

6 September 2022

## Oil & Gas

Sensex: 59246

Nifty: 17666

### *Impact of Nord Stream pipeline on Russian gas flows to Europe*

In 2020 and 2021, the Nord Stream pipeline was the largest single route for Russian gas deliveries to Europe. In 2021, Nord Stream supplied a little over 40% of Europe's pipeline gas imports from Russia. Since Oct'17, Nord Stream has generally operated at its full 165m cu.mtr/day capacity, outside the annual scheduled 10-day maintenance every July. **Factors that led to Russian gas-flow drops in 2021 and 2022:**

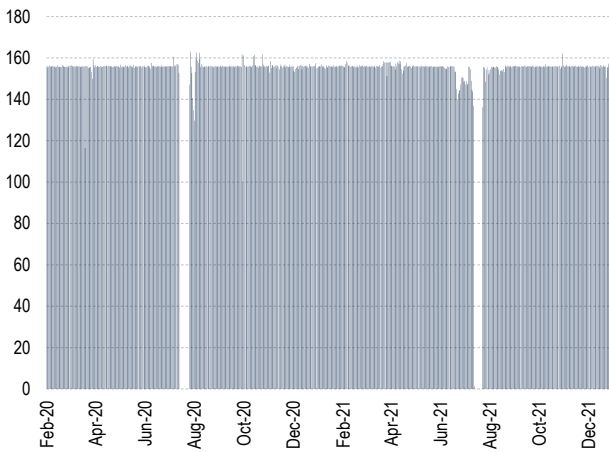
- **European gas stocks fell in summer 2021.** Severe winters in north-eastern Asia caused LNG cargoes to be drawn away from Europe, leading to a heavy drawdown in European stocks. At the same time, Russia experienced a very cold winter and drew heavily on its own stocks.
- **Gazprom reduced selling spot volumes to the Europe in winter 2022.** Besides long-term contracts, Gazprom sold spot volumes to the European market. With the Russian invasion of Ukraine, sanctions and pressure from the European Commission, Gazprom reduced gas to Europe by not selling spot volumes to counterparties via its trading subsidiaries.
- **Demand for payment in roubles, related contract terminations Mar-May'22.** At end-Mar'22, Gazprom's counterparties were asked to pay in roubles than in dollars or euros, opposed by many so gas supply was reduced.
- **Russian sanctions on the Yamal-Europe pipeline in May'22.** The imposition of sanctions by the Russian government on the owner-operator of the Yamal-Europe pipeline on Polish territory meant that this route could not be used to deliver gas to north-western Europe.
- **Capacity for gas transit via Ukraine reduced from May'22.** Gazprom holds a transit contract for 109.6m cu.mtr/day across Ukraine. On 10<sup>th</sup> May'22, the Ukrainian gas transmission system operator, GTSOU announced *force majeure* in relation to part of the flow of Russian gas into Ukraine.
- **Reduction of Nord Stream capacity in Jun and Jul'22.** The Nord Stream pipeline last operated at full capacity (165m cu.mtr/day) on 1<sup>st</sup> Jun'22. On payment-related issues it dropped to 140m cu.mtr/day on 12<sup>th</sup> Jun'22 and, in the next four days, fell to 67m cu.mtr/day.

**Outlook.** Russian pipeline supply to Europe will be constrained in winter 2023. Russia has scrapped resuming gas via the Nord Stream 1 pipeline after it discovered a fault during maintenance ([click here](#)). With limited potential from European gas production and non-Russian pipeline supply, the balance of the European market will rest on availability of LNG cargoes. (Also keeping into mind high prices and government policy, which would further curb demand). Gas storage with the EU is over 81.6%, and maintaining higher levels will be key for Europe to survive this winter.

**Harshraj Aggarwal**  
Research Analyst

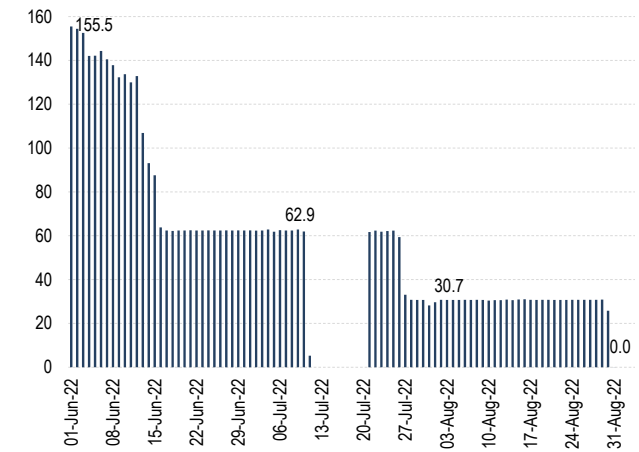
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**Fig 1 – NORDSTREAM NG (PIPELINE) - Russia to Germany (m cu.mtr/day)**



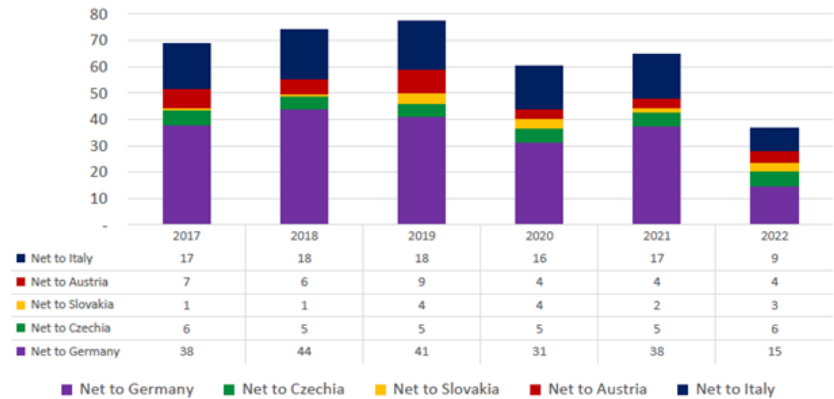
Source: Bloomberg, Anand Rathi Research

**Fig 2 – NORDSTREAM NG (PIPELINE) - Russia to Germany (m cu.mtr/day)**



Source: Bloomberg, Anand Rathi Research

**Fig 3 – Net Russian gas flows to central and north-western Europe Jan-Jul (bcm cu.mtrs)**

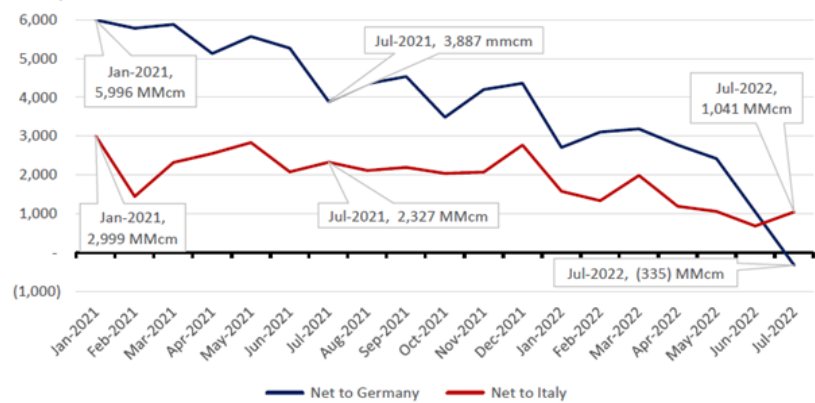


Source: ENTSOG, Industry

**Countries that are hit hard by Nord Stream gas declines**

The Nord Stream and the Yamal-Europe pipelines supplies gas to Germany and then to Czech Republic, Slovakia, Austria and finally to Italy. Supply issues to Germany impact the whole transmission.

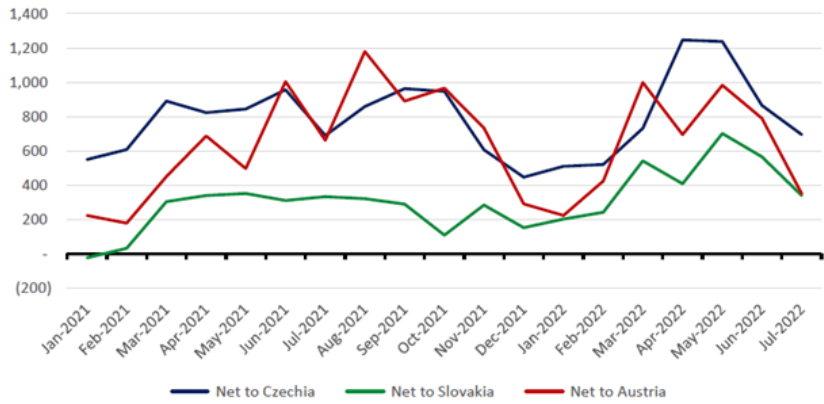
**Fig 4 – Net imports of Russian gas via Nord Stream, Yamal-Europe, and Ukraine (m cu.mtrs/month)**



Source: ENTSOG, Industry

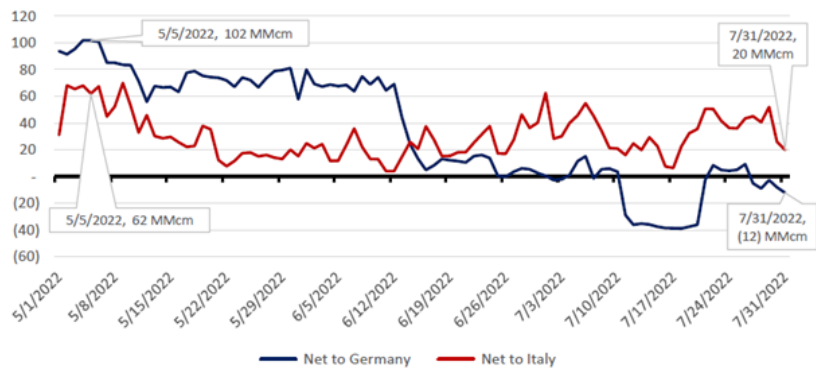
In monthly net imports of Russian gas, Germany and Italy have seen the most significant decreases since the start of 2022. Conversely, Czech Republic, Slovakia and Austria all saw increases in net imports of Russian gas in the months leading up to May'22. Today, Germany is exporting more gas to Poland and Czech Republic than it is receiving via Nord Stream.

**Fig 5 – Net imports of Russian gas via Nord Stream, Yamal-Europe, and Ukraine (m cu.mtrs/month)**



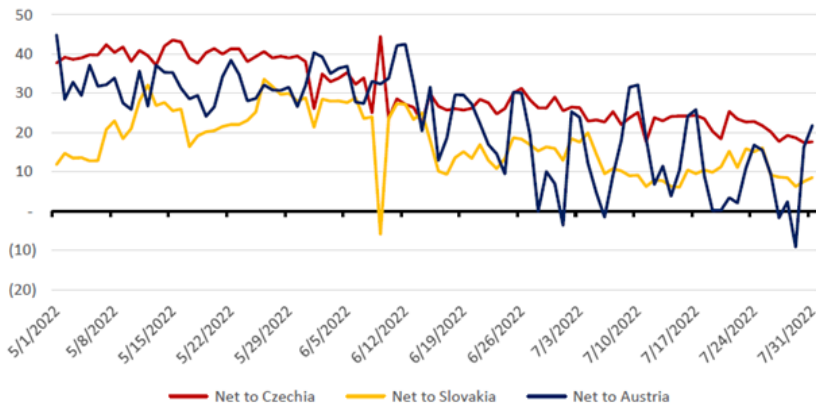
Source: ENTSOG, Industry

**Fig 6 – Net imports of Russian gas by Germany and Italy via Nord Stream, Yamal-Europe, and Ukraine (m cu.mtr/day)**



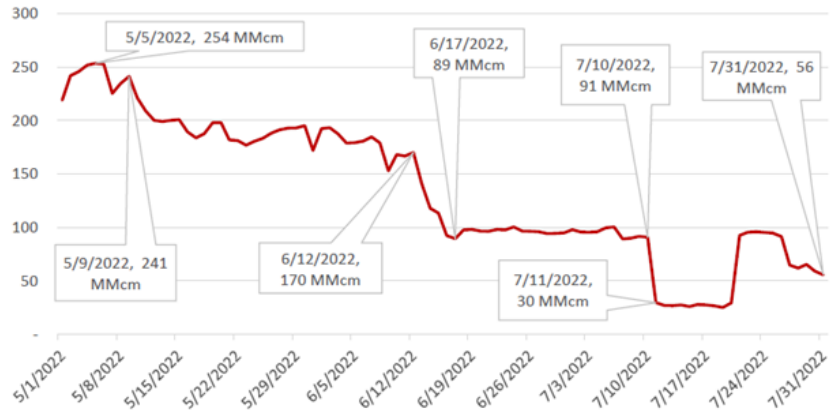
Source: ENTSOG, Industry

**Fig 7 – Net imports of Russian gas by Czech Republic, Slovakia, and Austria via Nord Stream, Yamal-Europe, and Ukraine (m cu.mtr/day)**



Source: ENTSOG, Industry

**Fig 8 – Net imports of Russian gas via Nord Stream, Yamal-Europe, and Ukraine (m cu.mtr/day)**

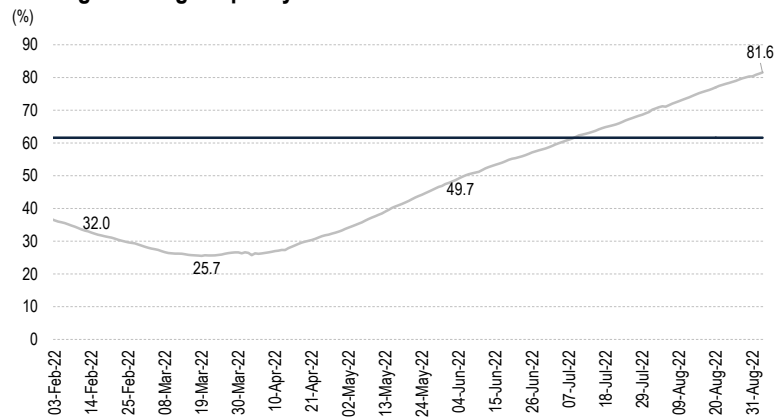


Source: ENTSOG, Industry

**Europe gas storage 81.6%**

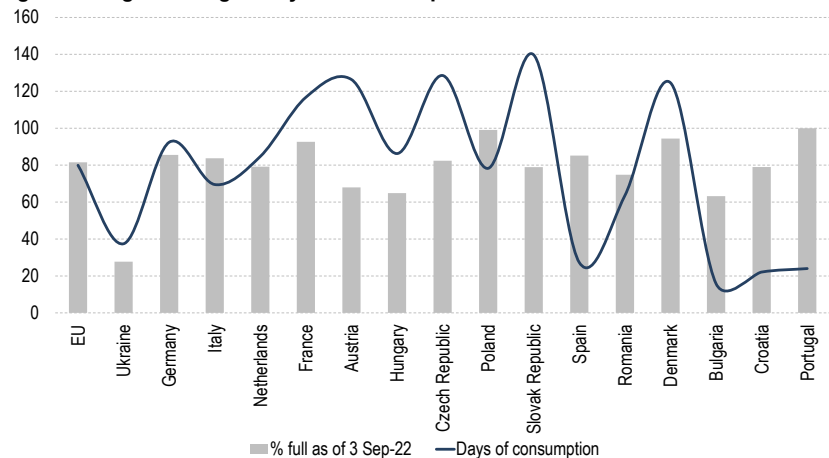
Since Jun'22, the EU's gas storage increased from 47.5% to 81.6%; Germany's gas storage increased from 49.5% to 85.6%; France's gas storage increased from 52.3% to 92.7%; Spain's gas storage increased from 66.4% to 85.2%.

**Fig 9 – EU gas storage capacity ~81.6% full**



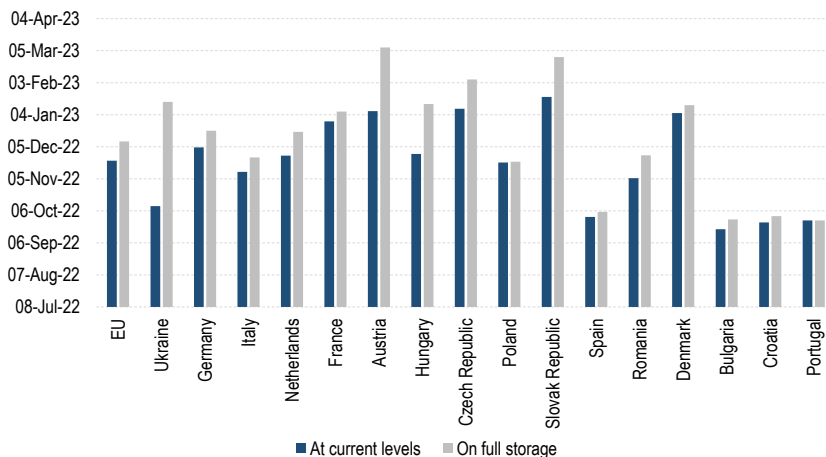
Source: Bloomberg, Anand Rathi Research

**Fig 10 – EU gas storage - days of consumption**



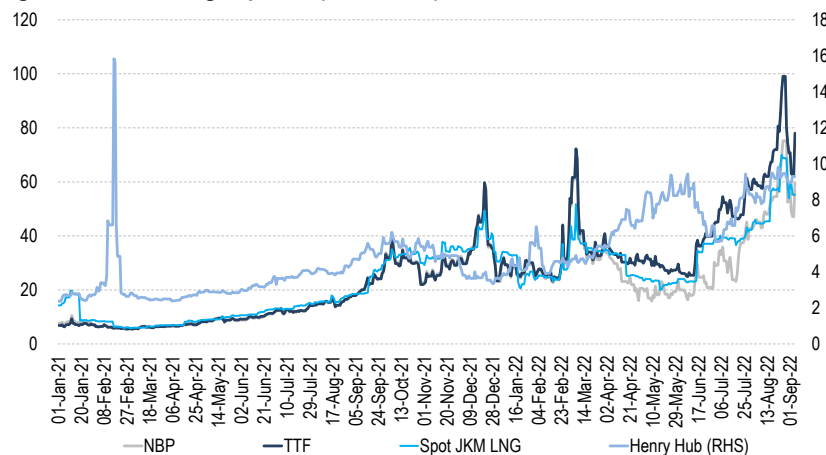
Source: Bloomberg, Anand Rathi Research

**Fig 11 – Dates - EU gas storage exhausted**



Source: Bloomberg, Anand Rathi Research

**Fig 12 – Hub-based gas prices (US\$/m btu)**



Source: Bloomberg, Anand Rathi Research

## Appendix

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