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The Russian Invasion of Ukraine: impact on European gas and LNG Markets

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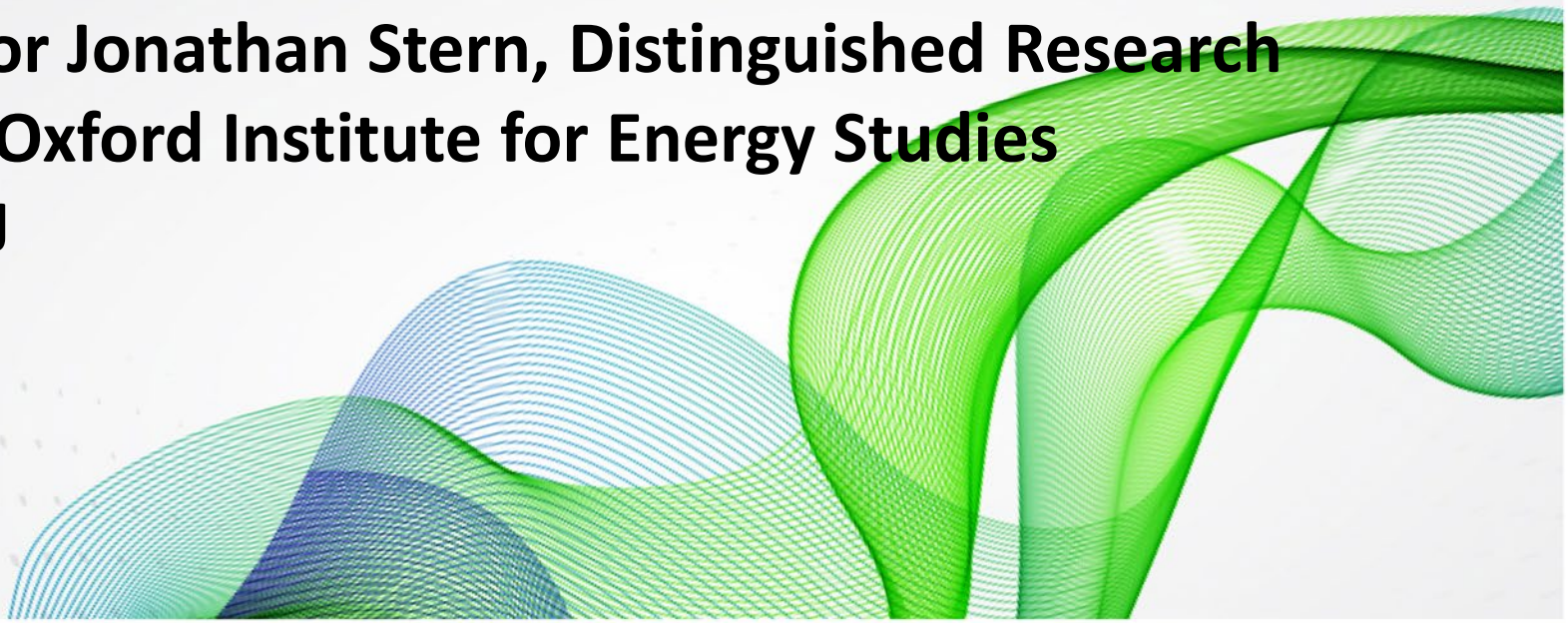

European Price Level and Price Volatility Impacts in 2022

- Statements by Russian, European and US politicians and governments cause wild swings in prices BUT..
- In late April – TTF prices lowest since mid-September
- Temperature and wind strength are key demand factors
- Since late October 2021, Gazprom has only supplied long term contract volumes – no spot/ESP supplies
- 2022: Russian supplies to NW Europe lower in January/February, higher in March (within-month volumes can fluctuate); Flows to Turkey/SE Europe at normal levels
- LNG imports Europe+Turkey increase ~20bcm in first four months of 2022 cf 2021
- Gazprom storage withdrawals + less pipeline exports = 15bcm similar to additional LNG imports.
- Storage situation – similar to April 2021

Very high prices for industrial and residential consumers of both gas and electricity, causing governments to cap prices in some countries

Three Scenarios for Russian Gas Exports to Europe

1. Russian gas supplies to Europe under long term contracts continue at take or pay levels until contract expiry
2. Russian gas supplies to Europe are cut by two thirds in 2022 and stop completely by 2027 (REPowerEU)
3. Russian gas supplies to Europe are cut completely before Winter 2022/23 (political decisions/ruble payments)

Scenario 1 is the most beneficial for price and price volatility; Scenario 3 would push prices to even higher levels than we have seen in 2021/22; Scenario 2 is somewhere in between but probably closer to Scenario 3

The REPowerEU Plan and Storage Proposal

- Cut EU imports of Russian gas by two thirds ie by 101.5 bcm in 2022: this requires non-Russian gas supply will be increased by 63.5 bcm, and demand to be reduced by 38 bcm
- Require EU gas storages to be 80% filled by November 1, 2022

"By mid-May, we will come up with a proposal to phase out our dependency on Russian gas, oil and coal by 2027, backed by the necessary national and European resources"*

*Speech of the President of the European Commission – March 11, 2022

Detailed REPowerEU Proposals for 2022

1. Increase imports of liquefied natural gas (LNG) by 50 bcm: up to 35 bcm looks possible, more will be difficult
2. Increase pipeline gas imports by 10 bcm: realistic
3. Increase biomethane production by 3.5 bcm: very difficult although current price levels are helpful
4. EU-wide energy saving to cut gas demand by 14 bcm: very much depends on winter temperatures
5. Rooftop solar to reduce gas demand by 2.5 bcm: possible but marginal
6. Heat pumps to reduce gas demand by 1.5 bcm: possible but marginal
7. Reduce gas demand in the power sector by 20 bcm by deployment of wind and solar: difficult, will depend on weather patterns and conditions in individual countries

REPowerEU targets for 2030 (cf FF55): renewable gas + 18 bcm, renewable hydrogen (production/import) +20mt, efficiency +10bcm

Immediate problems needing resolution

- The Putin demand for payment in rubles: breach of contract, breach of EU sanctions?
- EU sanctions on Russian gas imports would:
  - Plunge Germany/Europe into a major recession?
  - Invalidate take or pay commitments under Gazprom's long term contracts with EU countries; more than 110 bcm in 2022 (90 bcm in 2030) - litigation longer term??
- Majority of spare capacity in European LNG terminals is in Spain and UK:
  - very little interconnection between Spain and other EU countries
  - UK no longer an EU member state but – could provide a `land bridge' to EU
- Substantial increase in EU LNG imports may create significant competition with Asian buyers until additional global supplies available 2025-27

How will the Russian invasion impact the European energy transition?

- Rapid phase-out of Russian energy (especially gas) imports could slow transition and increase emissions
- Sustained fossil fuel prices at 2021/22 levels should speed up the energy transition by increasing efficiency measures but…
- transition will also depend on major government support for renewables, hydrogen and CCUS (at a time when COVID has reduced available revenues) but large scale impacts will take time meanwhile
- The next few years could be extremely challenging for European economies and their energy sectors

When Europeans look back 10 years from now, they will probably conclude that the Russia-Ukraine war accelerated the energy transition in Europe

THANK YOU

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