Knowledge grows

Fertilizer markets Supply and Demand

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EPKK Info Day

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Euroopa Maaelu Arengu Põllumajandusfond: Euroopa investeeringud maapiirkondadesse

Nitrogen fertilizer value drivers

	Drivers:	Effect on:
Revenue drivers:	Global urea demand vs. supply	Urea price
	“Marginal producer” production costs	Supply-driven urea price
	Crop prices/grain inventories	Urea demand / demand-driven urea price
	New urea capacity vs. closures	Urea supply
	Urea price	Most other nitrogen fertilizer prices
	Cash crop prices	Value-added fertilizer premiums
Cost drivers:	Gas demand vs. supply	Gas costs
	Manning and maintenance	Fixed costs
	Productivity and economies of scale	Unit cost

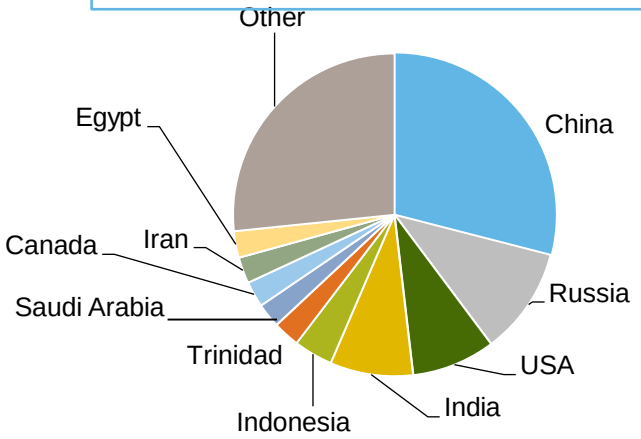

Capital availability
Weather
Export tariffs/curbs
Import tariffs
Subsidies
Fertilizer Prices
Planted Acreage
Surprise Disruptions
Transporta-tion Costs
Government Payments
Taxes
COVID-19
Regulations
Interest Rates
Buyer Psychology
Value of the Dollar
Trade Cases
Investment Costs
Crop Prices
Farm Incomes
Sanctions
Natural Disasters
Input Costs
Fertilizer Market

A look back

The N industry is fragmented, while the P and K industries are more concentrated

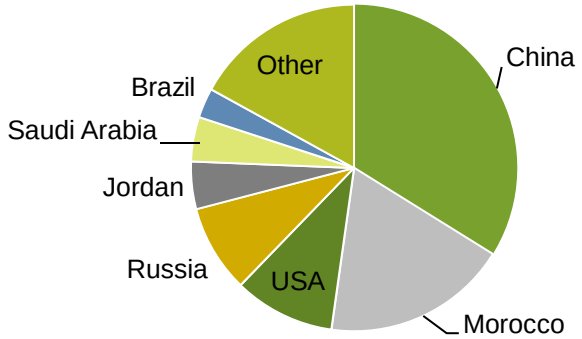
2021 figures[1], million tonnes nutrient

Nitrogen (N)



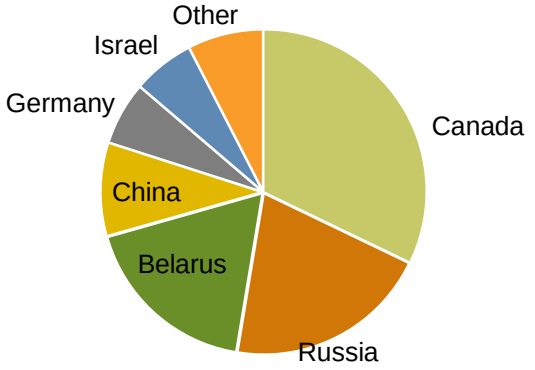
- Despite a consolidation trend, the industry is still highly fragmented
- The world largest nitrogen producers are CF, Yara, Nutrien, Ostchem, OCI, TogliattiAzot, Koch and Eurochem

Phosphate (P)



- More concentrated than N-industry
- The biggest producers are Guizhou Phosphorus Chemical Group in China, Nutrien and Mosaic in USA, OCP in Morocco, Ma'aden in Saudi Arabia and Phosagro in Russia

Potash (K)



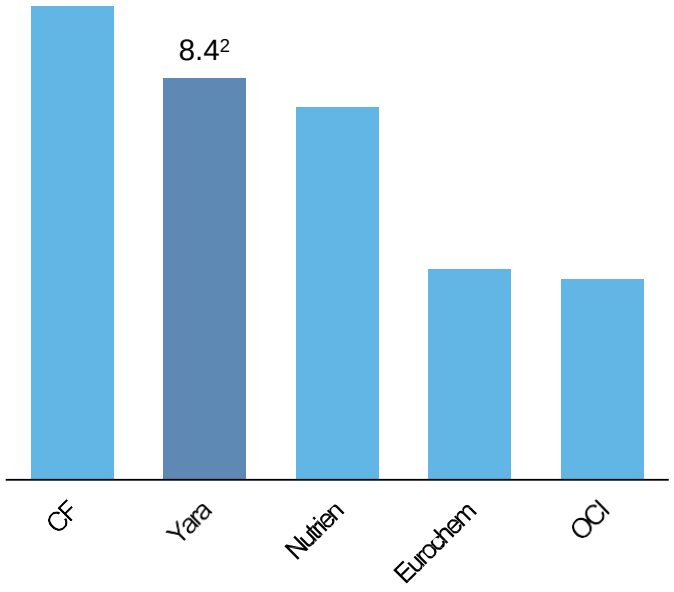
- Highly concentrated industry, with top 3 producing countries representing appx 70% of global market
- The main producers in Canada are Nutrien and Mosaic, Belaruskali in Belarus, Uralkali in Russia and K+S in Germany

Source: IFA

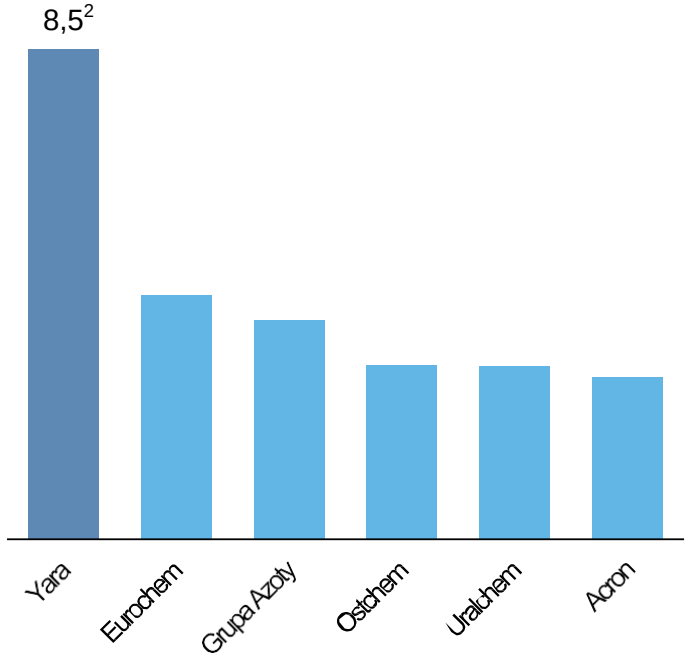
Yara – the leading crop nutrition company

2018 production capacity, excl. Chinese producers[1] (mill. tonnes)

Global no. 2 in ammonia

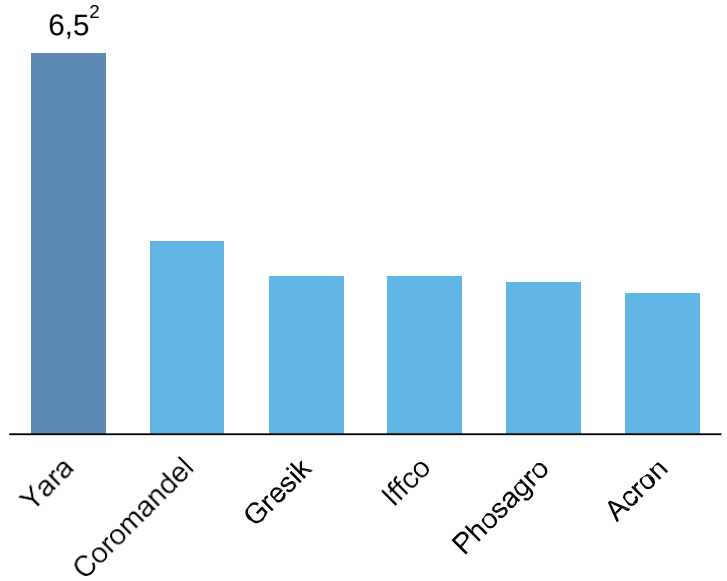


Global no. 1 in nitrates



* Incl. TAN and CN

Global no. 1 in NPK

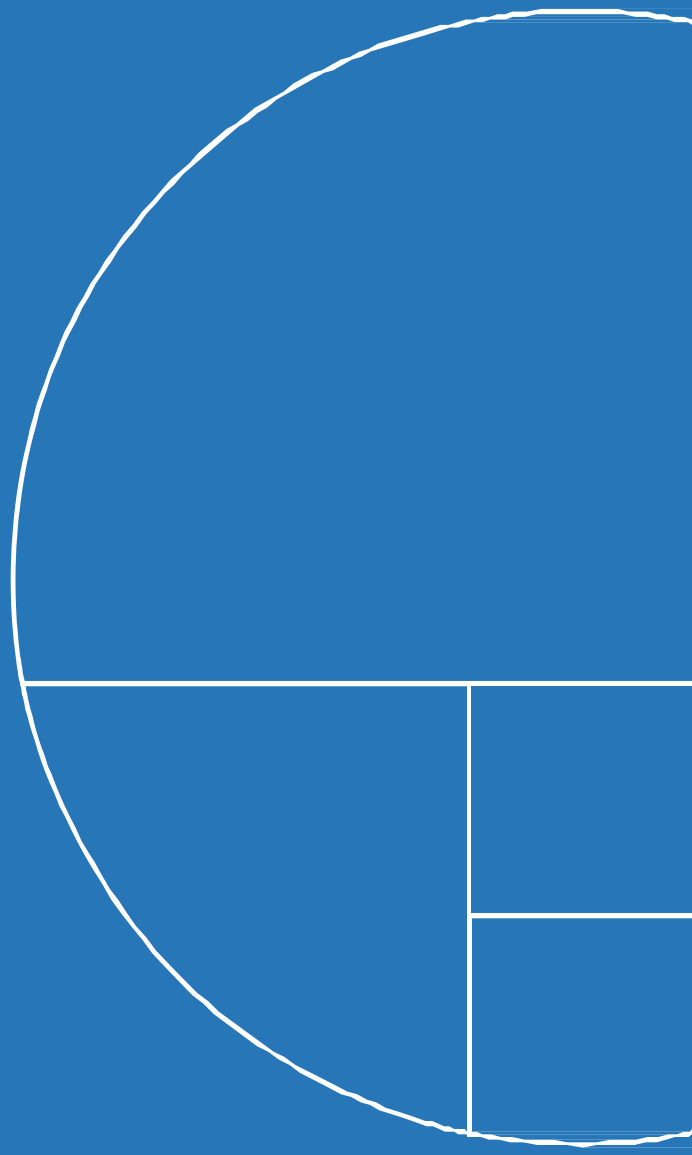


* Compound NPK, excl. blends

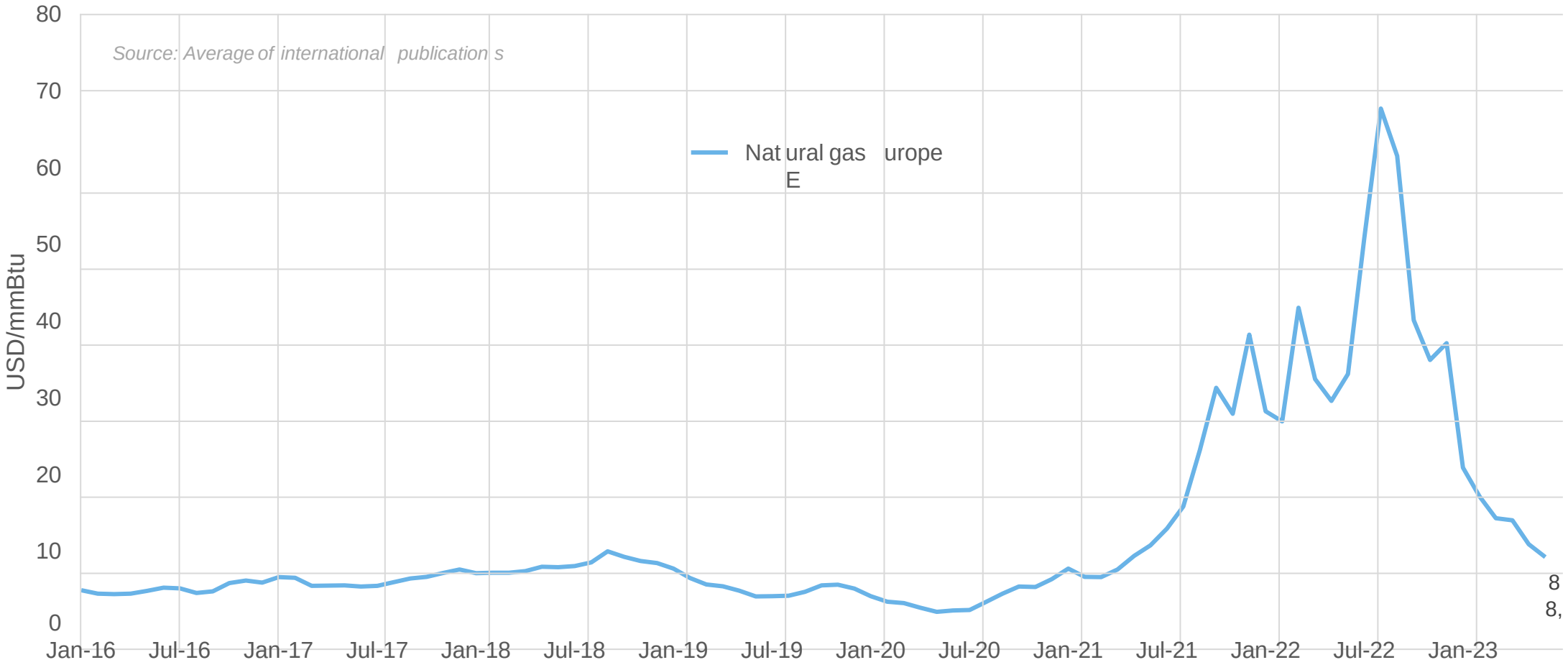
Source: Yara estimates, company info

1) Incl. companies' shares of JVs
2) Yara capacity as of Dec 2021

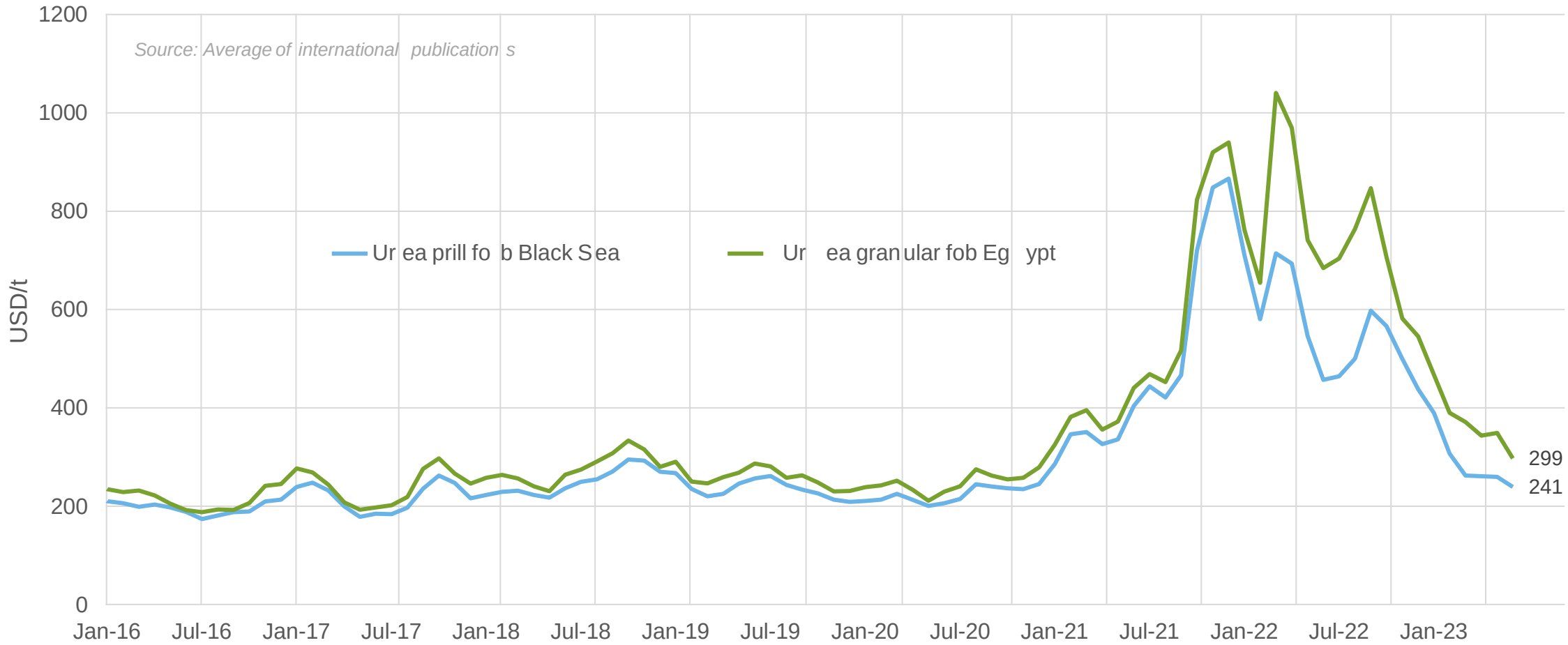
Commodity Development



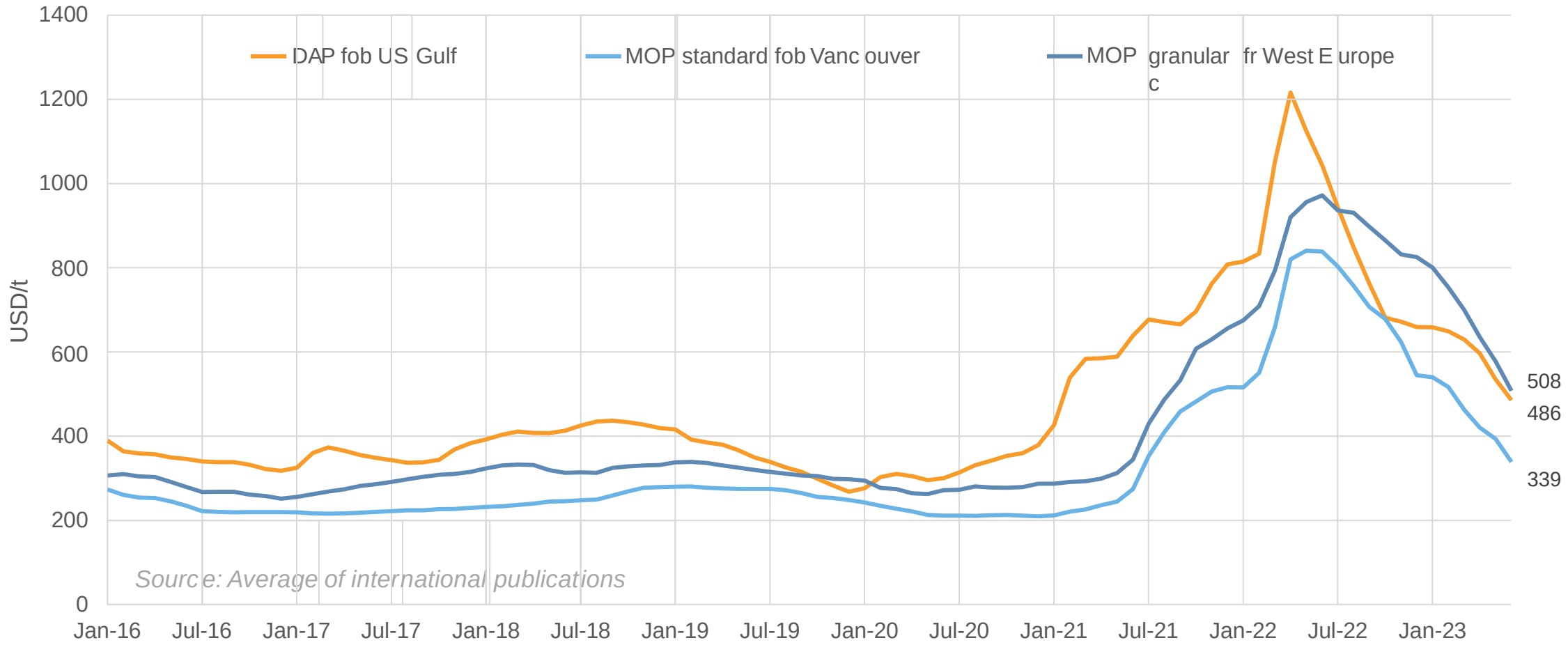
Natural gas price development 2016-2023



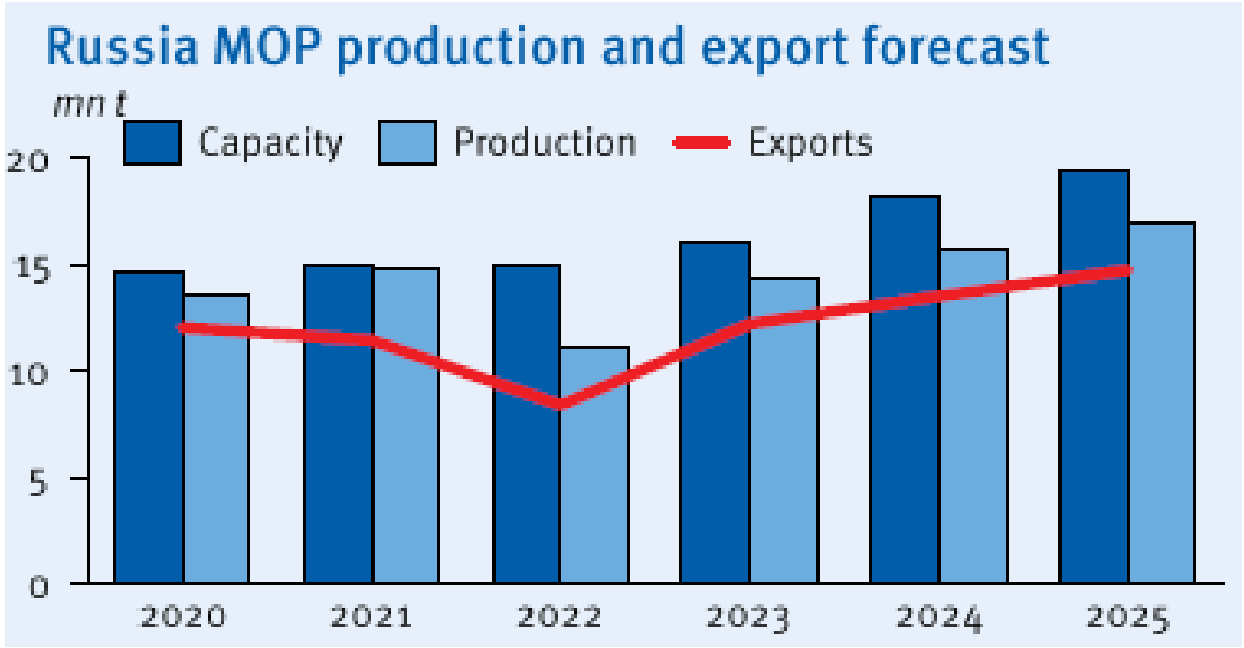
N fertilizer price development 2016-2023

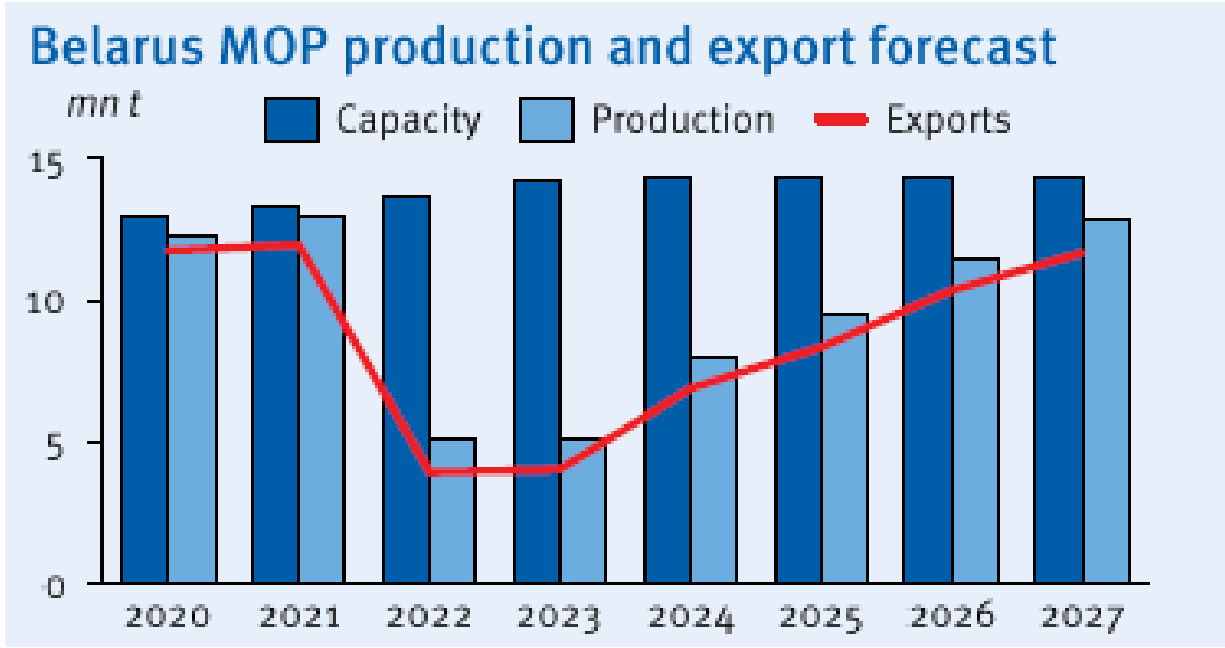


P and K fertilizer price development 2016-2023



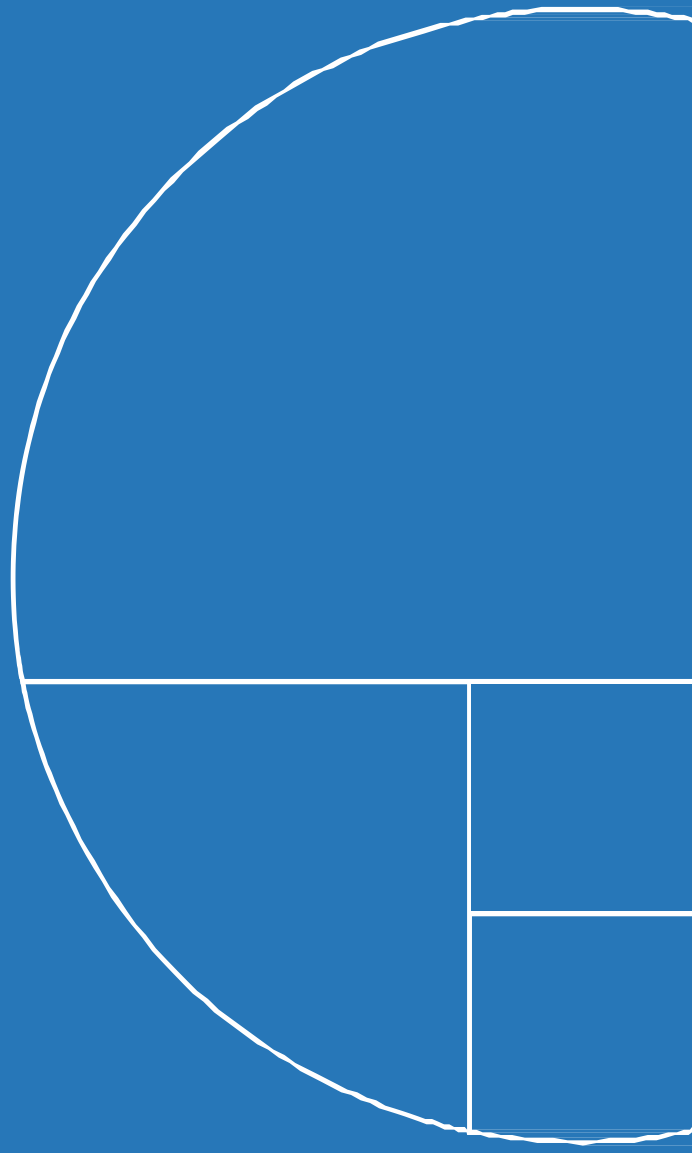
Potash markets will remain tight until the Russia/Belarus situation is resolved





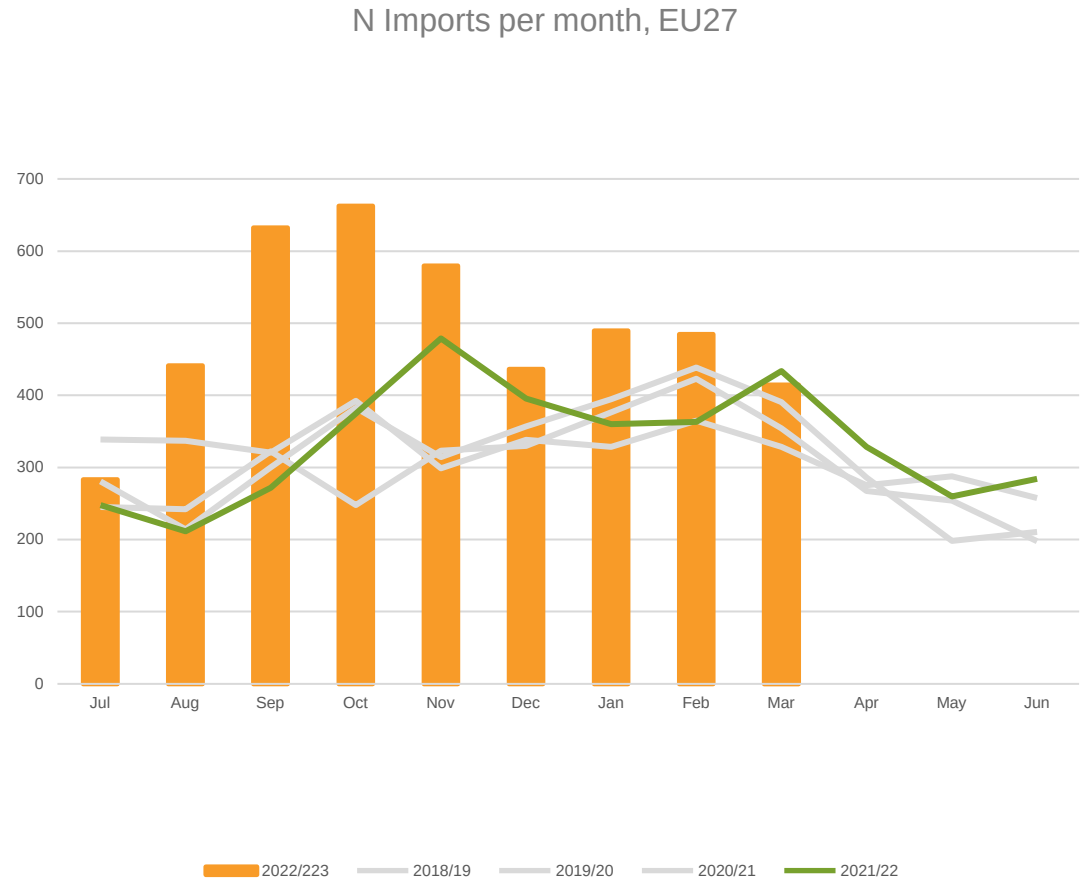
Source: Argus

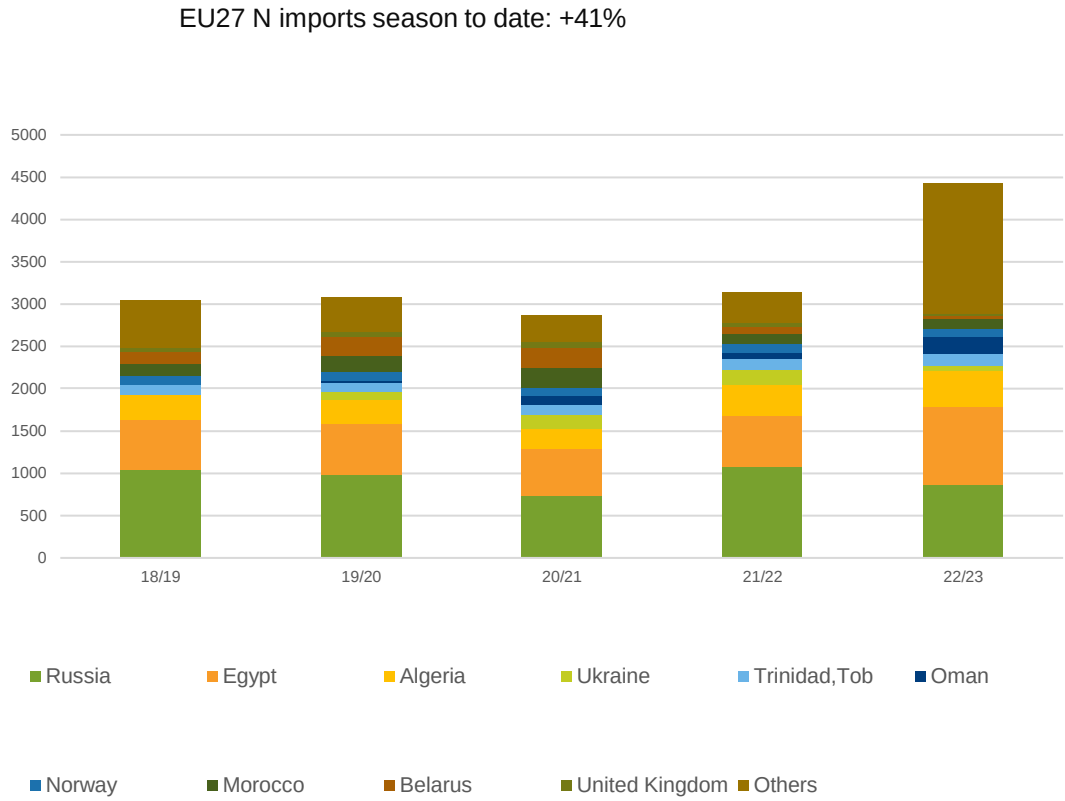
Imports to Europe



N import from North Africa increased compared to previous years

Scope EU27

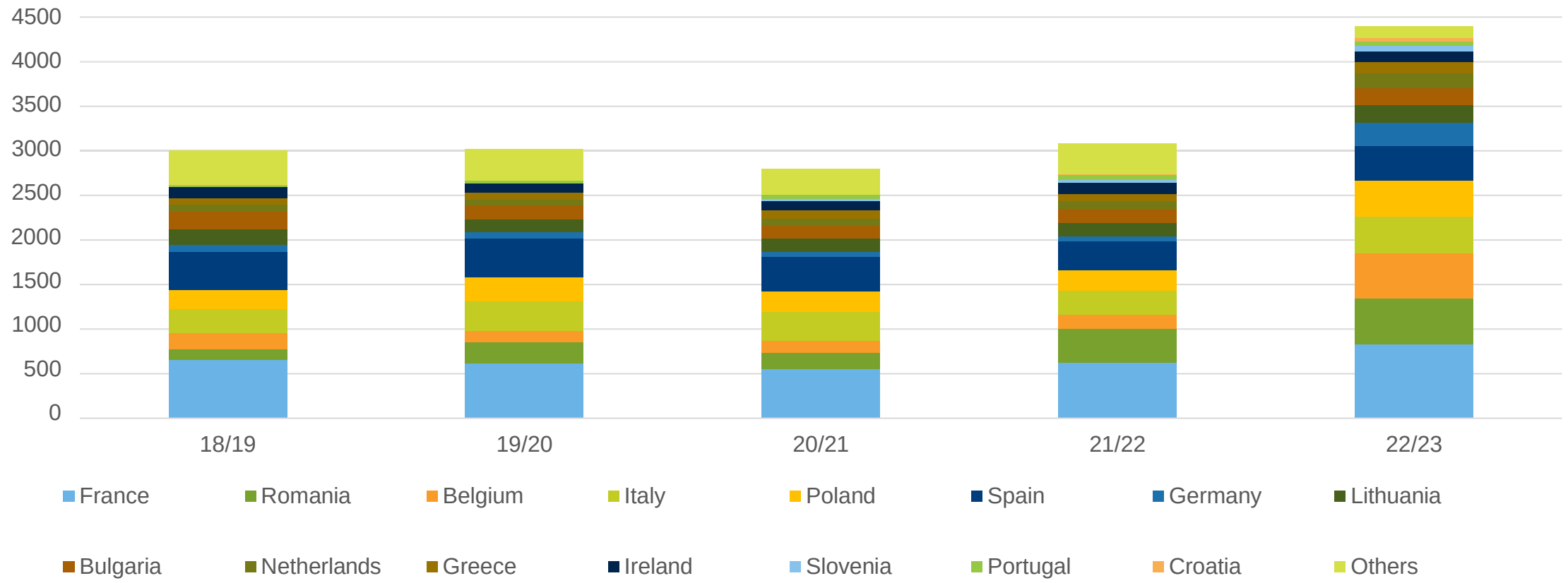




Source: Eurostat

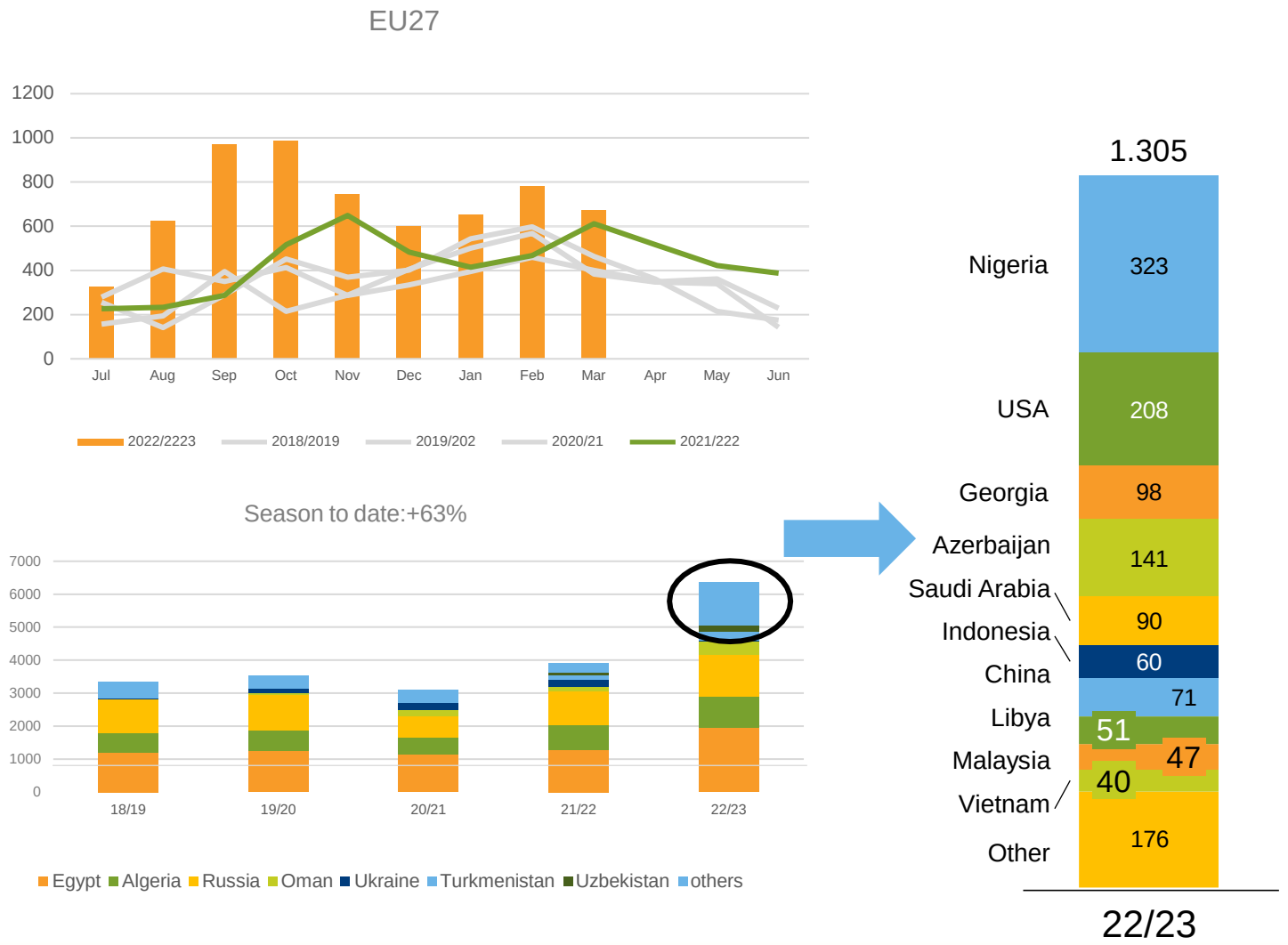
Where did the imports go?

EU27 N imports by destination



Source: Eurostat

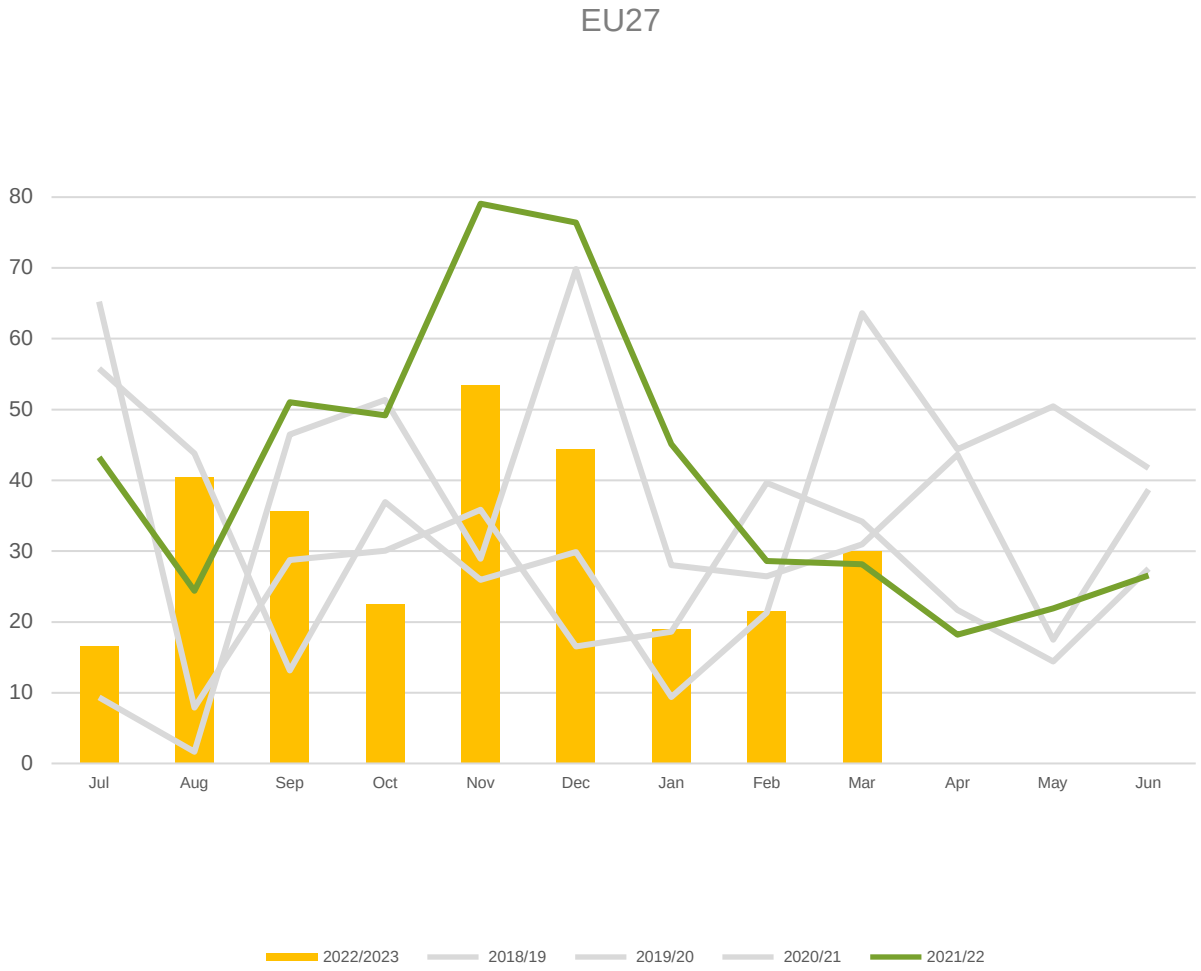
Urea* imports in March were still slightly higher than this time last year

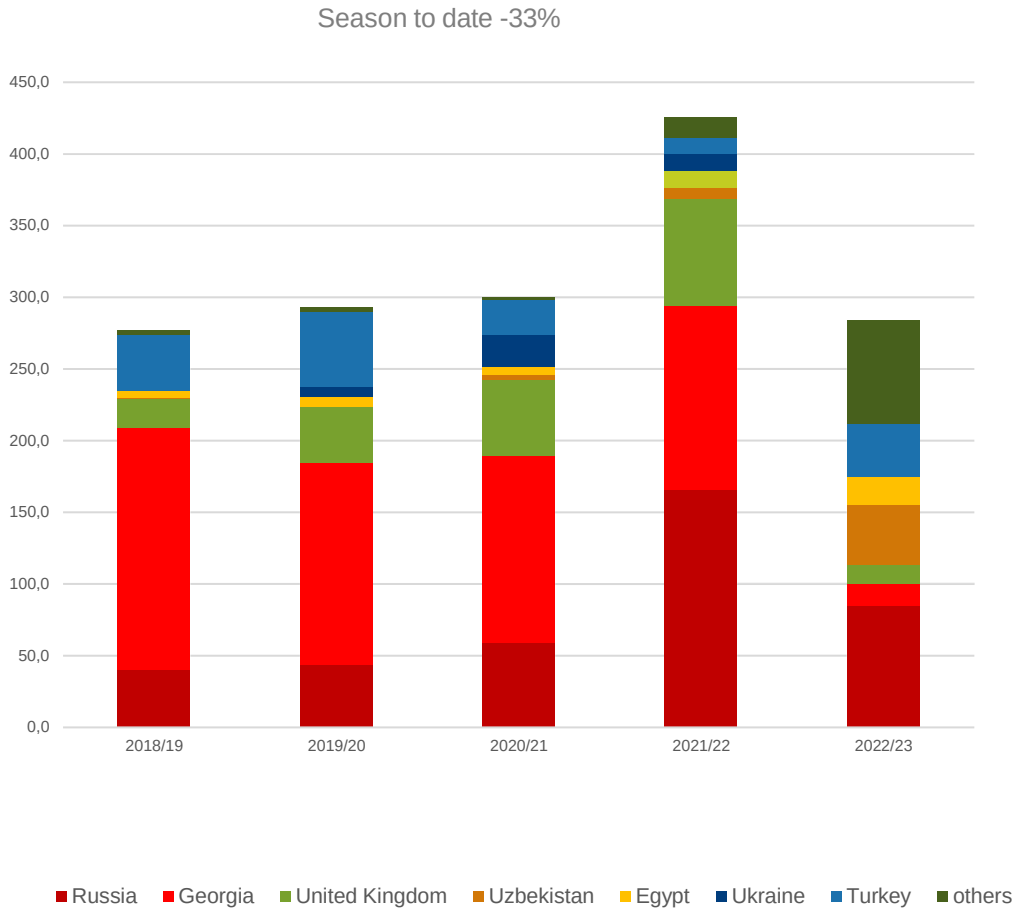


Source: Eurostat

* Urea imports include tech grade urea

AN imports decreased compared to previous years

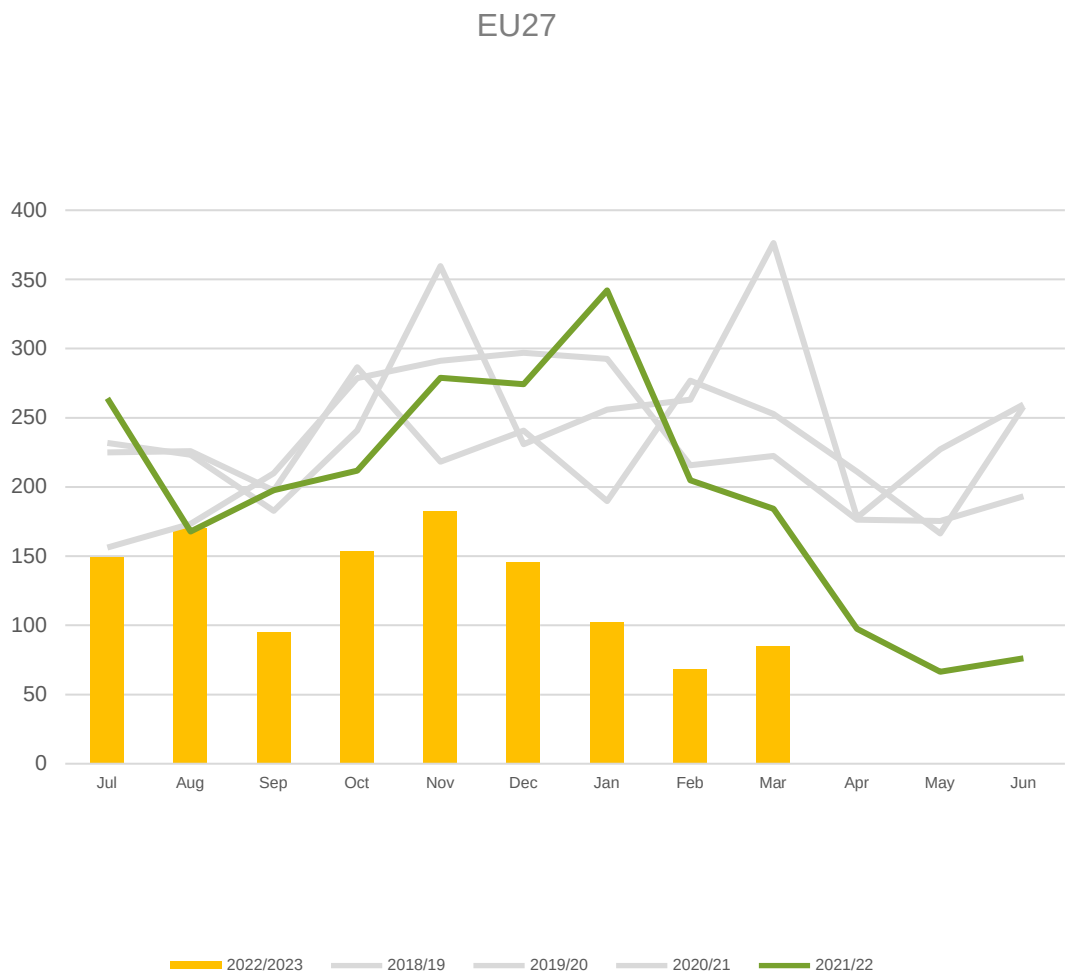


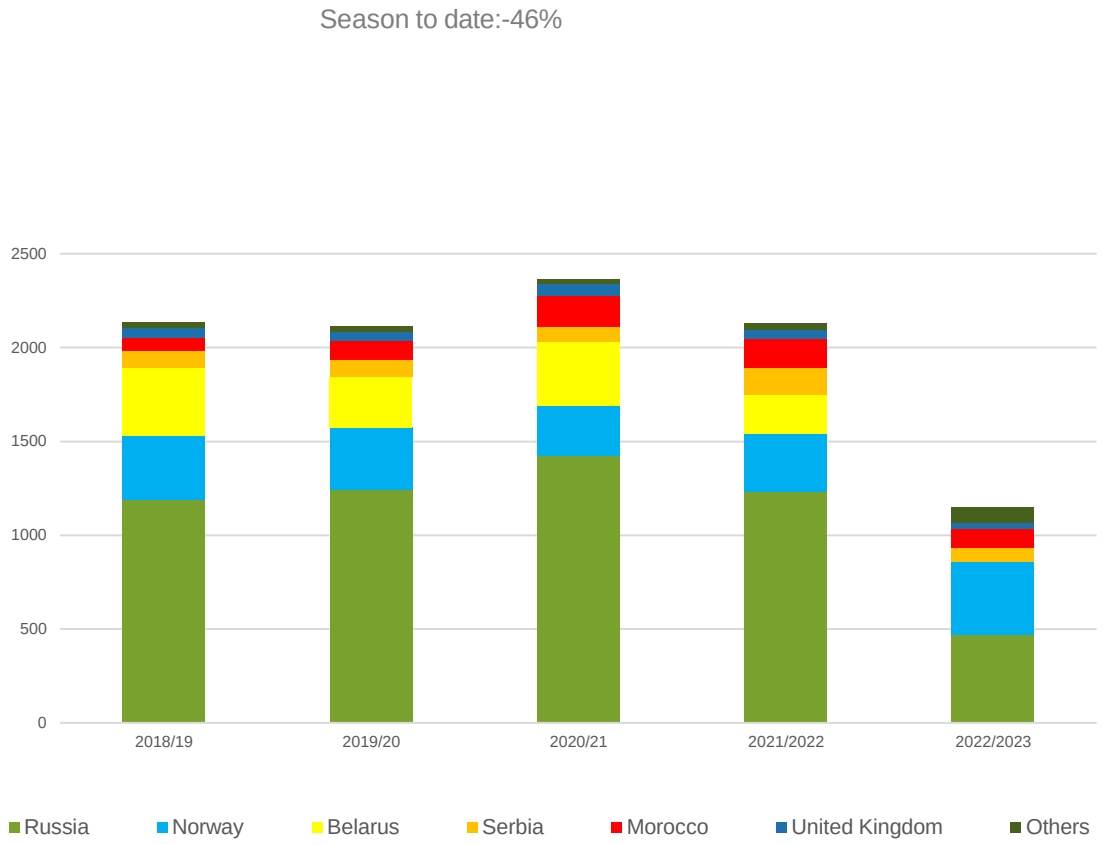


Source: Eurostat

* AN imports may include TAN

NPK imports decreased

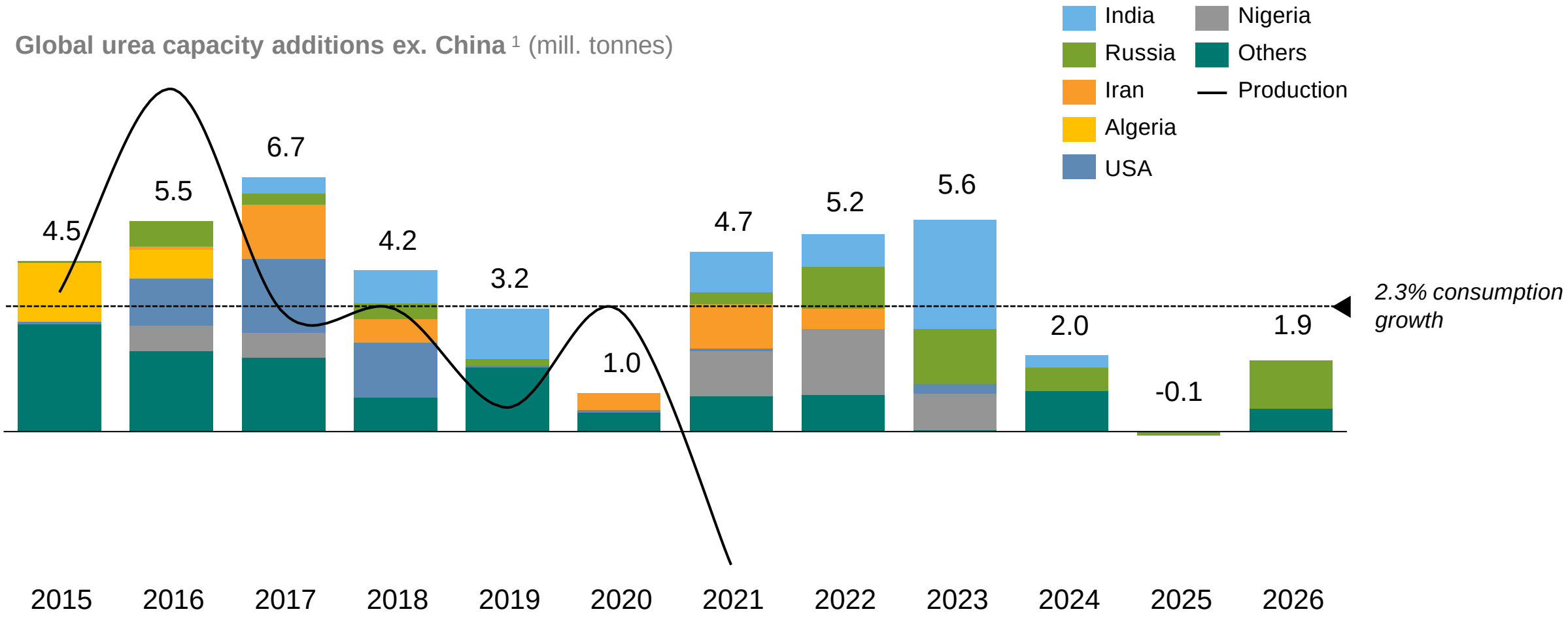




Source: Eurostat

A look ahead

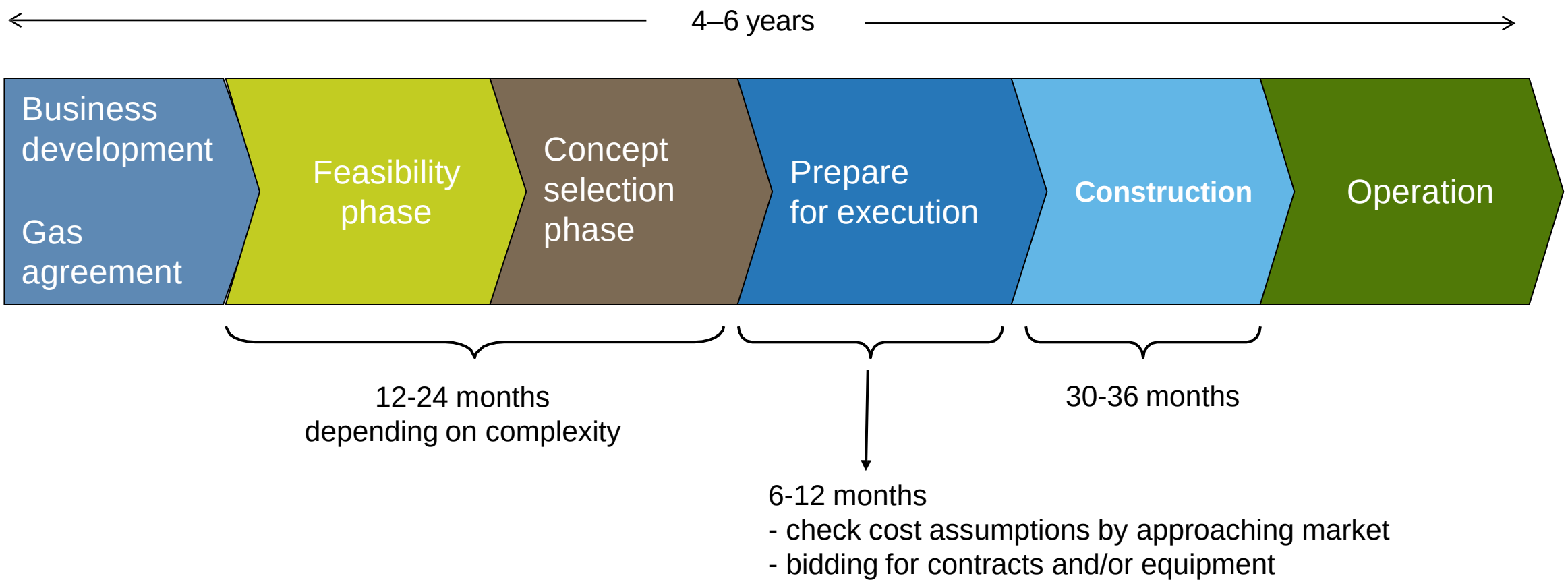
Peak of capacity additions is now, less from 2024 and onwards



1) Urea projects assessed as “probable” by CRU

Source: CRU Aug 2022

5-year typical construction time for nitrogen fertilizer projects*

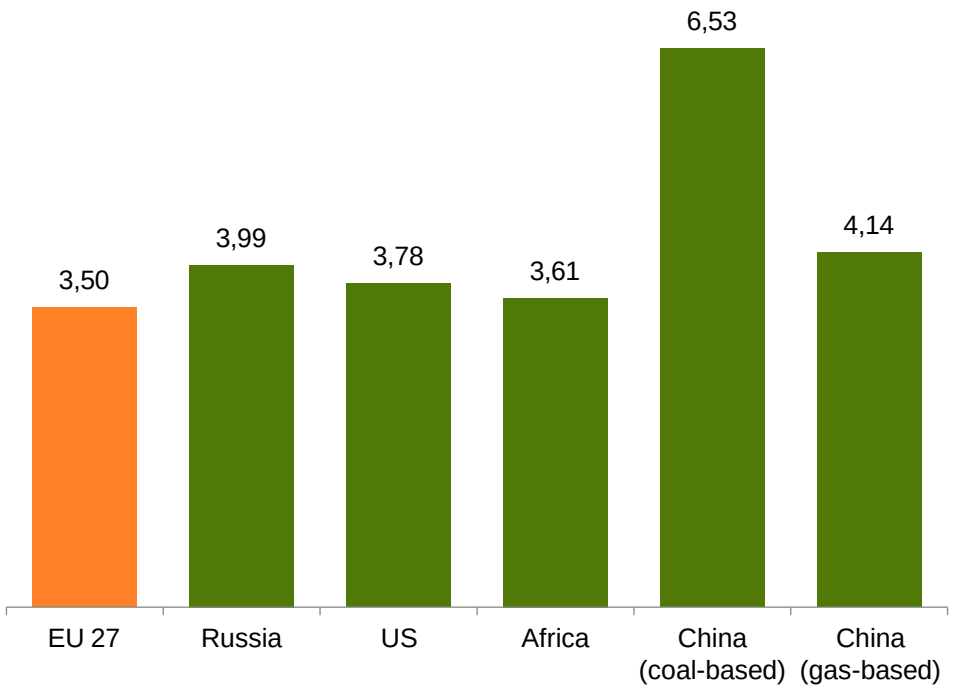


* Ammonia and urea plant example

Carbon footprint of fertilizer production differs by region - Europe is the most efficient

Urea

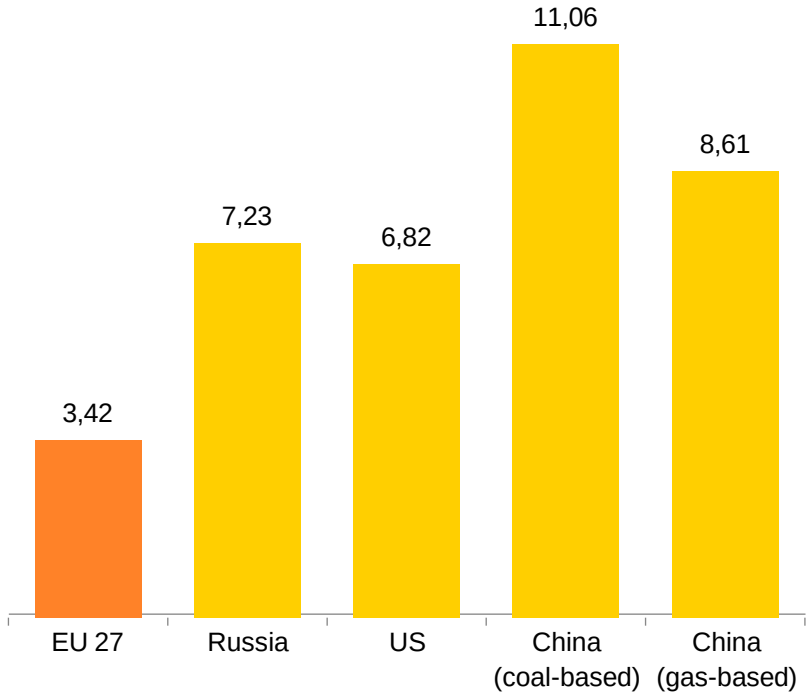
kg CO_2 equivalents per kg urea nitrogen



Source: Fertilizers Europe (2016) for production in 2014

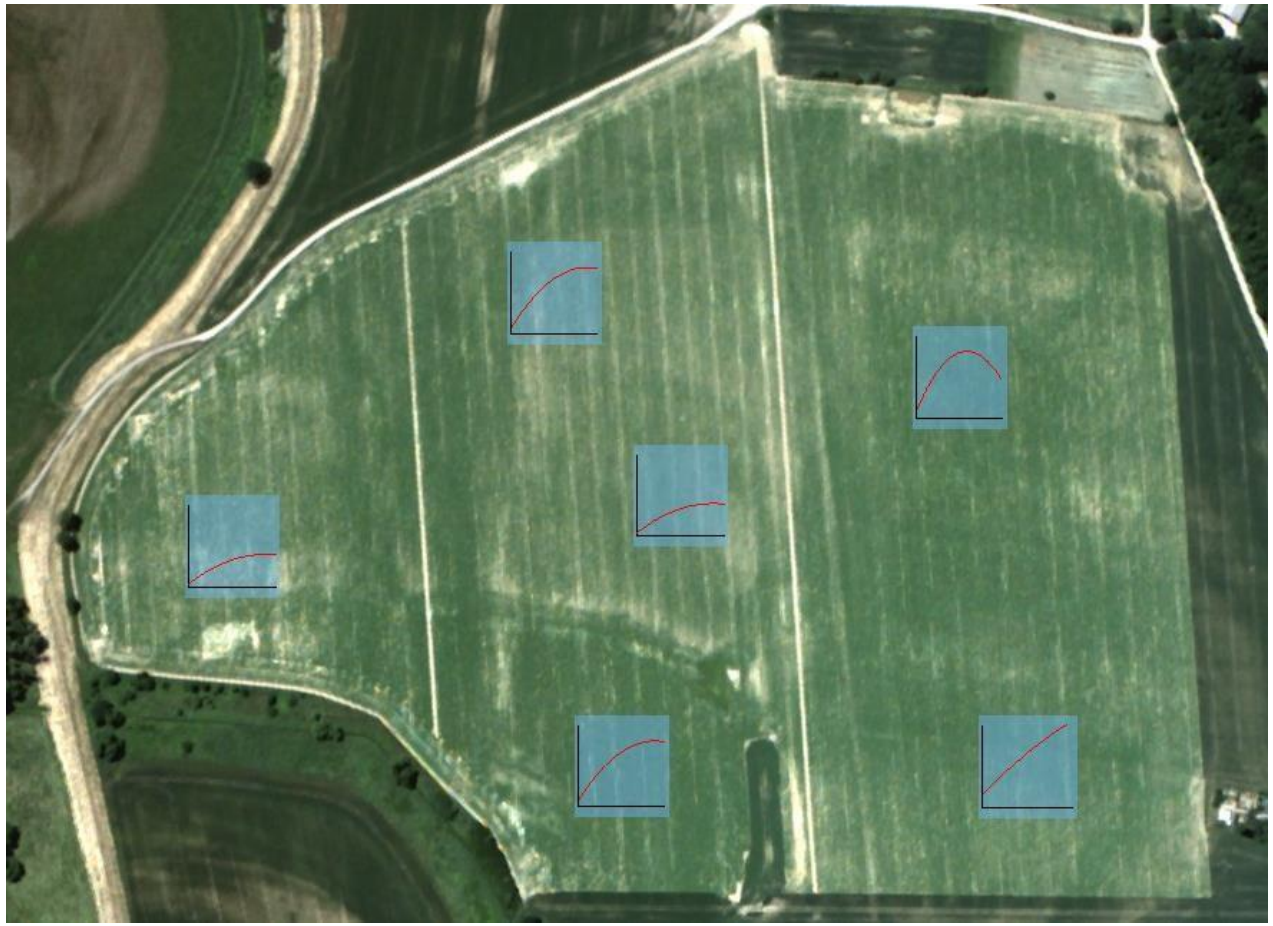
Ammonium nitrate

kg CO_2 equivalents per kg AN nitrogen



Source: Fertilizers Europe (2016) for production of granulated AN in 2014

Precision farming: applying the right nutrients in the right quantity at the right time



- Growth conditions within fields are heterogeneous, affecting the crop yield and fertilizer demand
- Estimation of the nitrogen status of crops is a requirement to respond to this heterogeneity
- Digital tools enable growers to estimate the nitrogen status of crops and use this information to determine how much fertilizer to apply and when to apply it

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- **Benefits of precision farming** include higher yields, improved crop quality, lower emissions and other environmental impacts and cost savings for the farmer


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