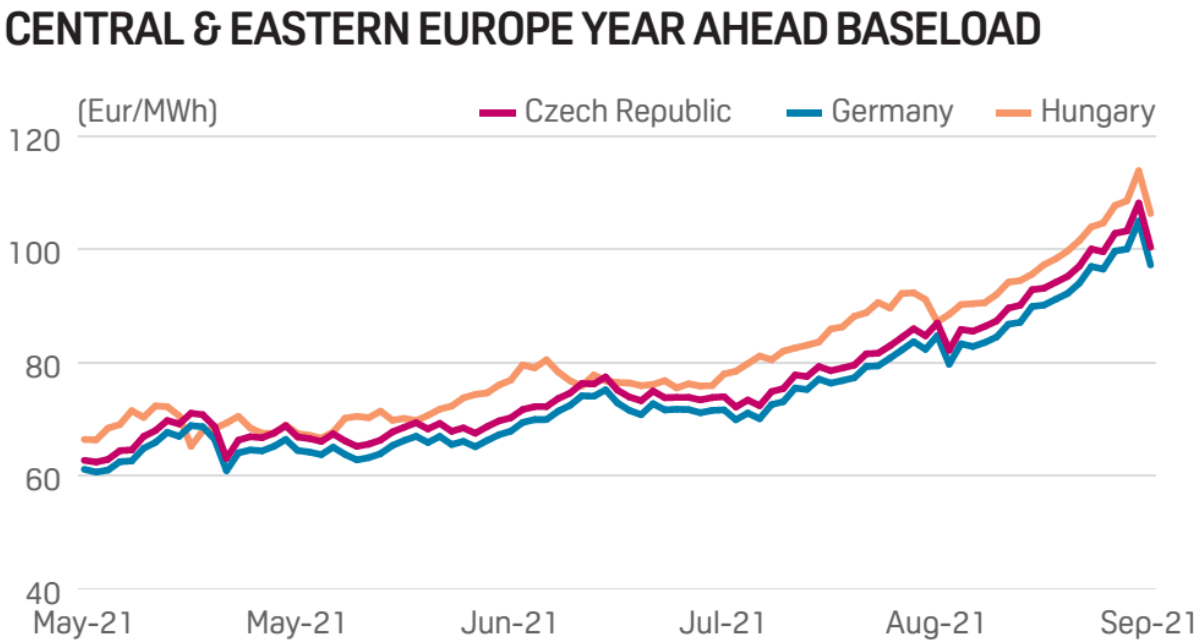
- Impact on regions close to LNG terminals
- It helps in many markets in Europe, but not in all

ELECTRICITY MARKETS

Symptoms

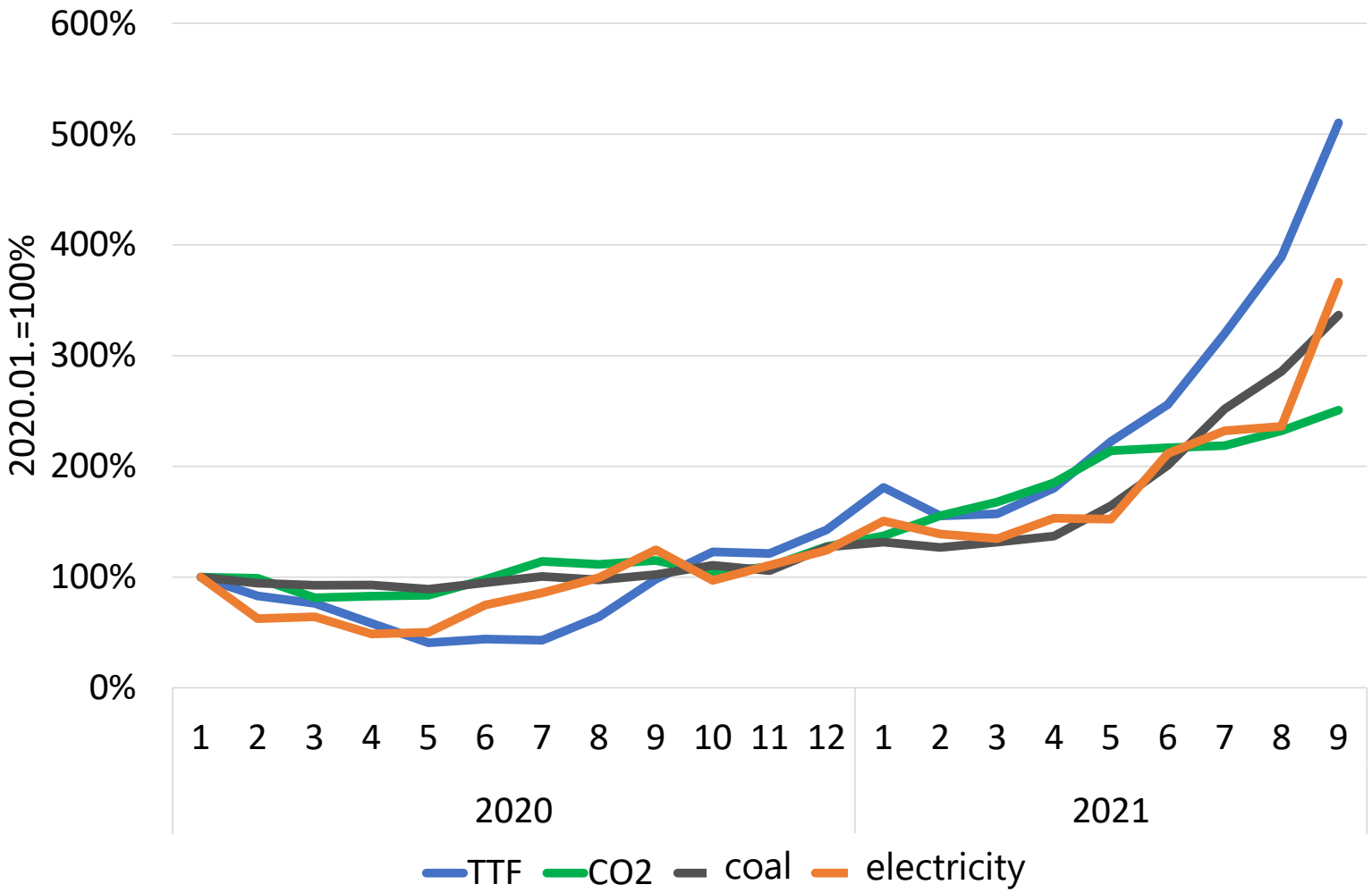
- Dramatically increasing wholesale prices, mainly form the summer
- Similar trends in all markets
- Spread changes in various directions





- Forward prices in similar increasing trends
- Spread changes do not follow trends
- Decreasing trend over long term (09.30):
  - DE CAL22: 132 €/MWh
  - DE CAL23: 89 €/MWh
  - DE CAL24: 76 €/MWh

Drivers of the price trends



Source: ICIS, TTF, ENTSO-E Transparency Platform

Natural gas:

- High Asian Demand, low LNG supply to Europe
- European demand is also back to pre-Covid levels
- Limitations in Russian gas supply
- Bottlenecks in Wes-East directions – some countries face higher price increases
- Reducing EU production of gas
- Low storage levels

Coal:

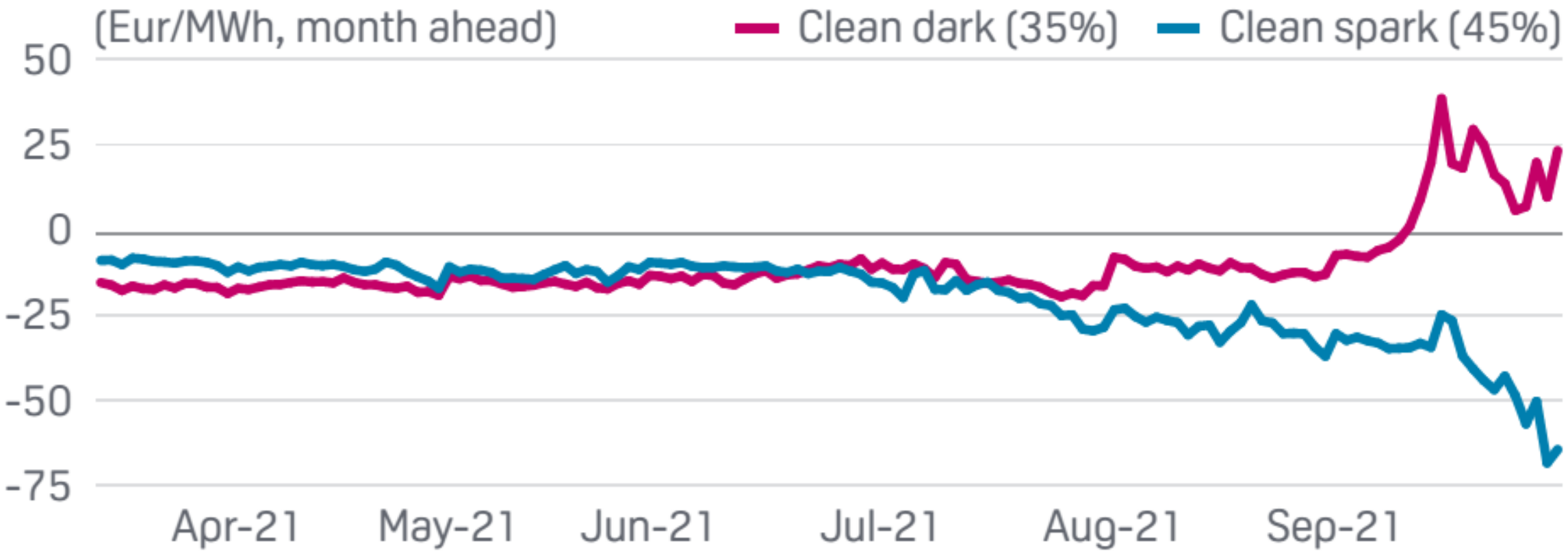
- Narrowing supply to China
- High gas prices -> increasing demand for coal
- Restrictions in import due to Covid pandemic

CO_2 price:

- FITfor55 Package
- High gas prices -> increasing coal demand, but this has additional price increasing impact on EUA

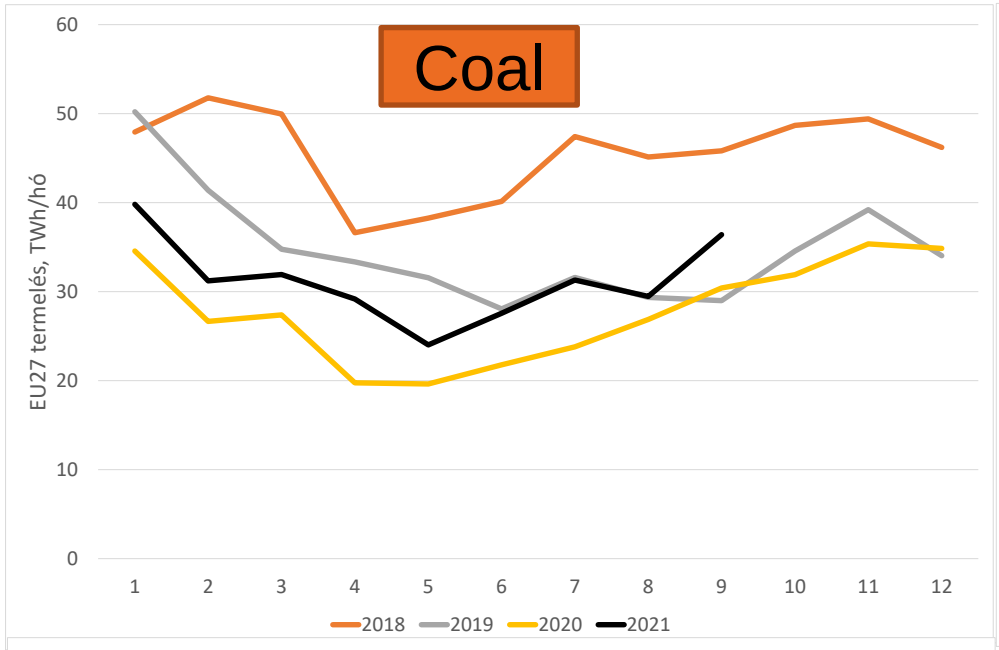
Consequences

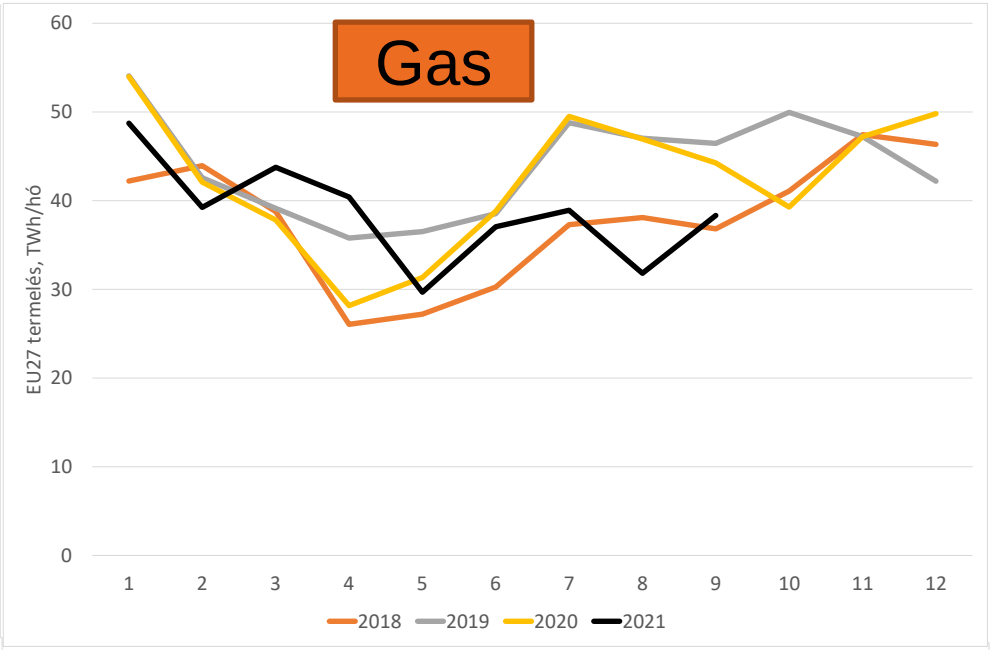
- Renaissance of coal: positive CDS in spite of the high CO2 price!
- Reducing clean spark spread – the increasing electricity price does not compensate for the increasing gas price

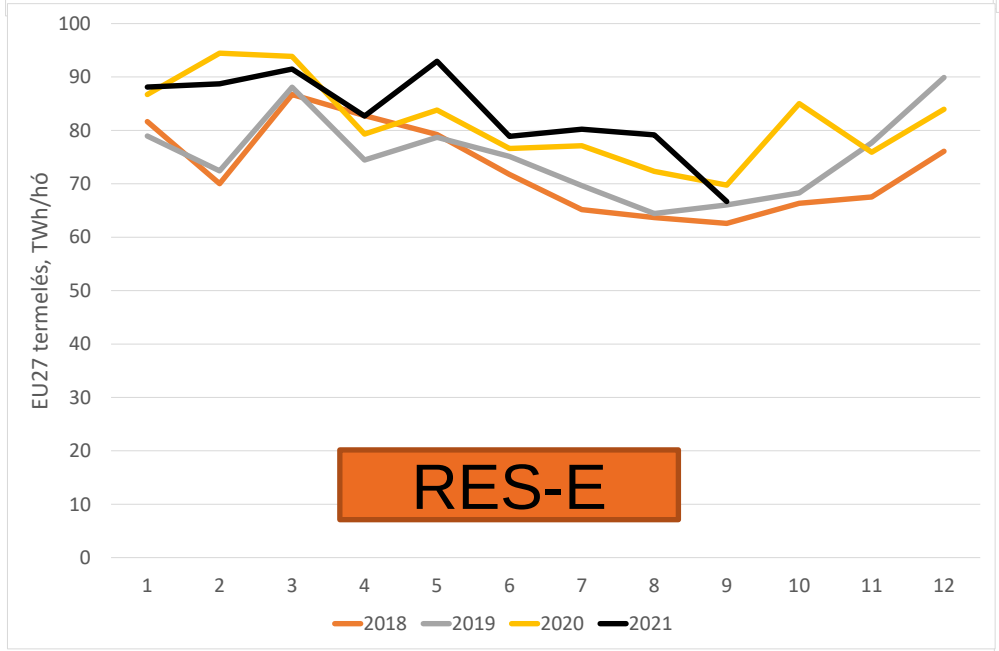


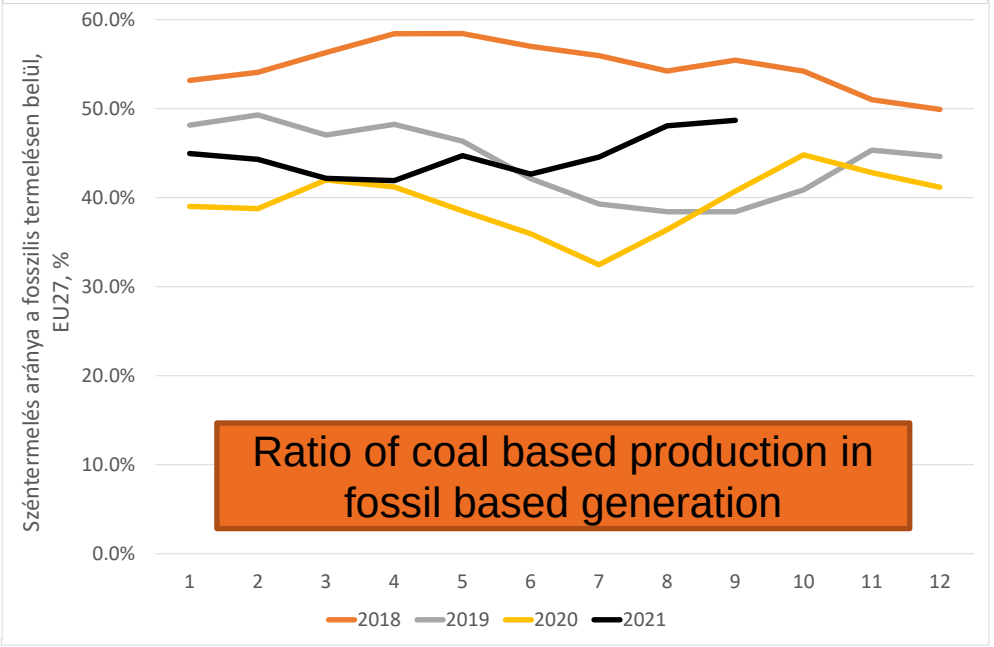
Source: PLATTS

Coal - gas switching, minor impact of RES









- Coal use increases since August
- Change in Renewable based generation is rather minor – it cannot explain the trend (although Germany has a sizeably less production in wind)
- Average RES-E production (month 1-9) 2% increase in 2021 compared to 2020.

Possible long term impacts

- Coal based generation gains new opportunities → can reduce the speed of coal phase out (see COP 26)
- Gas fired plants can face more negative longer term outlook → negatively impacting investments environment + deteriorating paybacks for older plants → impact on the provision of flexibility?
- Uncertainty around the renewables:
  - Political support increases in many countries → increasing security of supply (domestic resource), wholesale price reducing impacts (merit order effects, impacts of CfDs)
  - Political support reduces in some countries → blaming RES-E for the price increase (?)
- Exaggerated political reactions:
  - Questioning the present EU market model of competitive marginal pricing, introduction of price caps
  - Renaissance of long term contracts, joint European gas purchase?
- Impact on energy poverty – sensitive issue in many countries (not only CEE)
- It could also help the long term decarbonisation goals
  - Supports the investment in energy efficiency through a better payback, but price signals should reach consumers
  - Can also help the electrification of heating (by reducing gas based heating systems)