



# FREE NETWORK

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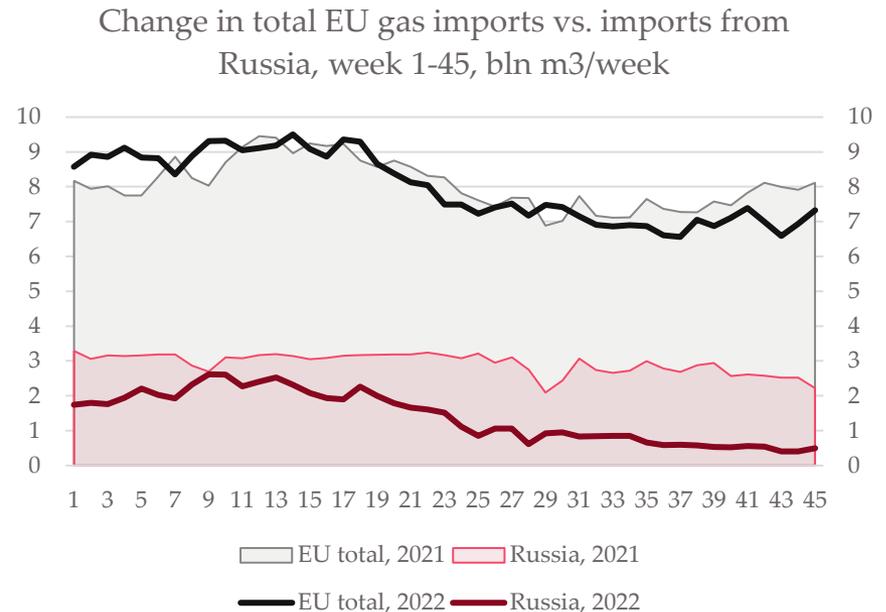
## EU gas crisis: mobilizing for green transition?

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# Replacing Russian gas vs. green transition

- A large contributor to the on-going energy crisis in the EU – major reduction in Russian gas supplies
  - prior to the crisis - over 40% of EU gas imports
  - Y-t-d 2022 – 18% (pipeline)
  - Last month – around 7% (pipeline)
- EU strategy to cope with it (summarized in REPowerEU plan):
  - Diversify gas supply (imports from other suppliers + domestic production)
  - Use other fuels (coal, oil, nuclear)
  - Improve energy efficiency and reduce demand
  - Longer-term: accelerate green transition



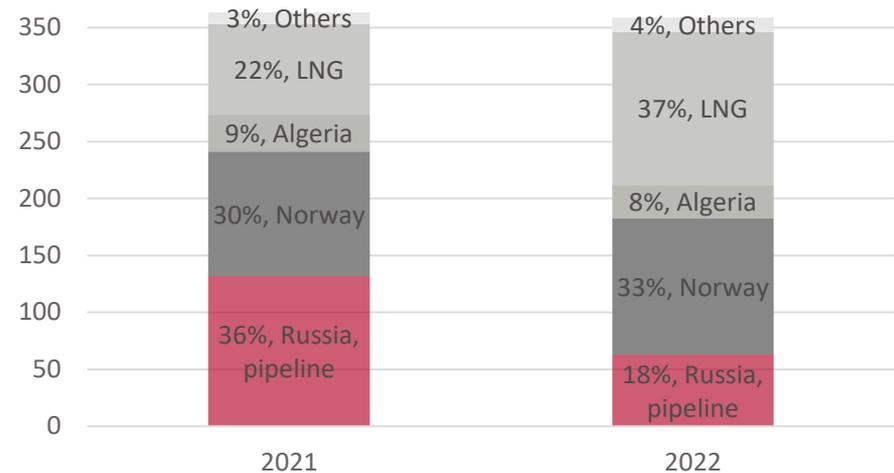
Based on McWilliams, B., G. Sgaravatti, G. Zachmann (2021) 'European natural gas imports', Bruegel Datasets

- This talk: focus on diversification of gas supply and discuss **how it squares with the green transition**

# LNG: main gas import source in the EU

- 2022 y-t-d gas imports in the EU were almost as high as in 2021
- Highest share (and most of Russian gas imports replacement) came from LNG
- Massive infrastructural investments undertaken/planned to further the role of LNG in the EU
  - 10 bcm of regasification facilities in 2022
  - 51 bcm in 2023
  - 17 bcm/year in 2024,
  - 34 bcm/year in 2025, etc.
- Gas is seen as “transitional fuel”
  - lowest emissions among fossil fuels
  - the EU included investments in natural gas into sustainable finance taxonomy in July 2022
- So, is (new) EU reliance on LNG a good news for green transition?

EU gas imports by source, week 1-45, bln m3

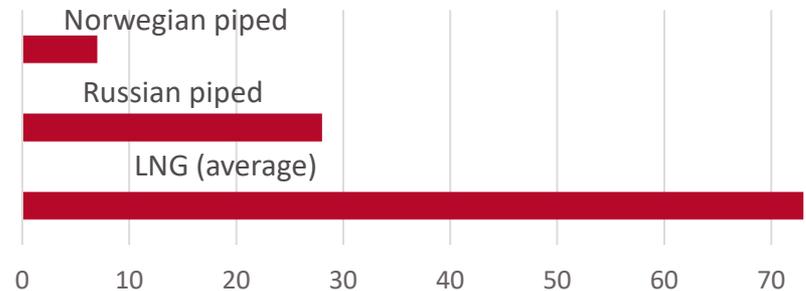


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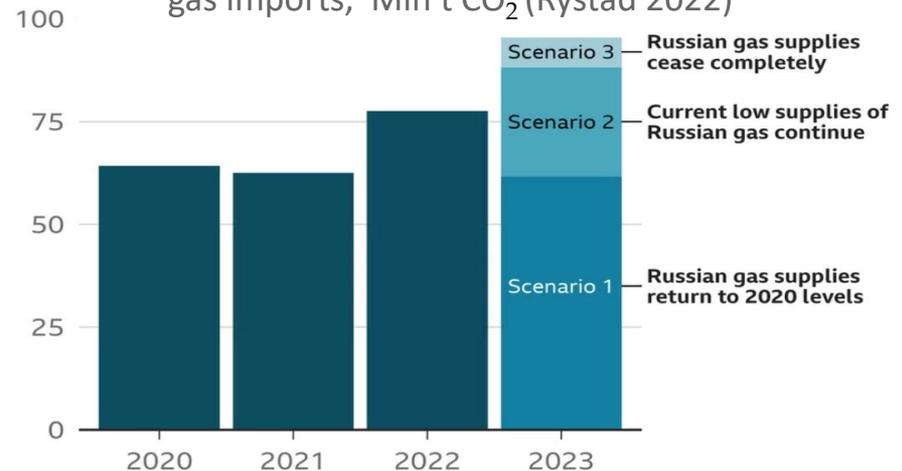
# Reliance on LNG: not that green?

- **Environmental benefits of LNG may be greatly overstated**
  - Natural gas: Methane emissions underestimated by 20-60% (Kemfert et al. 2022)
    - **Methane** - up to 87 times greater GWP20 than CO<sub>2</sub>, up to 36 times greater GWP100 (IPCC, 2013)
  - LNG imports emit more than pipeline gas imports for the EU
    - liquefaction, transportation and degasification are energy- and emission- intense, and subject to methane leaks
    - US LNG comes from shale gas
      - may be environmentally **worse than coal** in the first 20 years after emission (Howarth, 2021)

CO<sub>2</sub> emission intensity (wellhead to mkt) for gas supplies to Europe, kg CO<sub>2</sub>/bOE (Rystad 2022)



CO<sub>2</sub> emissions (wellhead to mkt) for European gas imports, Mln t CO<sub>2</sub> (Rystad 2022)



\*Including imports from Norway

# Reliance on LNG: not that green? (2)

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- **New investment into LNG may create carbon lock-ins**
  - LNG facilities have a technical lifespan of several decades
    - Around half of EU LNG contracts are also long-term
  - Decommissioning these facilities earlier may be difficult legally/politically
- **New investment into LNG may also result in “stranded assets”**
  - If instead gas infrastructure is to end its operations before its technical lifetime
  - Uncertainties and large risks for investors

# Policy implications

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- Investments into **new LNG infrastructure** (and other fossil fuel infrastructures) **should be limited** and carefully planned to minimize the risks/costs of lock-ins and stranded assets
  - Should allow re-purposing for less-emitting energies (such as green hydrogen)
  - Needs to be accompanied by solidarity mechanisms covering LNG (to avoid further environmental disparities within the EU)
    - part of EC regulation proposal, adoption to be discussed at emergency meeting of EU energy ministers on Nov 24, 2022
- **Existing infrastructure** for gas and other fossil fuels needs to be **revised and mobilized**
- **Support/stimulus of sustainable energy investment** need to be pushed forward
  - Government needs to lead by initiating green investments
    - Recovery and Resilience Facility one of key drivers
  - Provide incentives for private investment (while controlling for “greenwashing”)
    - Lower red tape (e.g. EC proposal for “Regulation on accelerating the deployment of renewable energy”, Nov 09, 2022))
    - Fiscal incentives (e.g. tax reliefs) for green projects
    - Incentives for green R&D (Aghion et al., 2022)