Technical & Commercial Conference

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C1.3_ Market dynamics: European gas futures

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Reducing Europe's Dependence on Russian gas

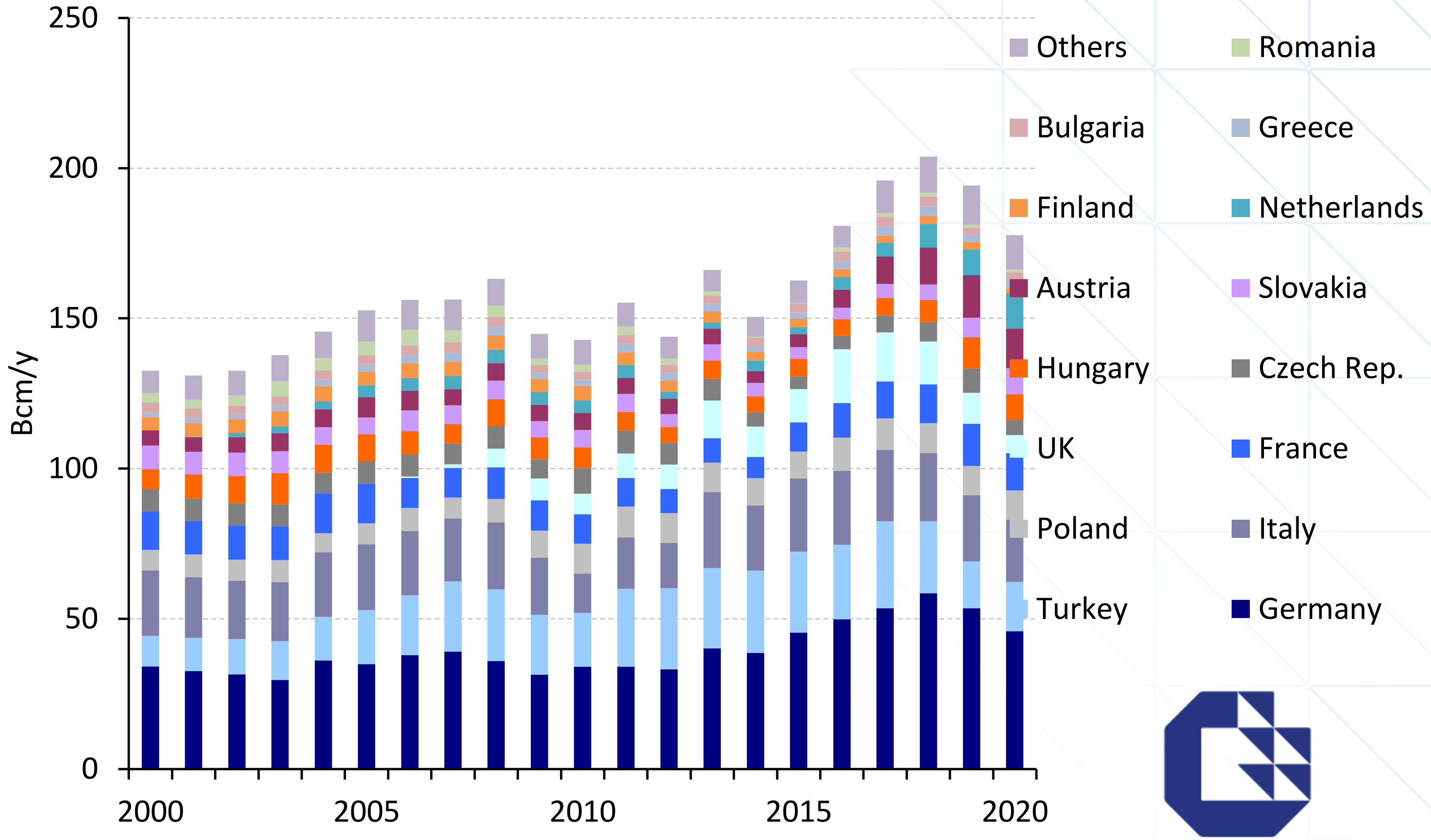
What does it mean for the LNG Industry?

The Problem:

Gazprom's pre-pandemic sales reached > 200 Bcm

Russia - a supply behemoth…

Gazprom Sales to Europe 2000 - 2020



(including the Baltic States, Switzerland and Turkey)

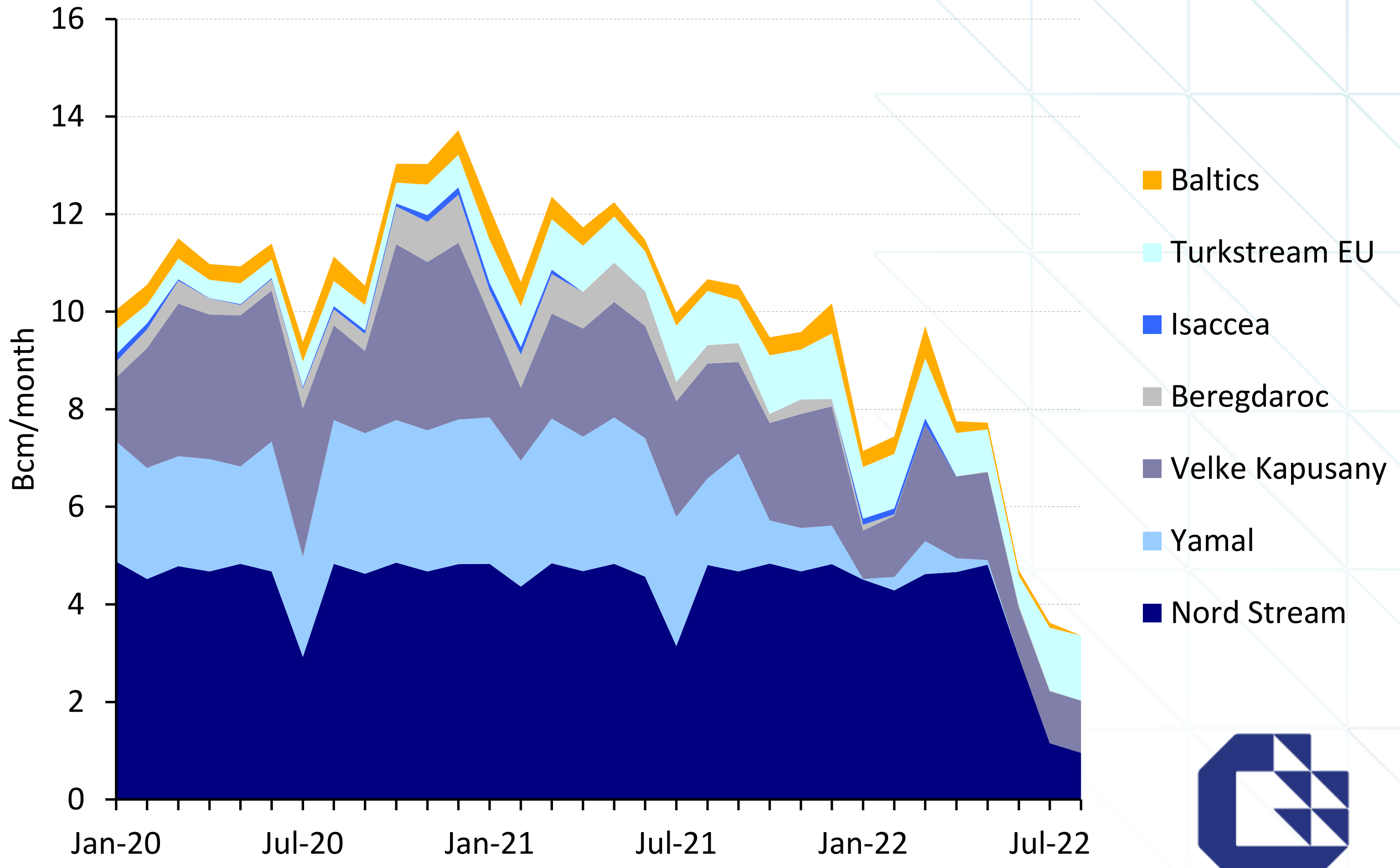
Source: Poten & Partners from Gazprom data

The Problem:

Deliveries to Europe cut by 75% in 2022

… has weaponised its gas supply

Russian Deliveries to Europe 2020 - 2022



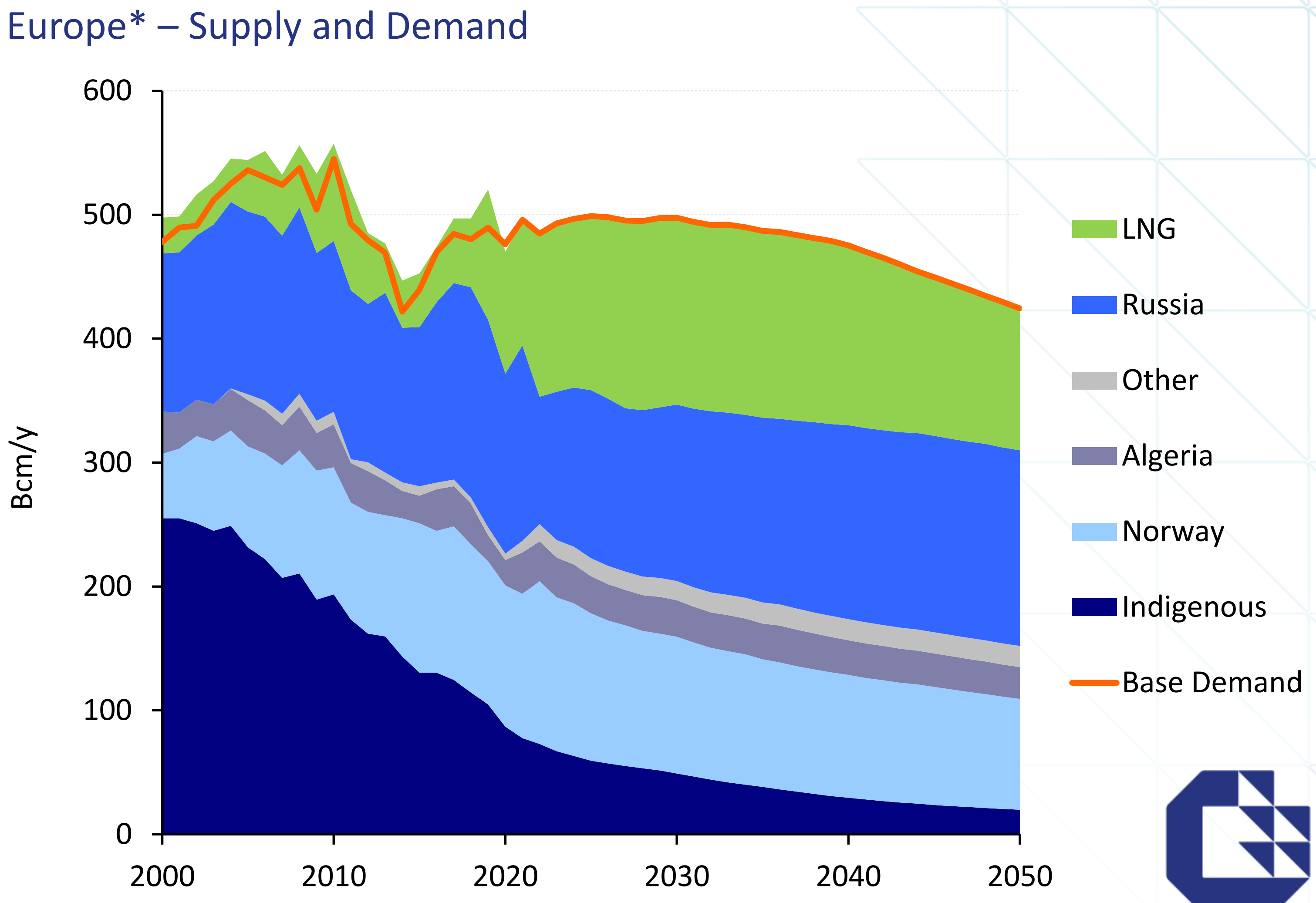
Source: Poten & Partners from ENTSOG data

Base Case (BAU)

Demand for gas steady to 2030

Increasing Russian gas and LNG imports

Business as Usual is not an option



*EU plus UK

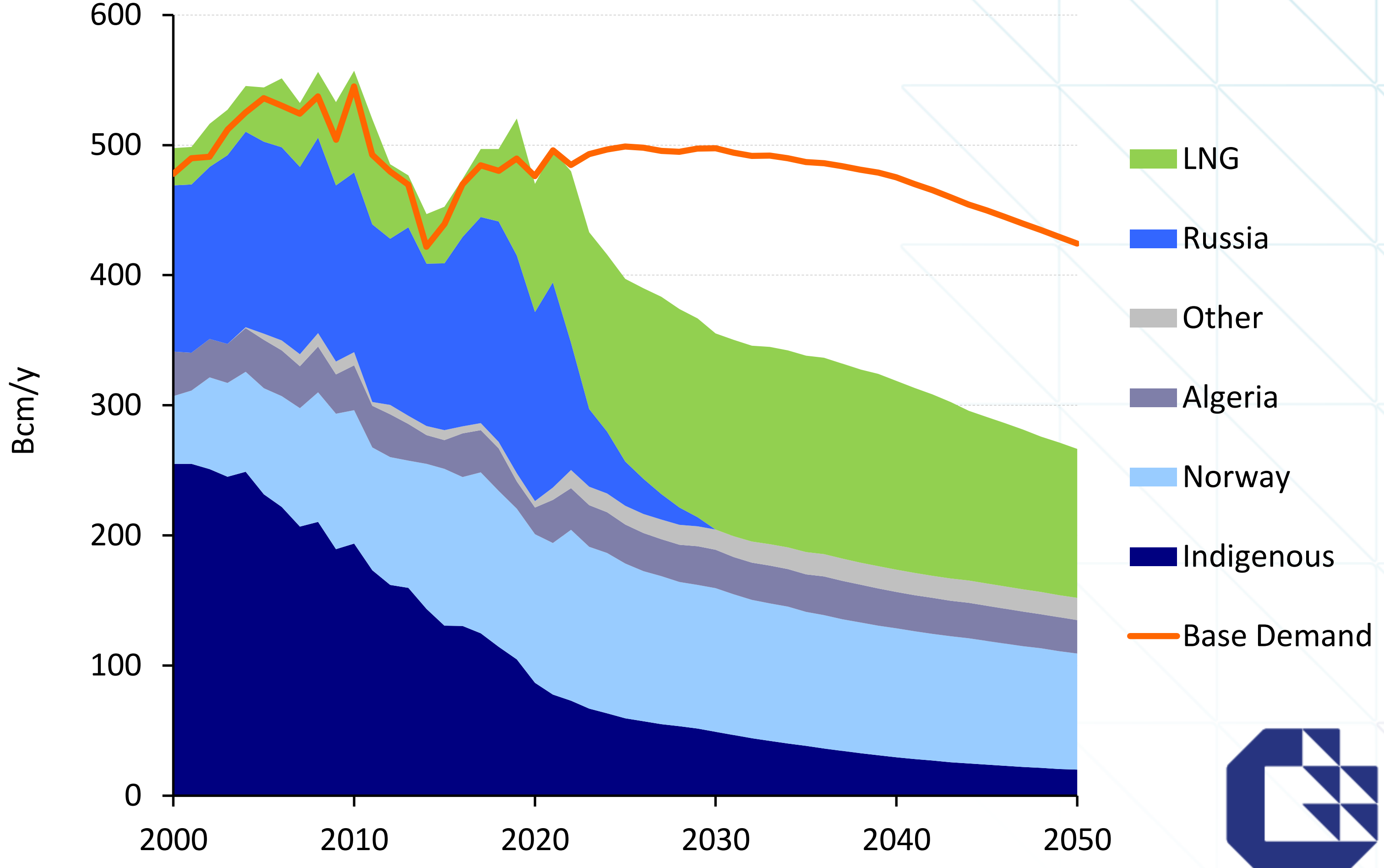
Source: Poten & Partners projections

Zero Russian Gas 2030

Supply shortfall

Pathway to Zero Russian Gas

Europe* – Supply and Demand



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Zero Russian Gas 2030

Supply shortfall

Maximise alternative pipeline supplies

Pathway to Zero Russian Gas

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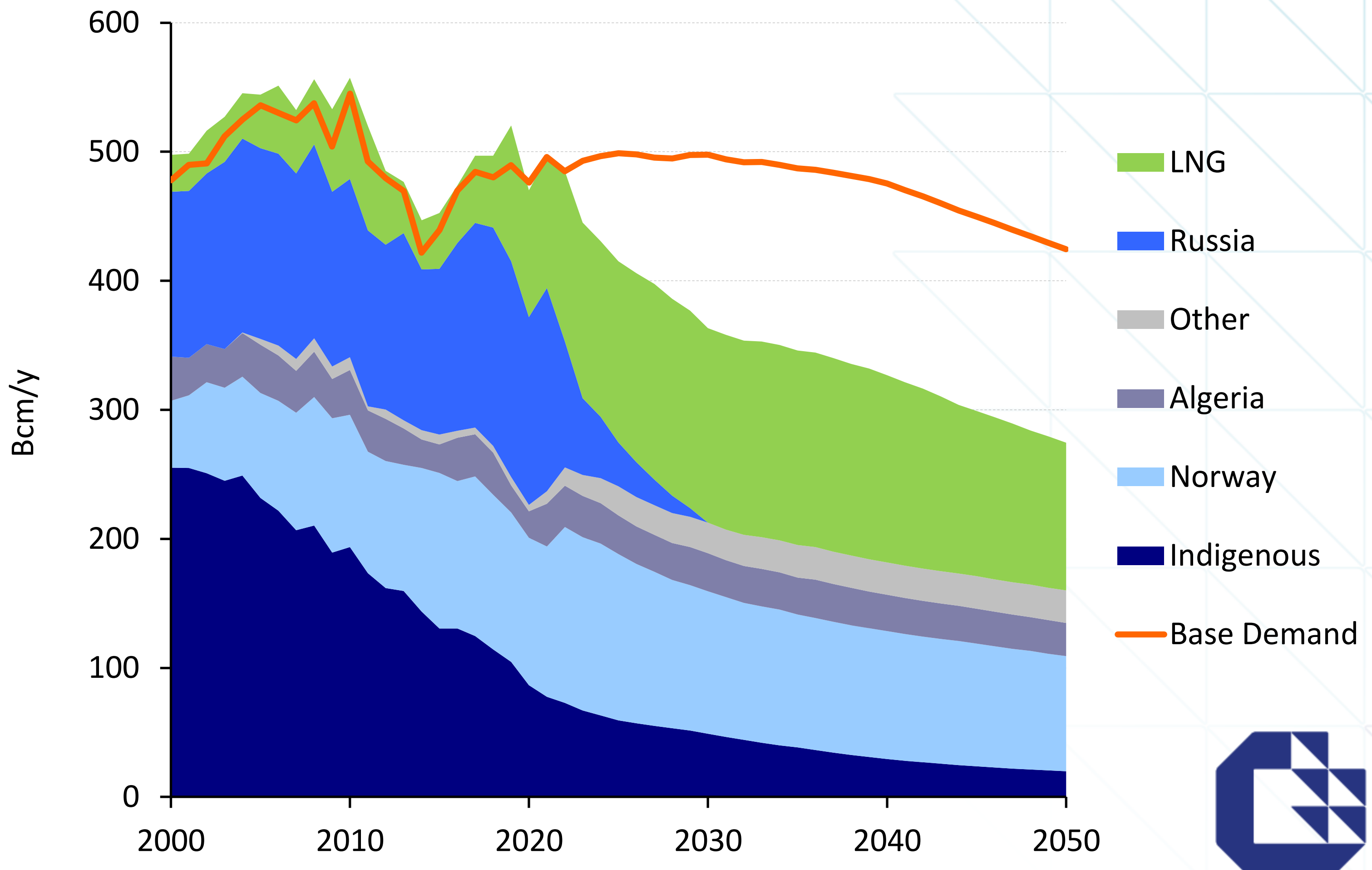

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Source: Poten & Partners projections

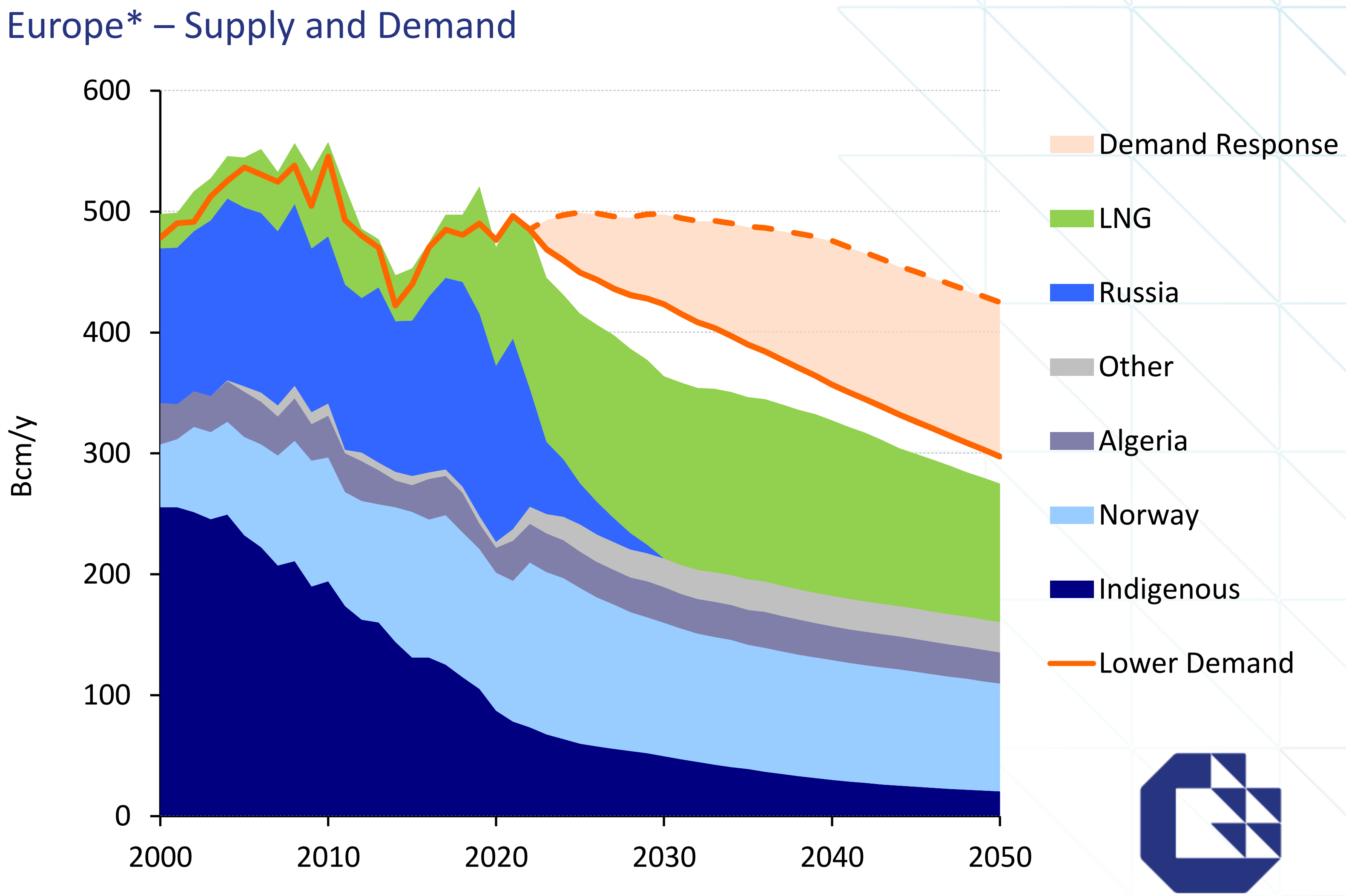
Zero Russian Gas 2030

Supply shortfall

Maximise alternative pipeline supplies

Demand side response

Pathway to Zero Russian Gas



*EU plus UK

Source: Poten & Partners projections

Zero Russian Gas 2030

Supply shortfall

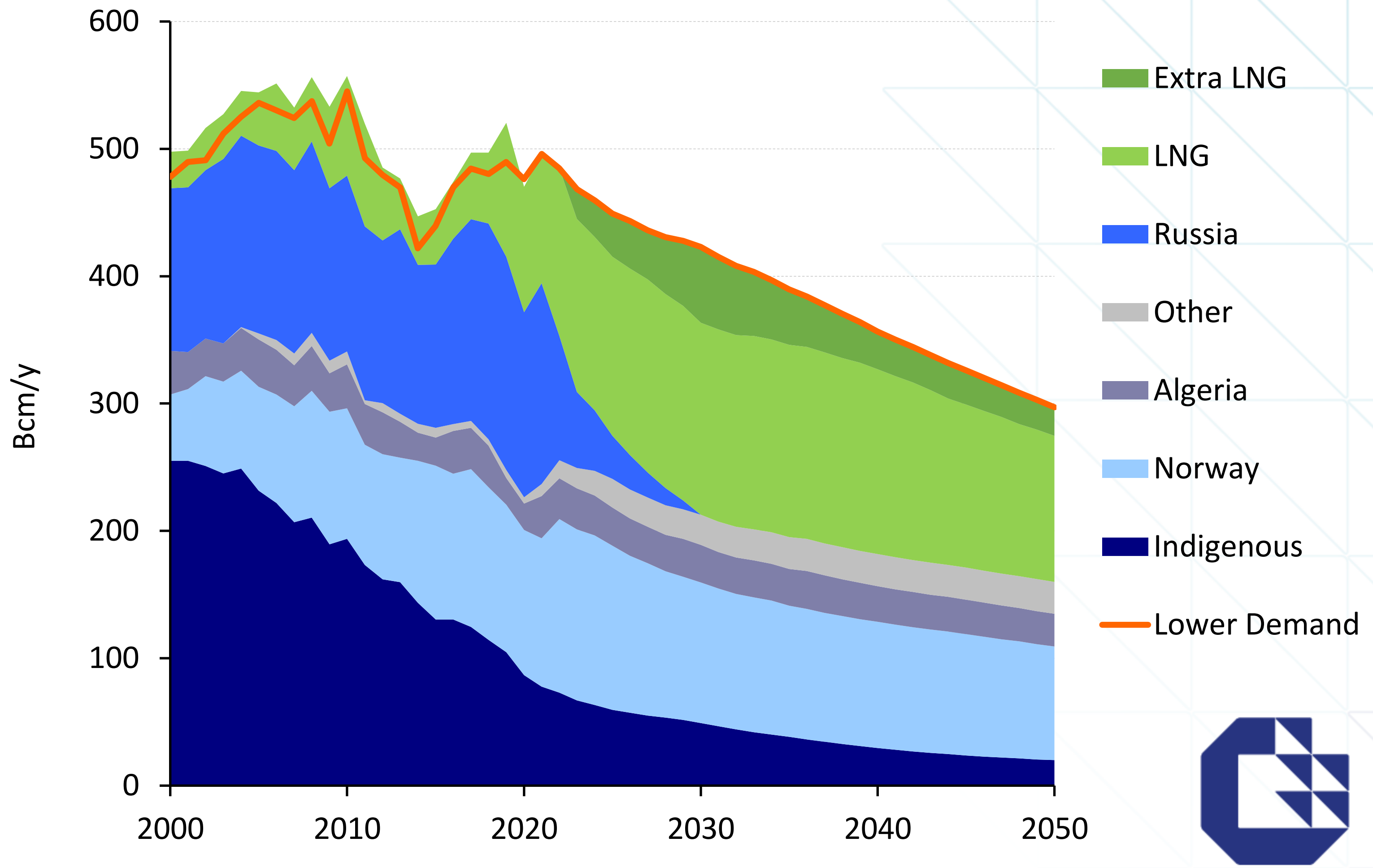
Maximise alternative pipeline supplies

Demand side response

Additional LNG

Pathway to Zero Russian Gas

Europe* – Supply and Demand



*EU plus UK

Source: Poten & Partners projections

EU + UK Demand

vs. 2030 Base Case

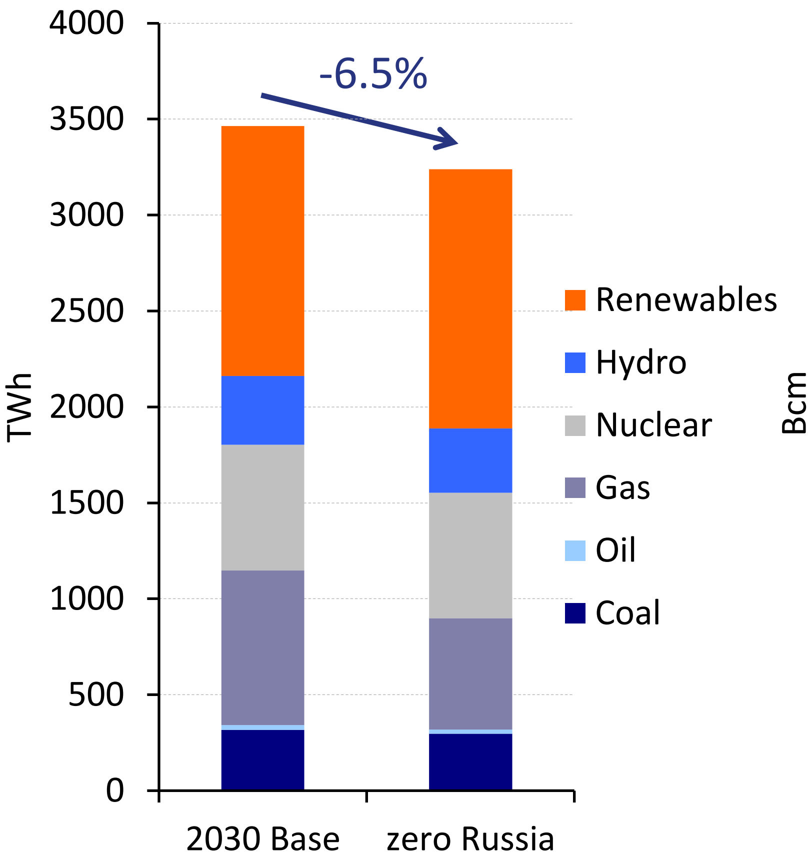
Electricity - 6.5%

Gas - 15%

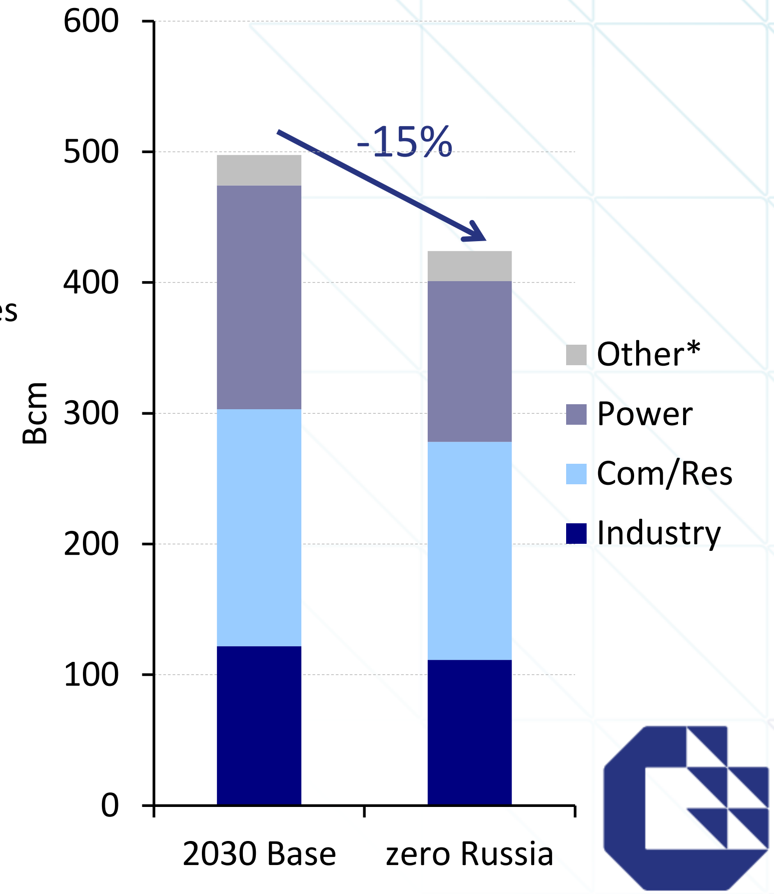
- Comm/Res -8%
- Industry -9%
- Power -25%

Demand response is achievable

Electricity Generation



Gas Demand



Source: Poten & Partners projections

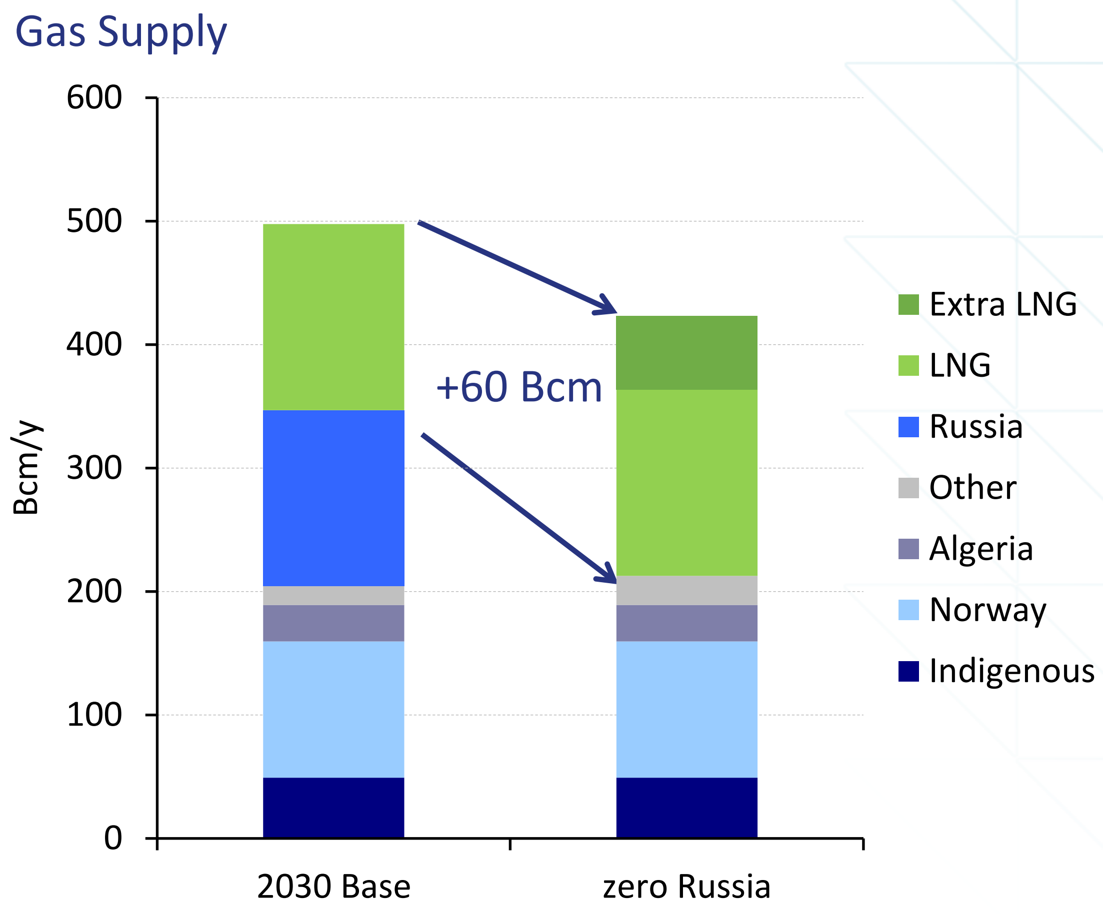
EU + UK Supply

vs. 2030 Base Case

Other + 10 Bcm

LNG + 60 Bcm

Heavy lifting supply response provided by LNG



Source: Poten & Partners projections

EU + UK Supply

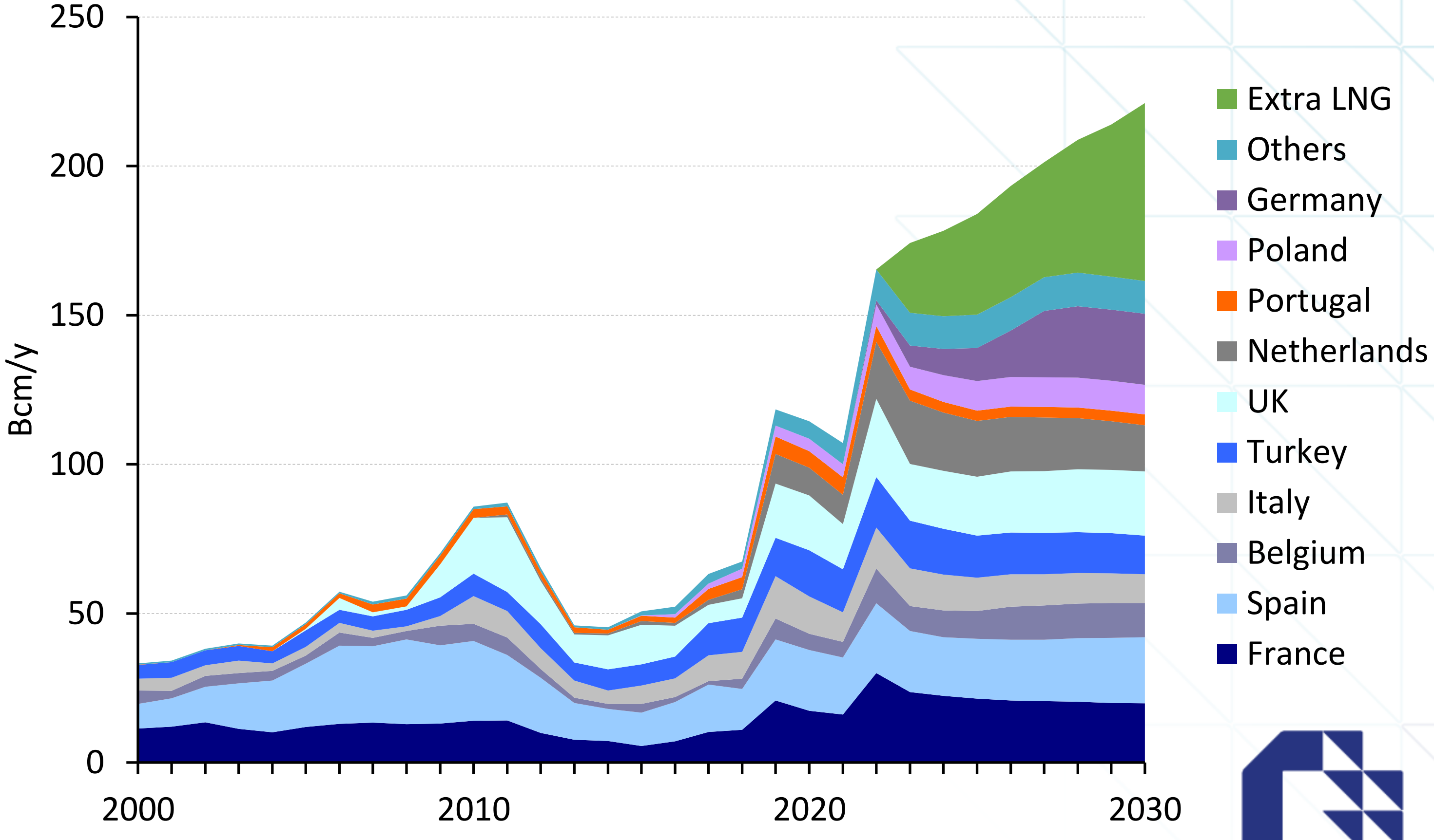
vs. 2030 Base Case

Other + 10 Bcm

LNG + 60 Bcm

200+ Bcm/y of LNG required

LNG Supply Forecast for Zero Russian Gas Scenario



Source: Poten & Partners projections

LNG Supply

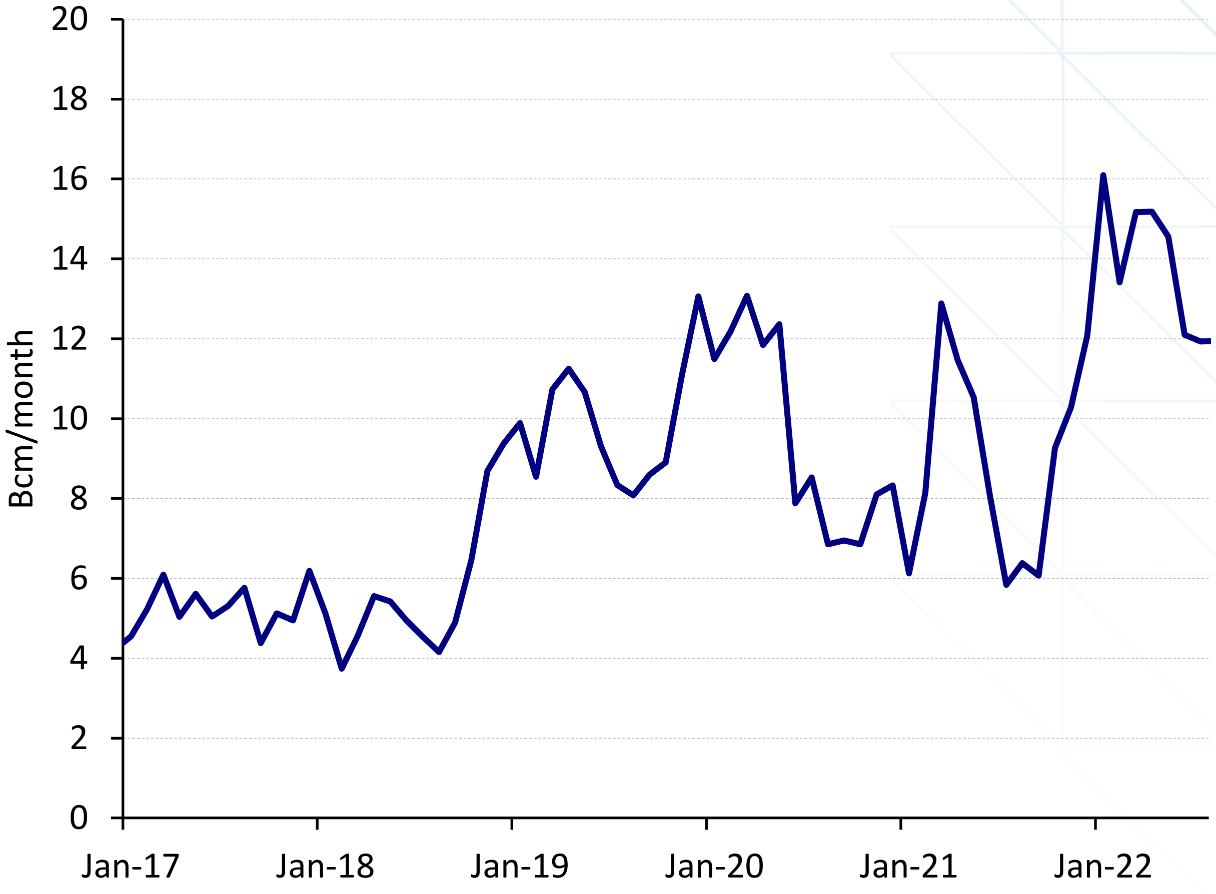
Sky-rocketing European prices

16 Bcm in Jan 22

Imports continue to beat pre-pandemic levels

All-time record in January 2022

Europe LNG Imports



Source: Poten & Partners LNGas database

European Infrastructure

Terminals needed

- Germany
- Baltic States
- SE Europe
- NW Europe

Optimising to deliver gas to Europe

New infrastructure is most needed:

- Baltic States + Finland
- Central Europe
- Southeast Europe
- Germany

Bottlenecks in the European Transmission System

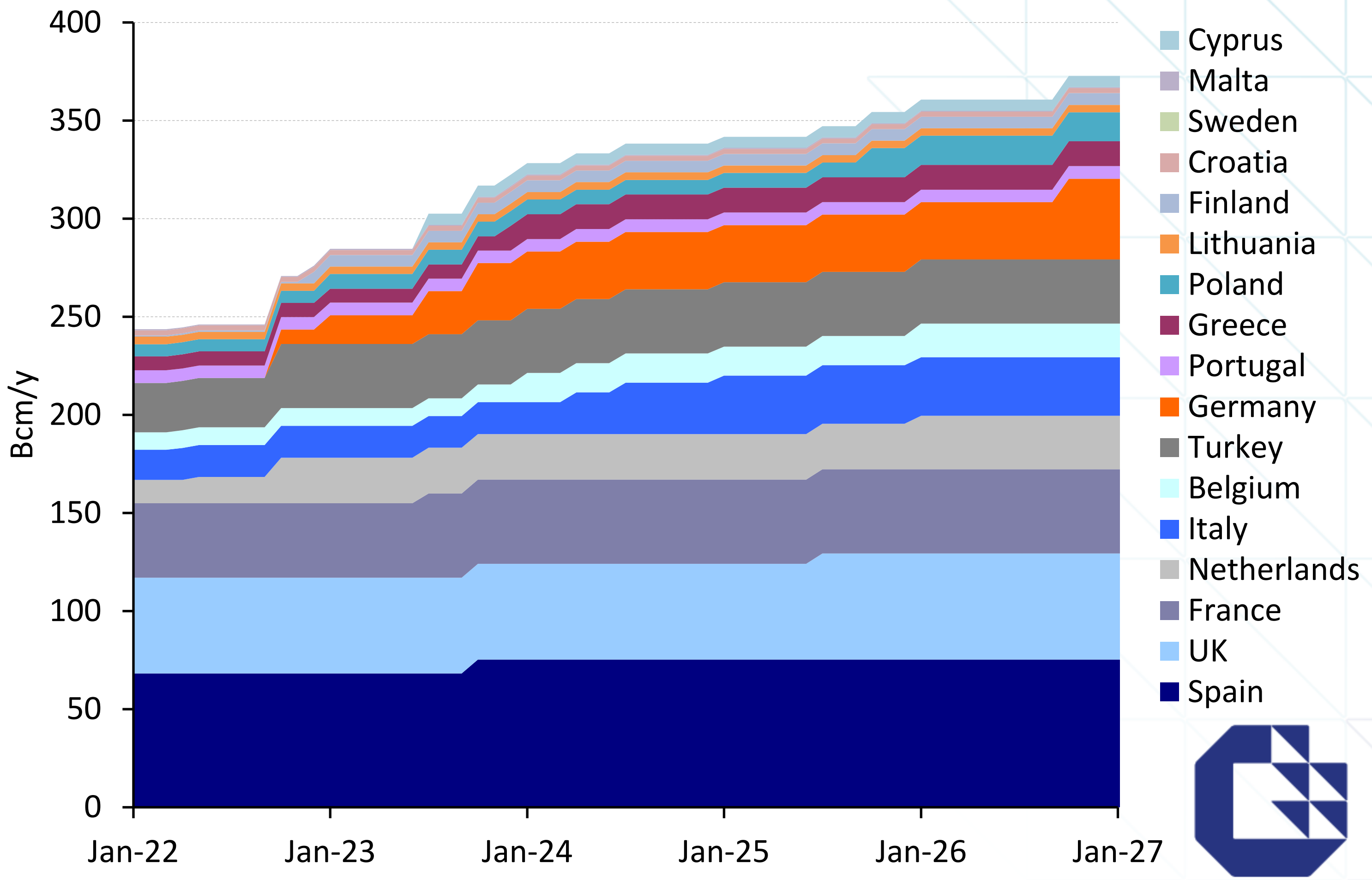
- from Iberia
- to SE Europe
- France to Germany

European Infrastructure

New terminals
- Germany
- Netherlands
- Finland/Estonia
- Italy
- Greece
- France

LNG Capacity to increase by 50%

LNG Capacity in Europe



Source: Poten & Partners projections

Not without Challenges

Long Term commitment

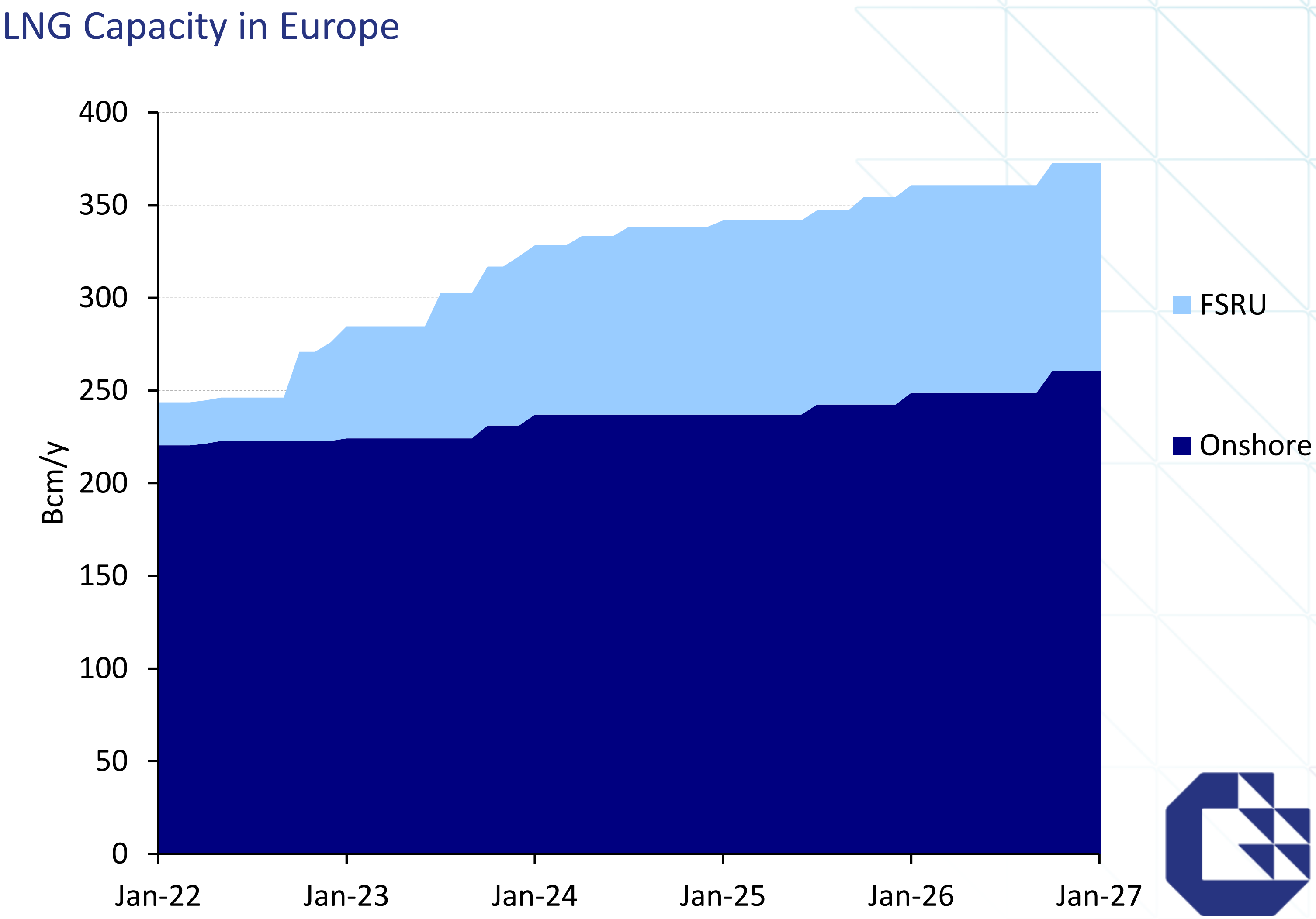
FSRU 5-10 years

Gov't support

Terminal 20 years

Hydrogen & Green Options

LNG Capacity to increase by 50%



Source: Poten & Partners projections

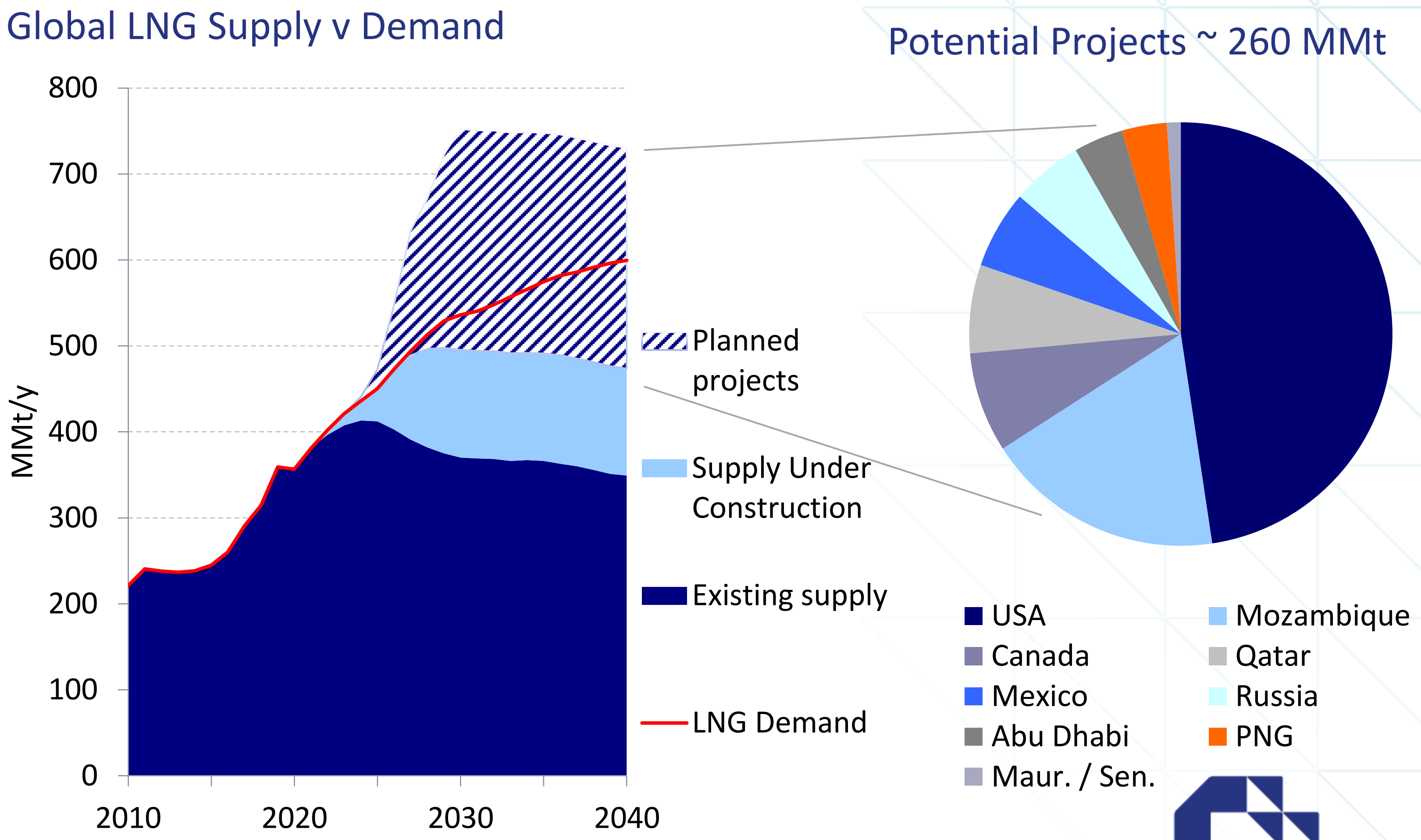
LNG supply projects

US Projects
  Next wave of FIDs

Qatar
  New megatrains

East Africa
  Security issues

Significant competition for supply



Source: Poten & Partners projections

LNG supply projects

US Projects
- Next wave of FIDs

Qatar
- New megatrains

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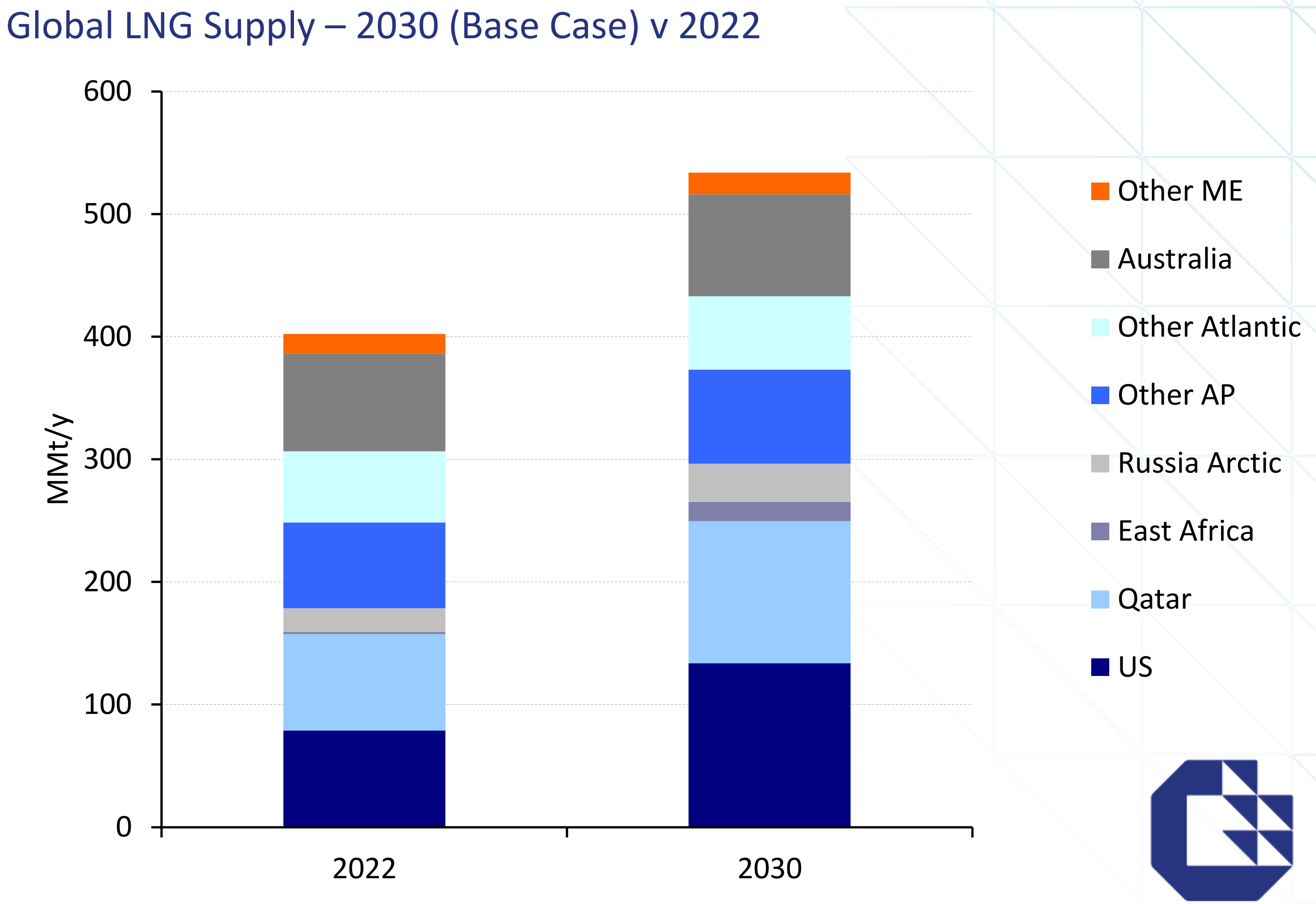
- Security issues

New LNG supply projects to 2030



Source: Poten & Partners projections

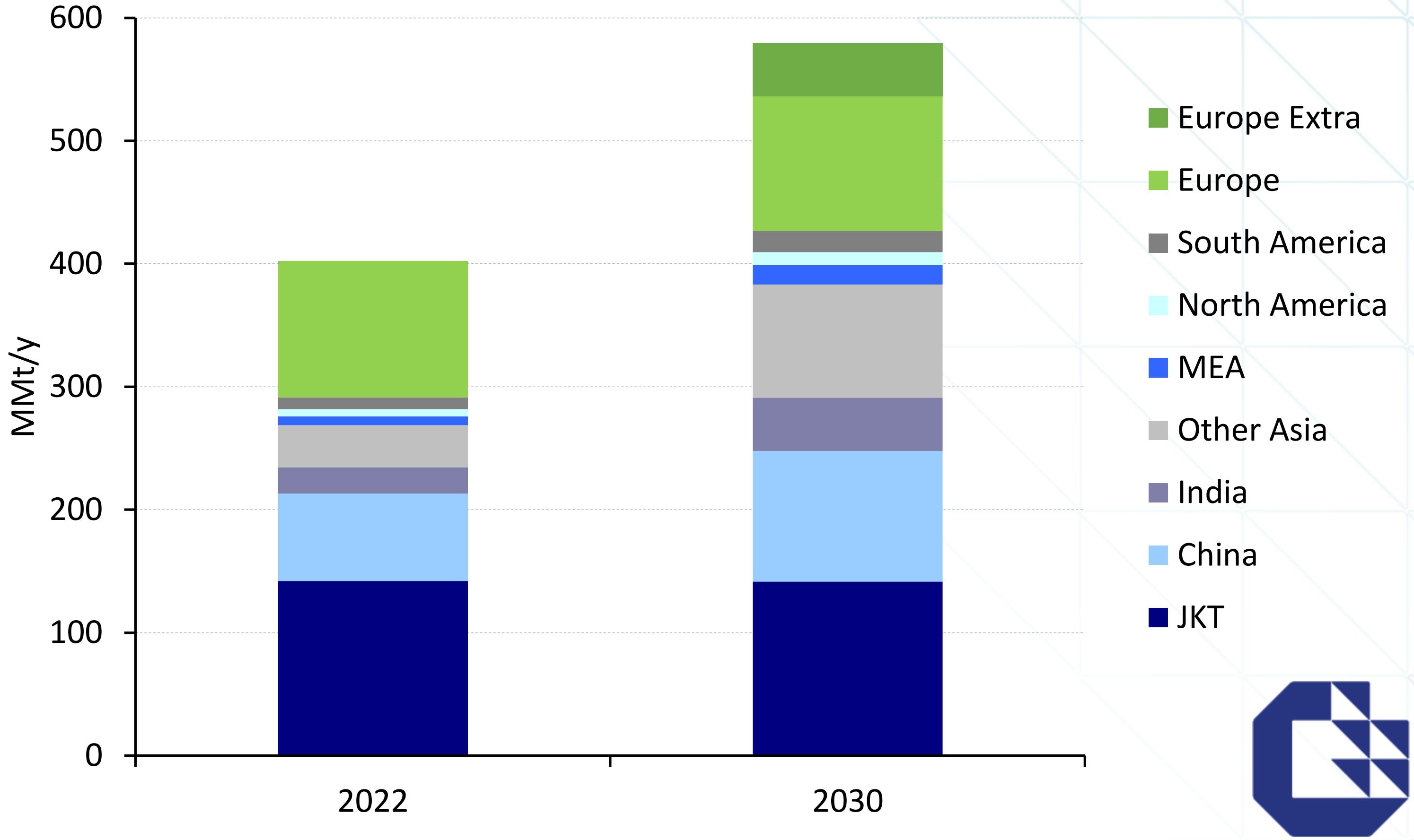
Global LNG trade flows

Europe premium
Outbidding Asia

Supply diverted
S Asia
New Markets
China
JKT?

Adjusting to new market realities

Global LNG Demand – 2030 (zero Russia) v 2022



Source: Poten & Partners projections

Thank you!