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Note: This presentation concerns the EU+UK, and thus excludes Turkey and treats Norway as an external supplier

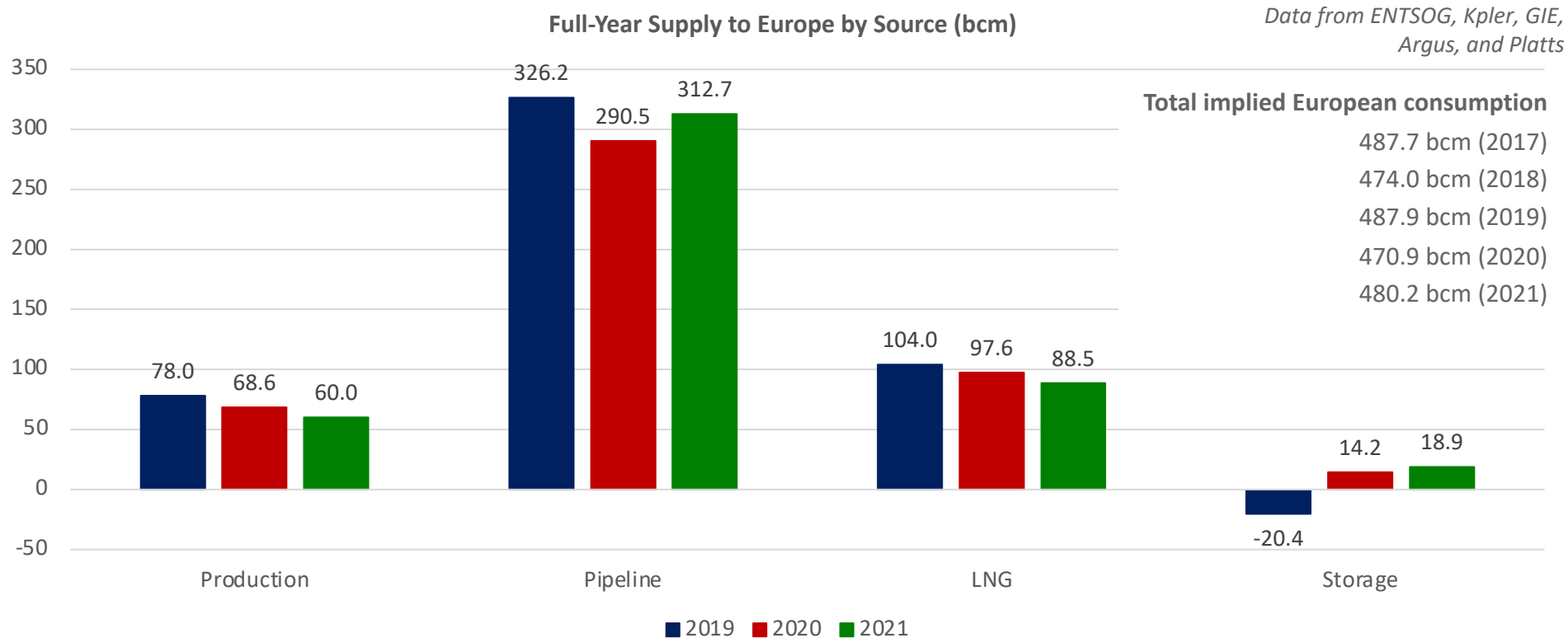
European Gas Supply: Production, Storage, and Imports

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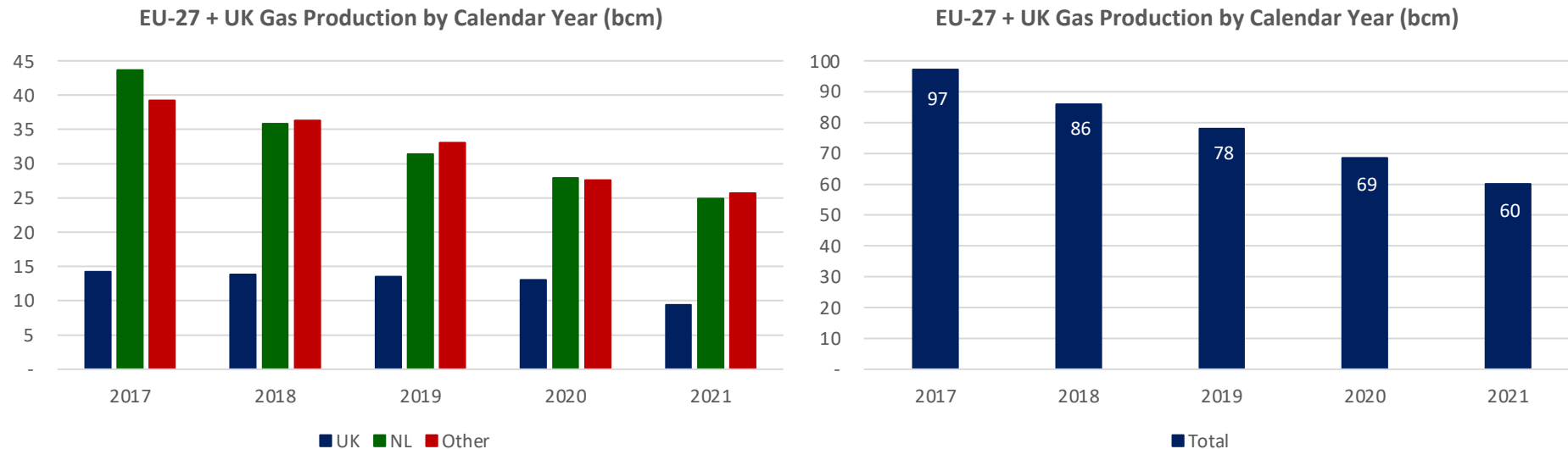
European supply by source: 2019, 2020, and 2021



- Total implied European consumption in 2021 was slightly below average for 2017-2019 (483.2 bcm)
- Production, pipeline imports, and LNG imports all lower than pre-COVID, storage balanced the market
- Specifically, higher storage withdrawals in Q1 and slower injections in Q2-3
- Peak European storage at start of winter 2021/22 (80 bcm) c.9-10 bcm lower than in last week of October 2017 & 2018, and c.20 bcm lower than late October 2019 and 2020



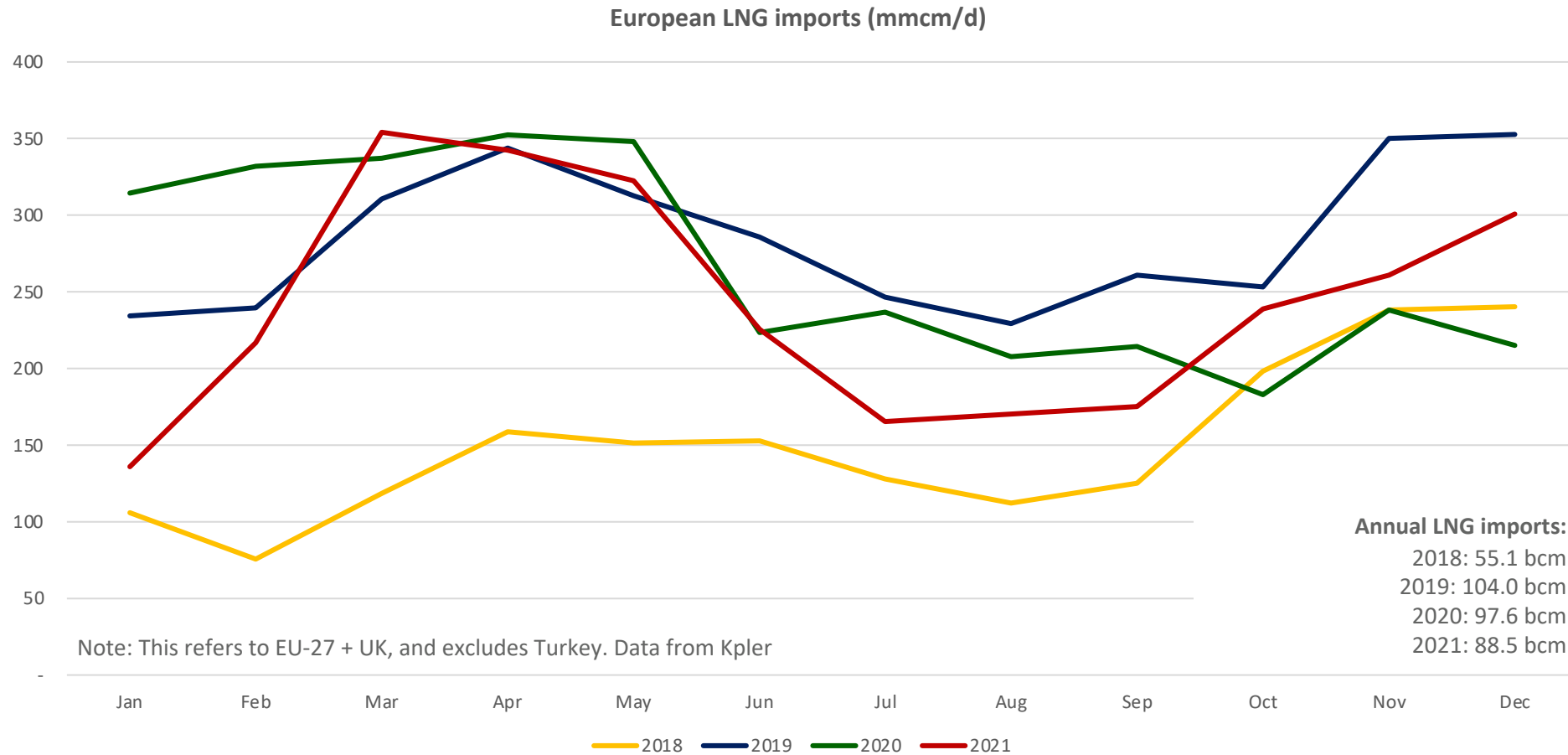
European gas production continues to decline



- **Total European (EU-27 + UK) gas production declined from 97 bcm in 2017 to 60 bcm in 2021 – A drop of 37 bcm (38%)**
- The most dramatic decline has occurred in the Netherlands, as production at Groningen continues to ramp down, and other notable ongoing declines have also been seen in Germany, Italy, and Romania
- UK production in summer 2021 affected by maintenance delayed from mid-2020
- Production at the Danish Tyra field suspended since Sep 2019 for reconstruction of (sinking) offshore platforms, but will rebound when that work is complete from Q2-2023 (pushed back from mid-2022)
- The figures above for the UK do not include North Sea production brought ashore at St Fergus & Easington, as the volumes cannot be distinguished from pipeline imports sourced from Norway



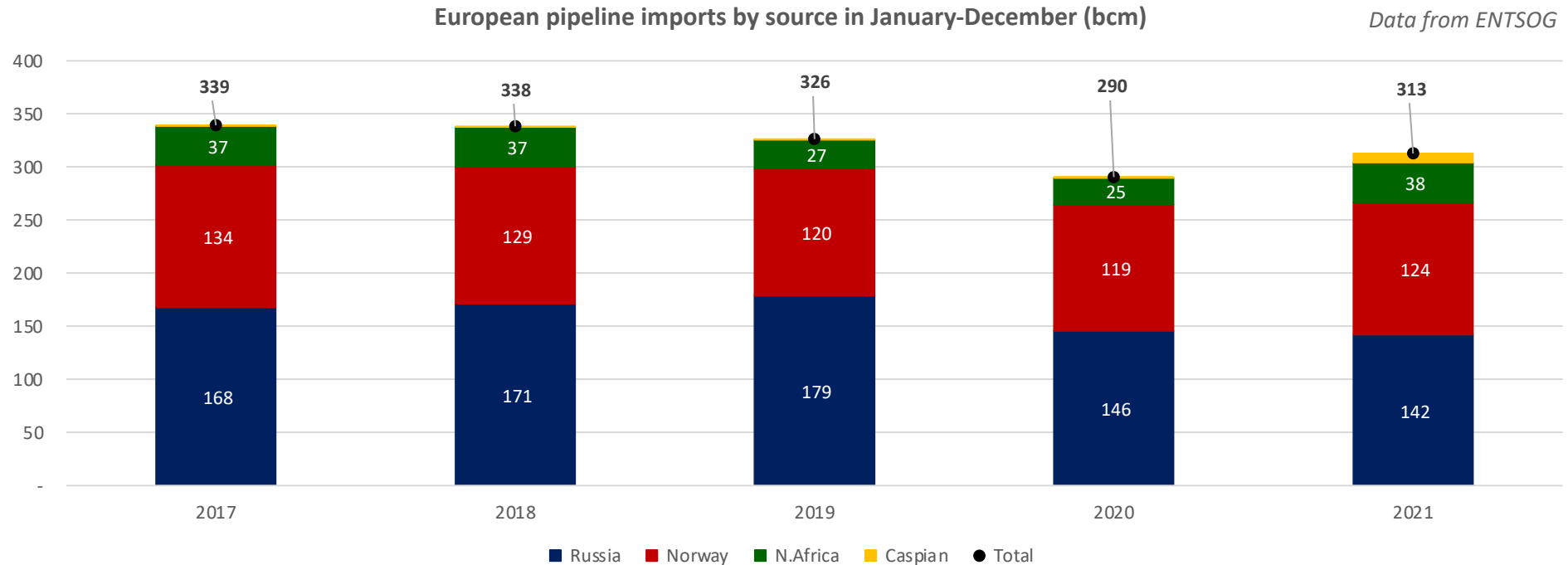
European LNG imports (mmcm/d)



- Surge in European LNG imports since Q4-2018, peak in LNG imports in March-May (2019-2021)
- European monthly LNG imports in Q4-2021 surpassed only by Q4-2019. In 2019, this was due to a supply-long global market. In 2021, it is due to high European prices attracting cargoes



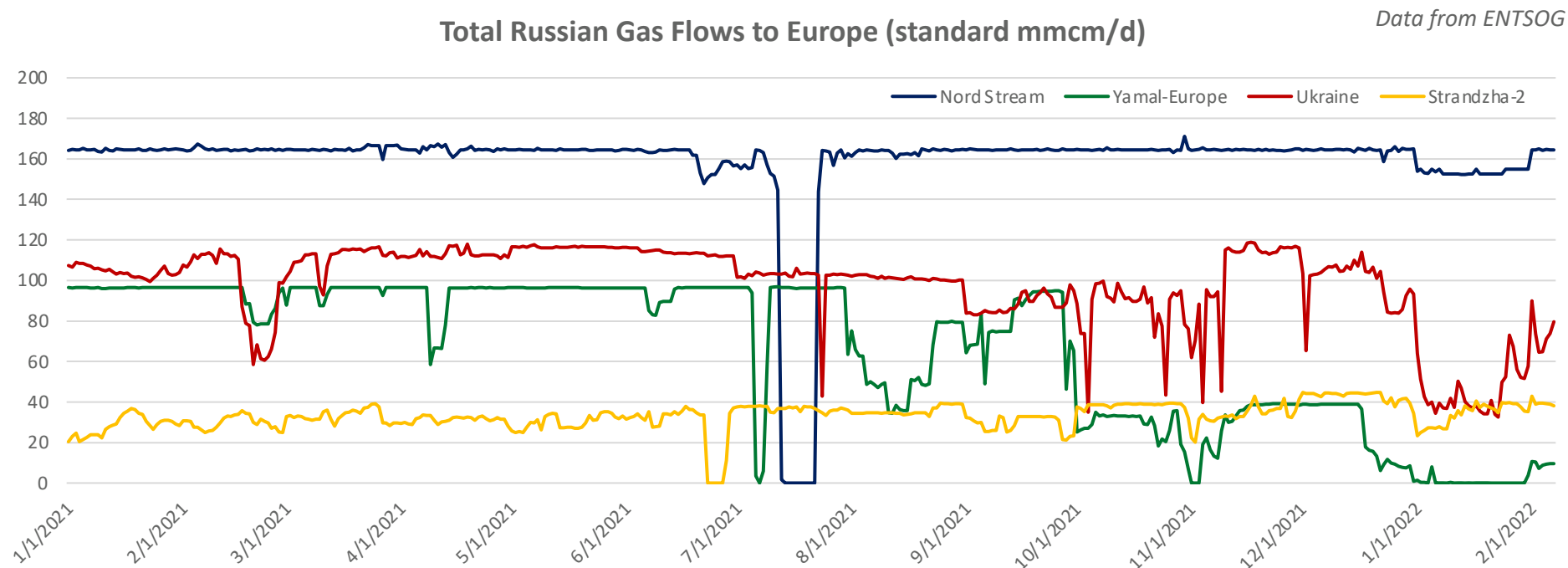
Pipeline imports by supplier (mmcm/d)



- Total pipeline imports in 2021 were significantly lower than pre-pandemic 2017-2019
- Norwegian supplies include UKCS volumes brought ashore at St Fergus & Easington
- Significant increase in flows from North Africa vs 2019 and 2020, slightly above 2017-2018 levels
- Launch of TANAP-TAP supplies in Jan 2021 marked as 'Caspian' (8.5 bcm in 2021)
- Russian flows 26-37 bcm lower than 2017-2019, of which 25% explained by lower storage replenishment
- Algerian flows to Spain at Tarifa fell from 13 Oct and reached zero on 01 Nov. Medgaz pipeline to Almería unlikely to be sufficient at height of winter – Additional LNG from Algeria to Spain this winter?



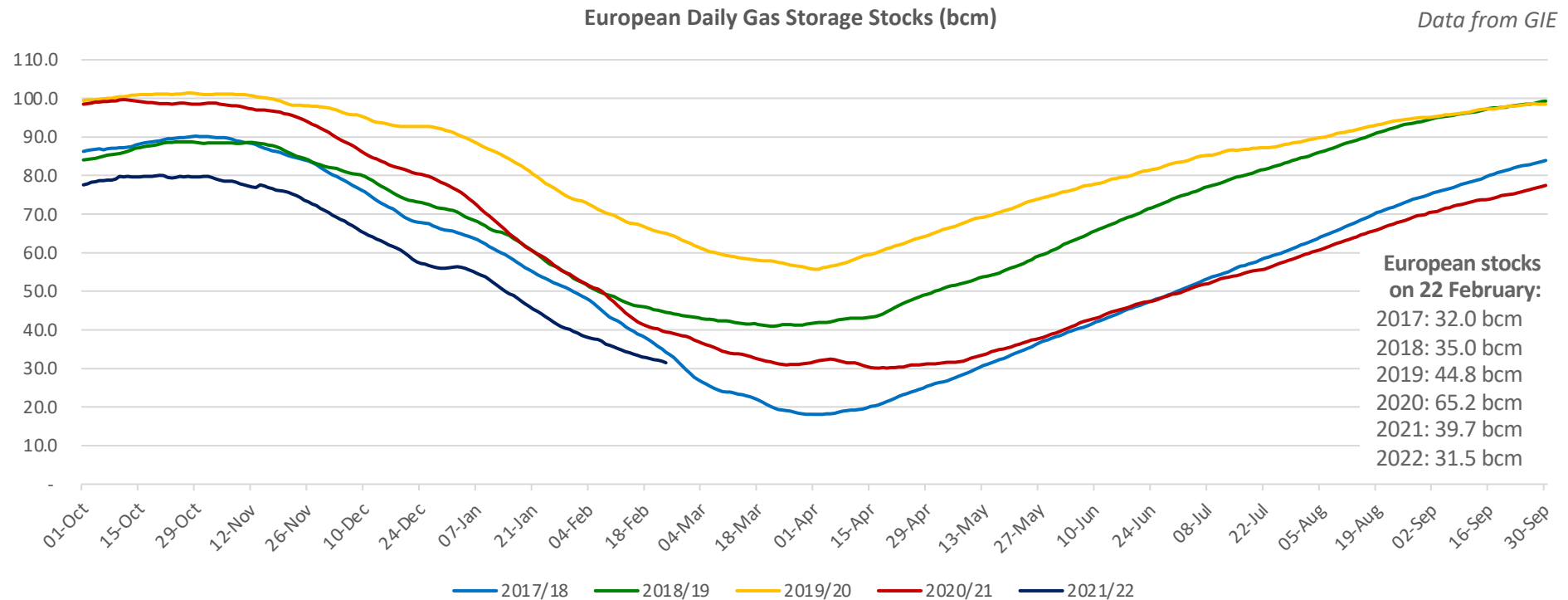
Russian gas flows to Europe by route (mmcm/d)



- Russia to Europe in Q1-3: 103.4 bcm in 2020 and 110.3 bcm in 2021 (128.3 bcm average 2017-2019)
- Year-on-year decline in Q4 from 42.5 bcm in 2020 to 31.9 bcm in 2021 (44.3 bcm average 2017-2019)
- 6 bcm of decline each on Yamal-Europe route and Ukraine route in Q4-2021
- Year-on-year growth in Russian supplies to Europe in Q1-3 2021, followed by y-o-y decline in Q4
- Followed by significant slump in January 2022 with limited recovery in February
- **This decline in Russian flows in Q4-2021 significantly tightened the European market, and this has continued into Q1-2022**



European gas storage stocks



- In October 2019 and 2020, European stocks peaked at 100-101 bcm – These were supply-long years
- In October 2016, 2017, and 2018, this peak was 89-93 bcm – In 2021, this peak was 80 bcm
- European stocks c.10 bcm lower than 'usual' at the start of winter 2021/22
- European storage stocks are now close to mid-Feb 2017 & 2018 levels
- Summer injection season started late in 2021 – Mild March-April 2022 could see stocks recover to 2021 levels by end of April, but this still strong need for injections in summer 2022



Thank You

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