



Knowledge grows

# Fertilizer markets Supply and Demand

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Euroopa Maaelu Arengu  
Põllumajandusfond:  
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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



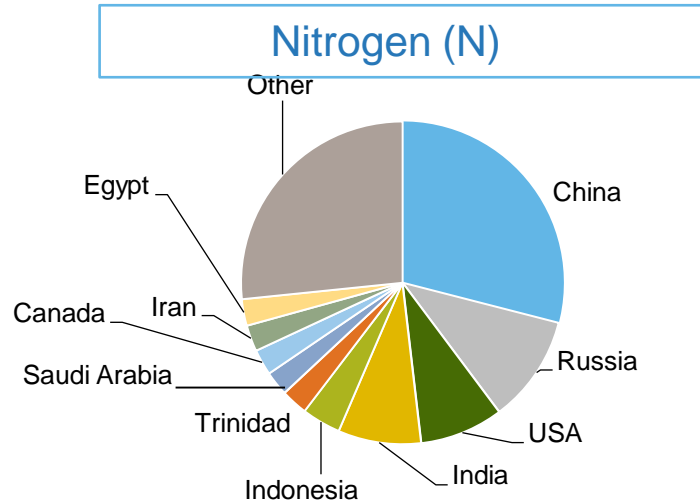


# A look back

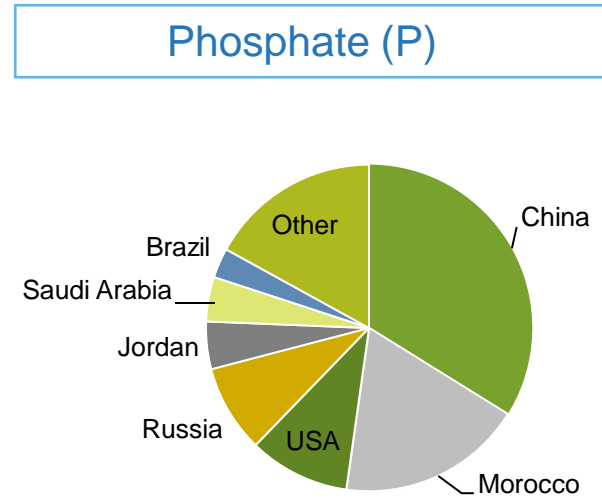


# The N industry is fragmented, while the P and K industries are more concentrated

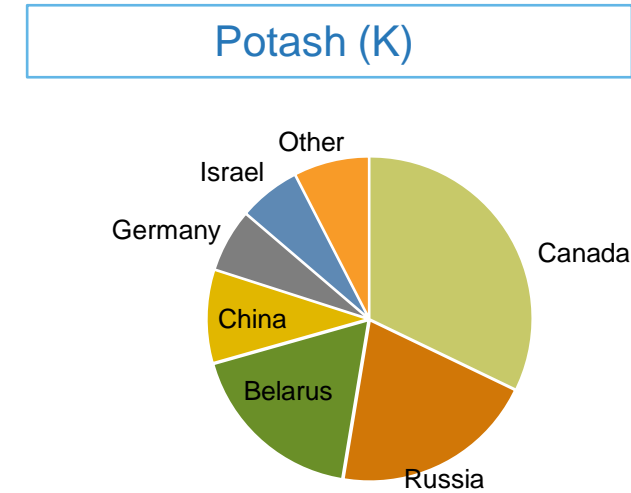
2021 figures<sup>1</sup>, million tonnes nutrient



- 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



- 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

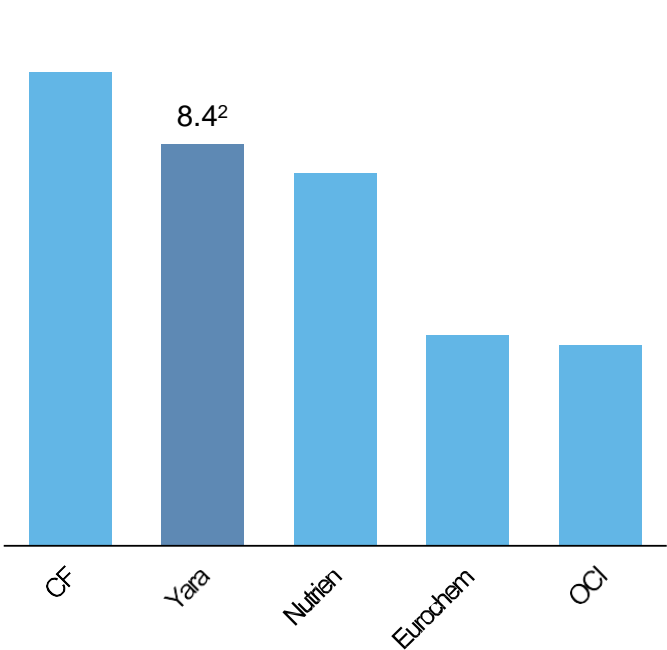


- Highly concentrated industry, with top 3 producing countries representing appx 70% of global market
- The main producers in Canada are Nutrien and Mosaic, Belaruskali in Belarus, Uralkali in Russia and K+S in Germany

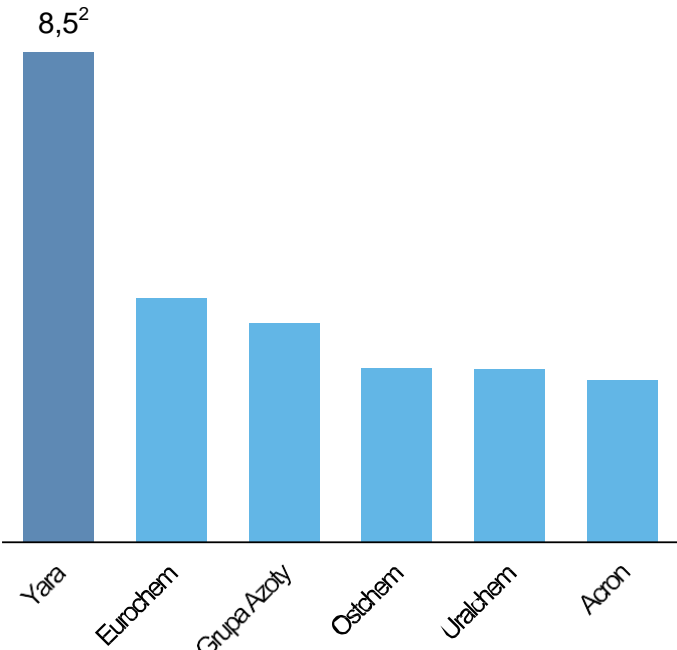
# Yara – the leading crop nutrition company

2018 production capacity, excl. Chinese producers<sup>1</sup> (mill. tonnes)

Global no. 2 in ammonia

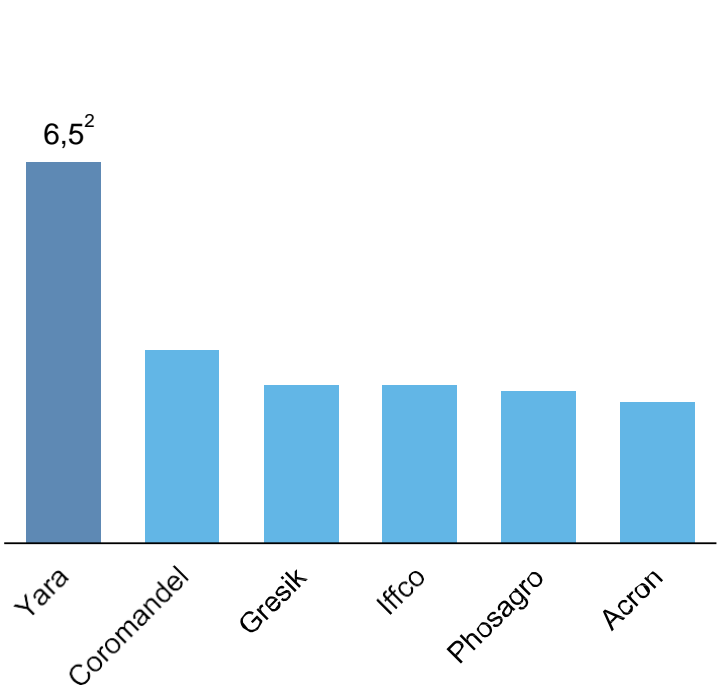


Global no. 1 in nitrates



\* Incl. TAN and CN

Global no. 1 in NPK



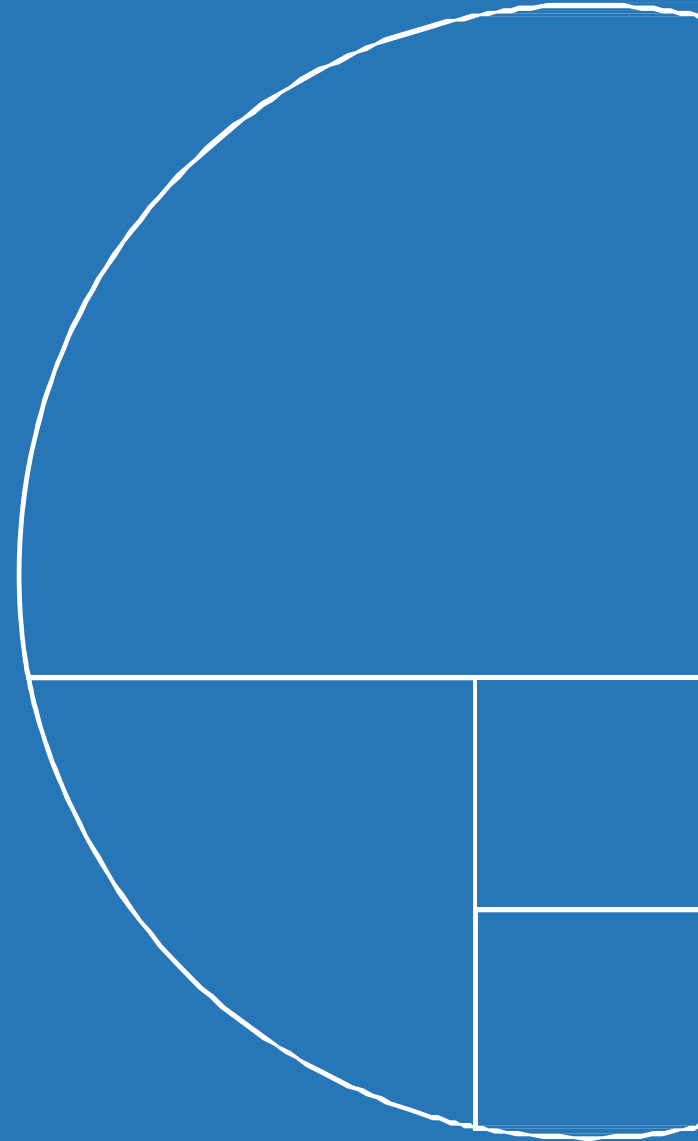
\* Compound NPK, excl. blends



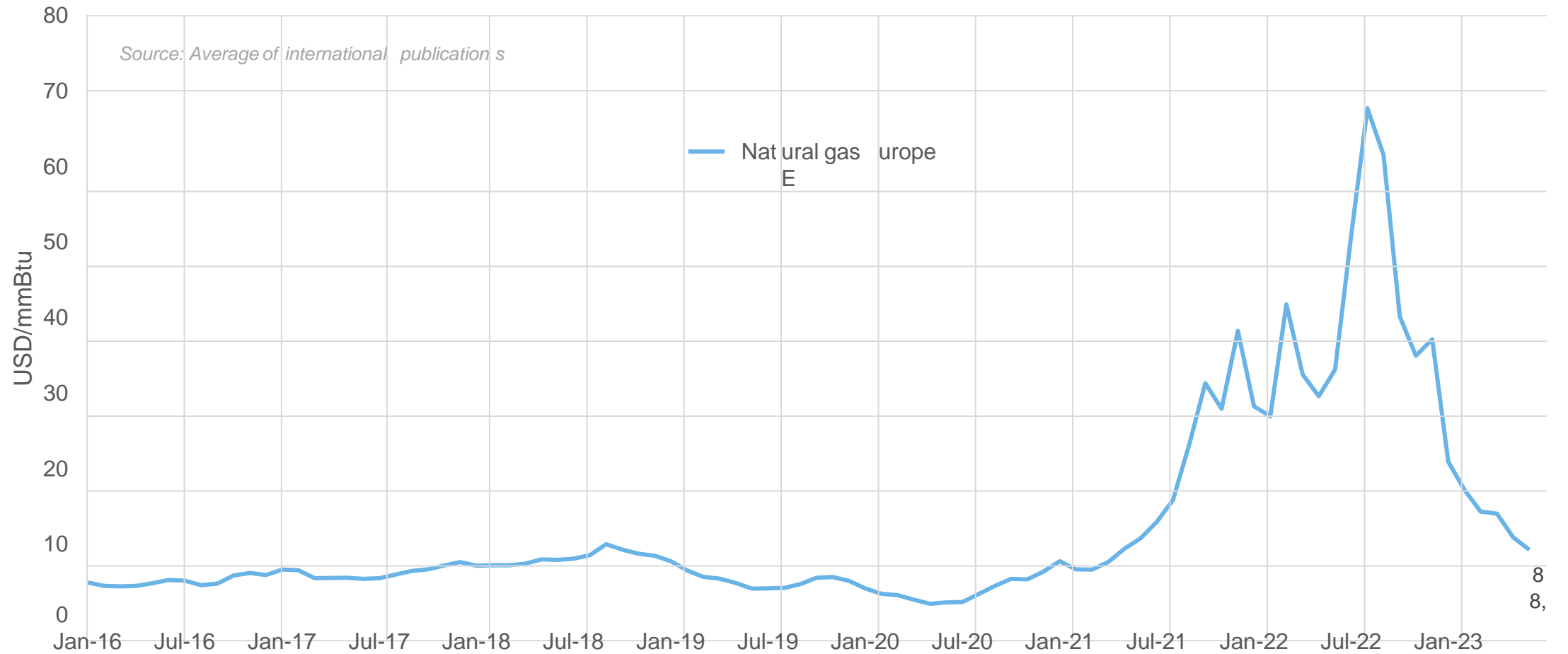
Source: Yara estimates, company info

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

# Commodity Development

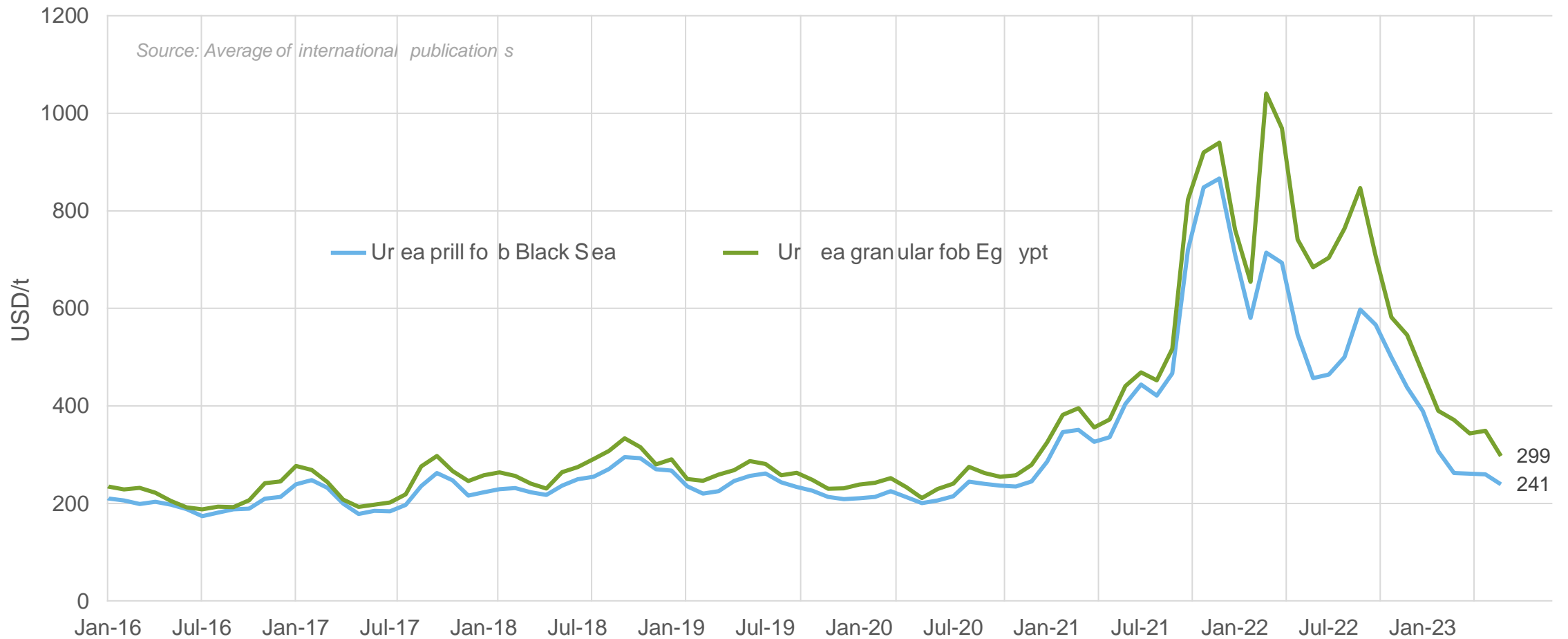


# Natural gas price development 2016-2023

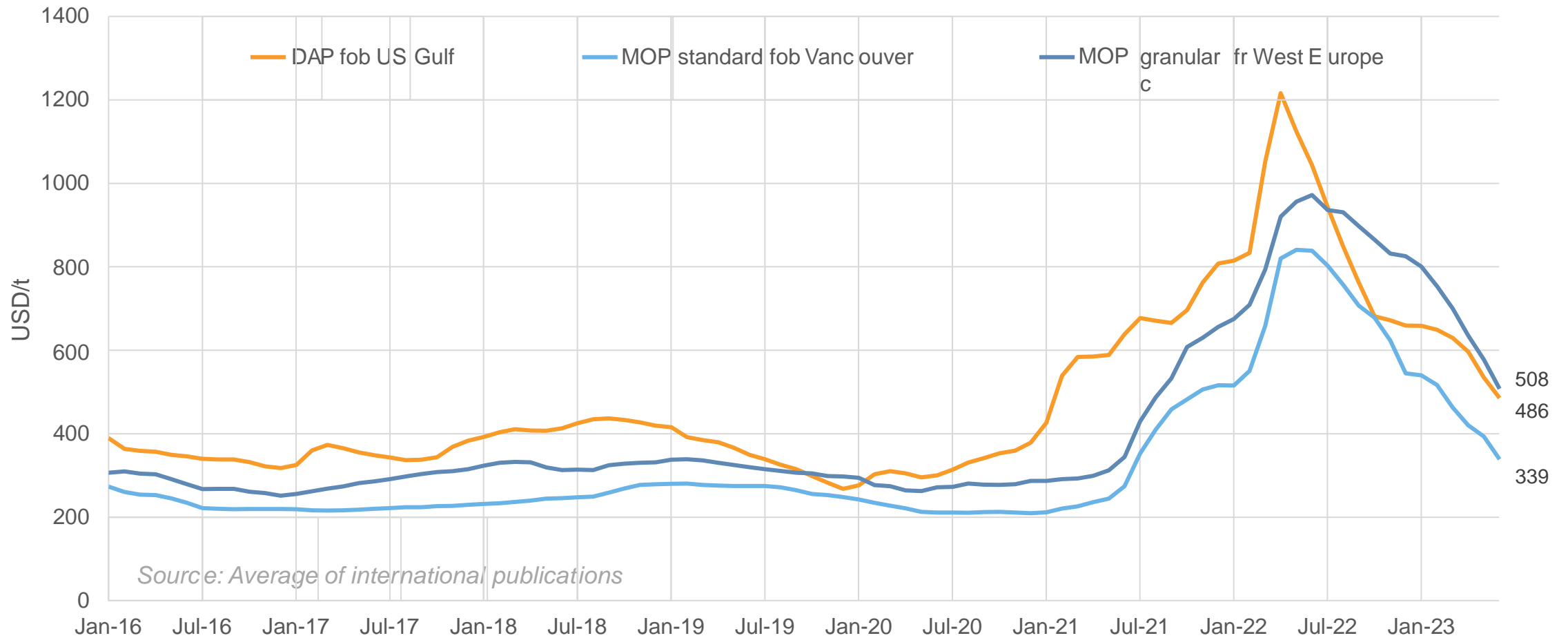




# N fertilizer price development 2016-2023

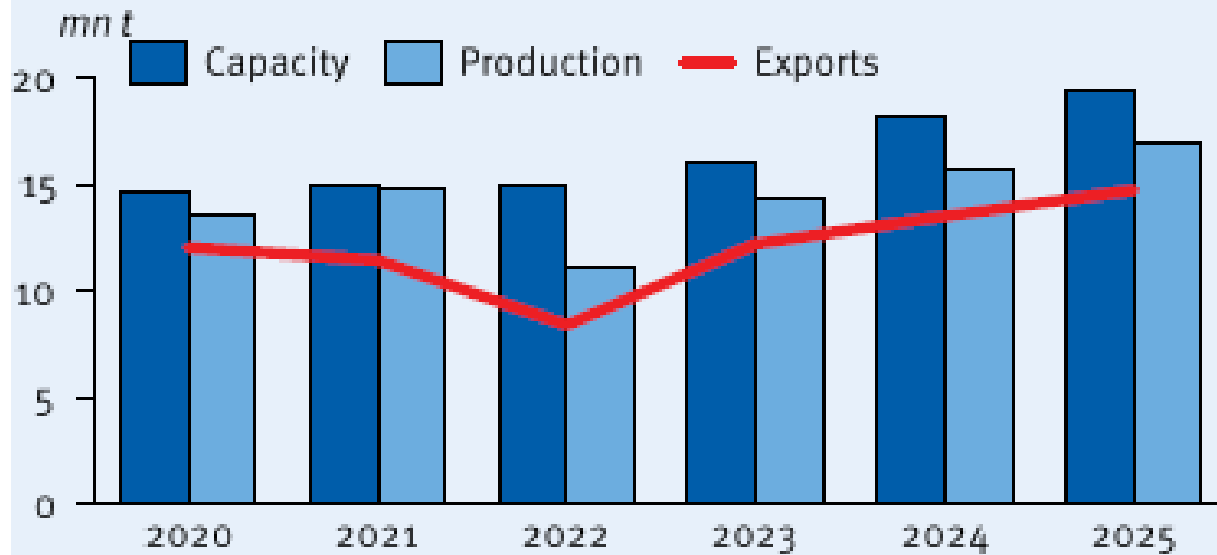


# P and K fertilizer price development 2016-2023

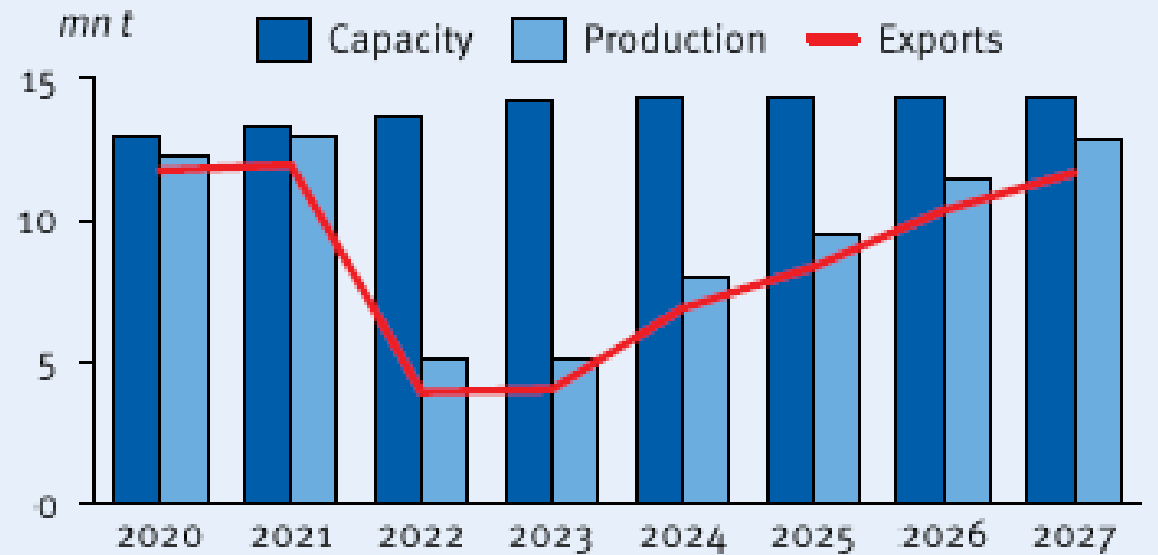


# Potash markets will remain tight until the Russia/Belarus situation is resolved

## Russia MOP production and export forecast

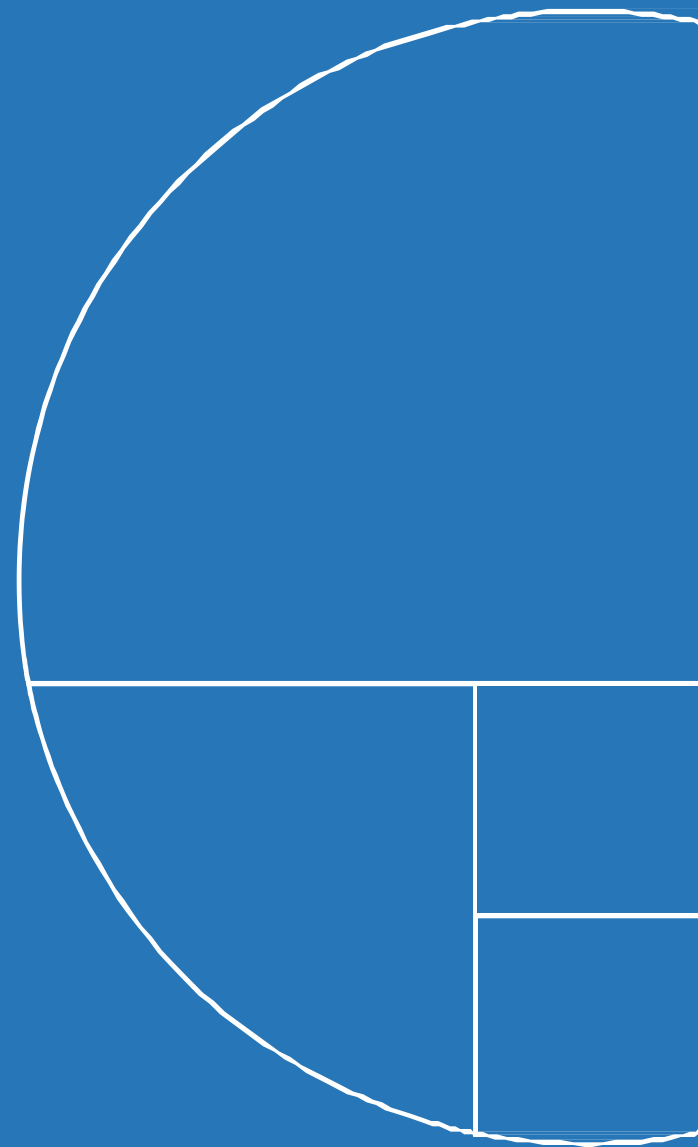


## Belarus MOP production and export forecast



Source: Argus

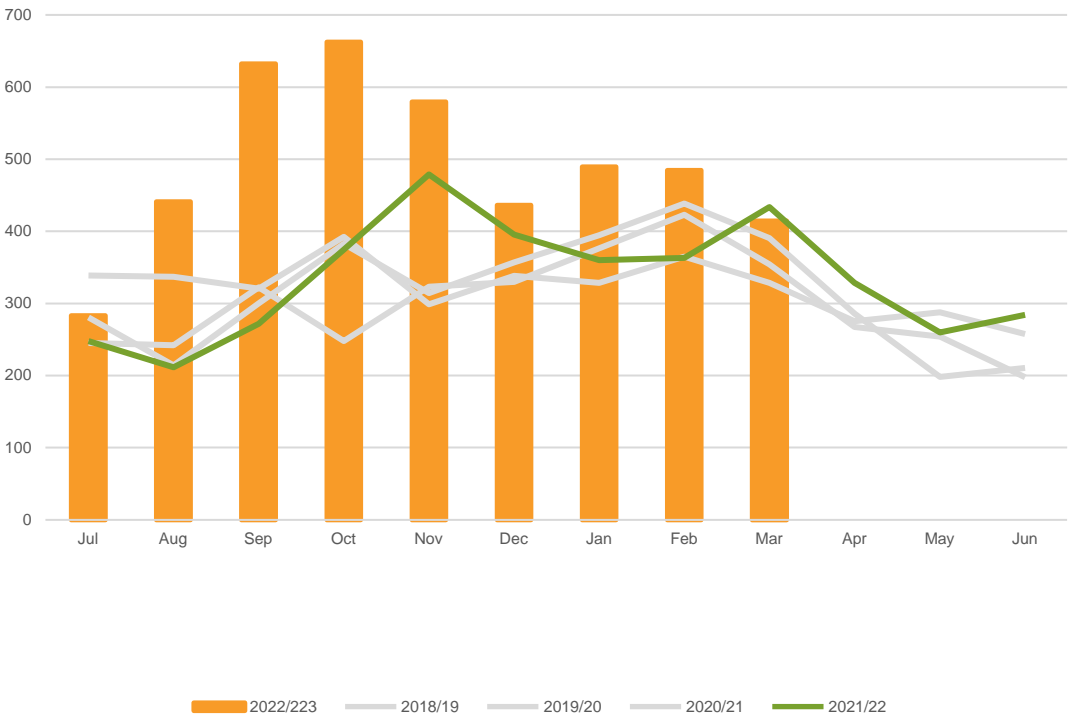
## Imports to Europe



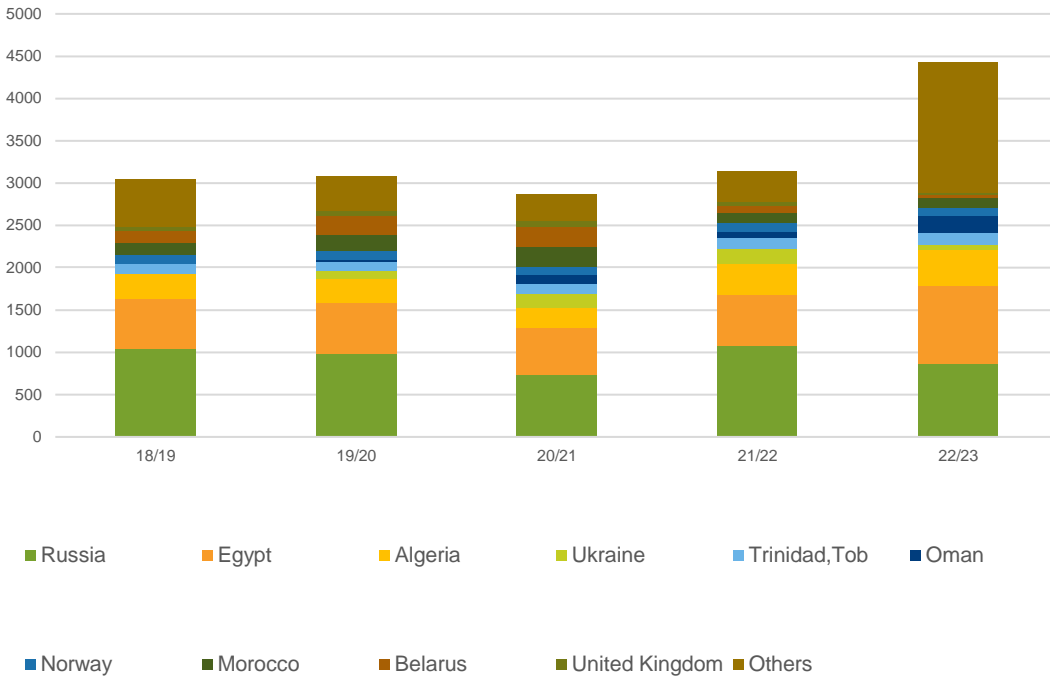
# N import from North Africa increased compared to previous years

## Scope EU27

N Imports per month, EU27



EU27 N imports season to date: +41%

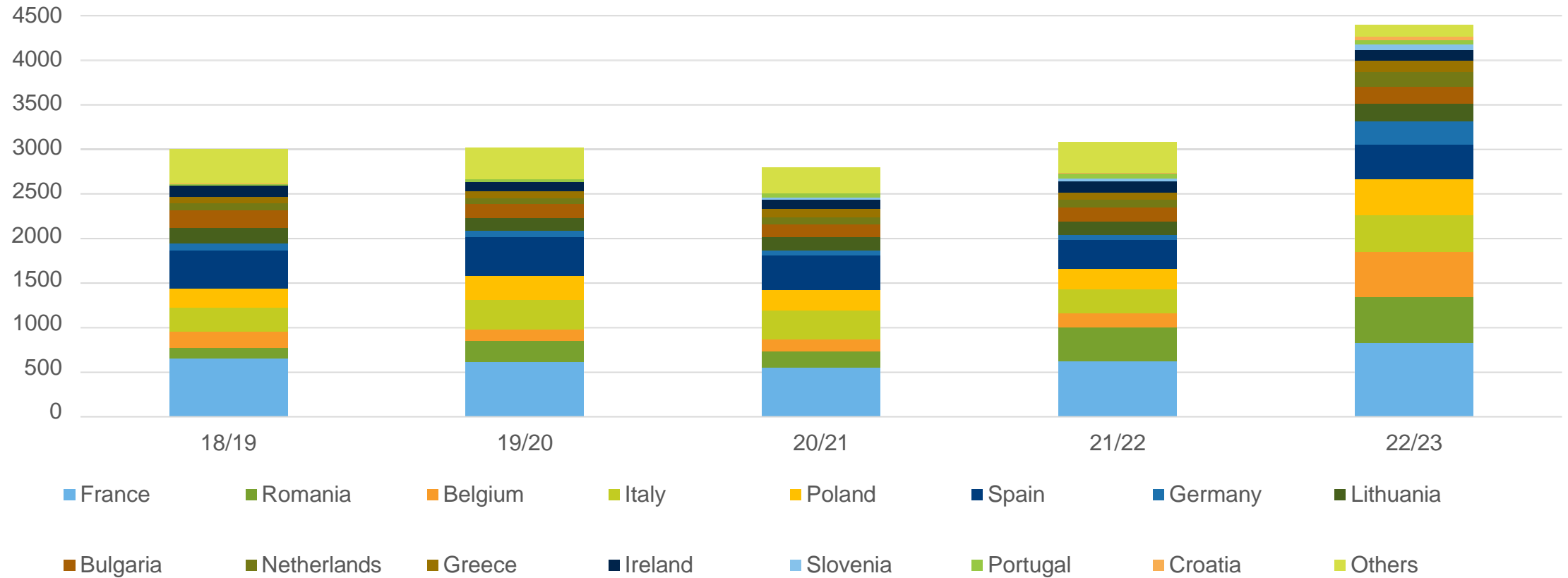


Source: Eurostat



# Where did the imports go?

## EU27 N imports by destination

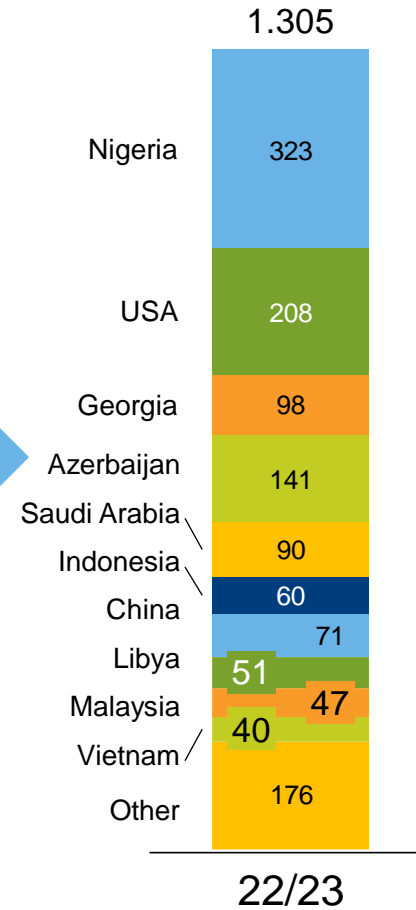
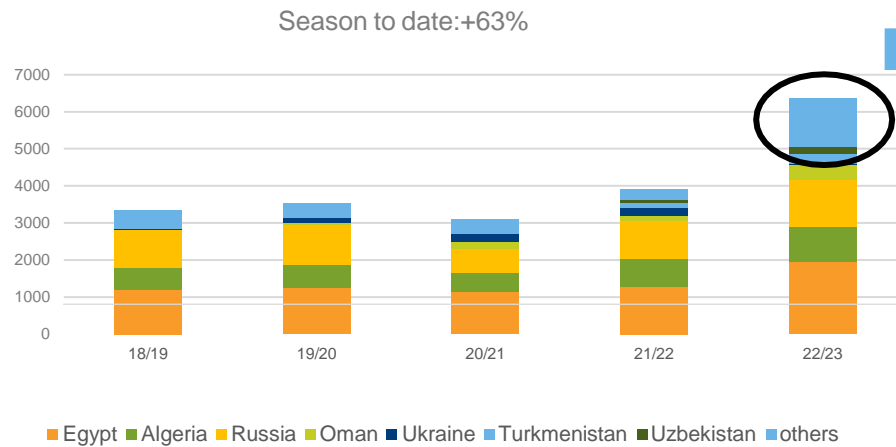
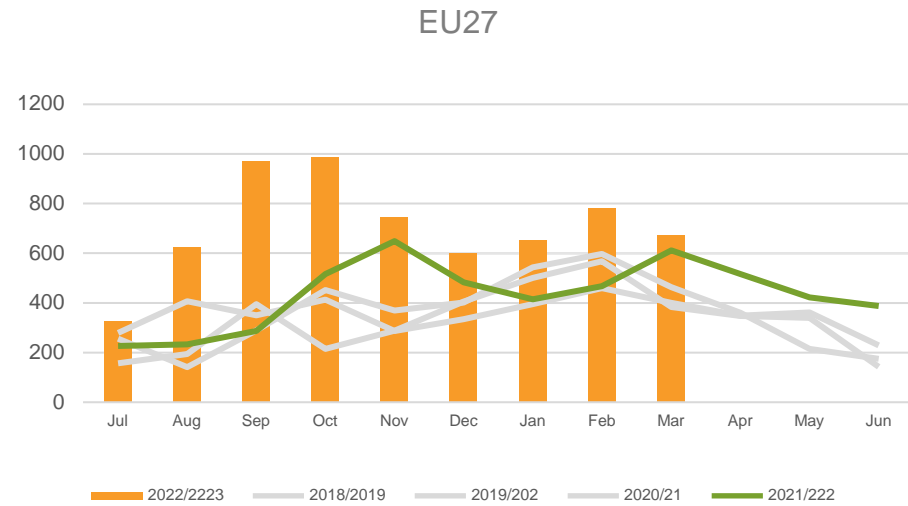


Source: Eurostat





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

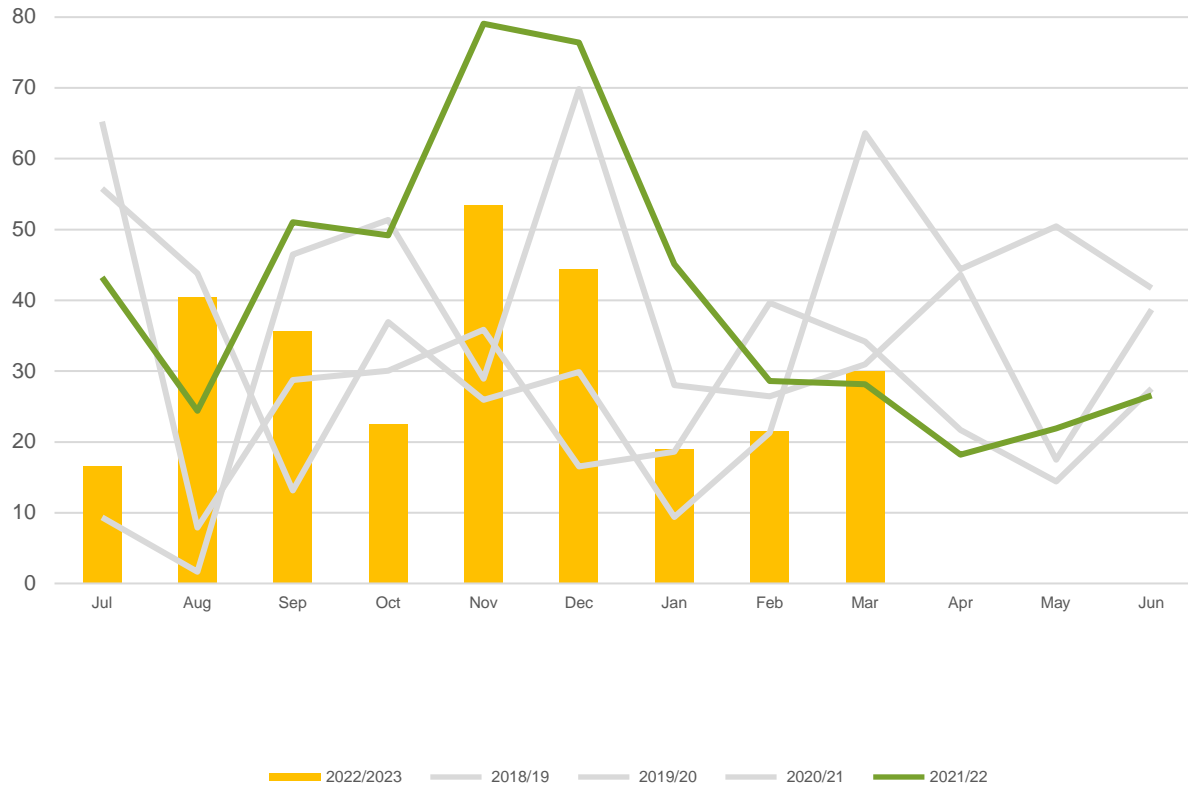


Source: Eurostat

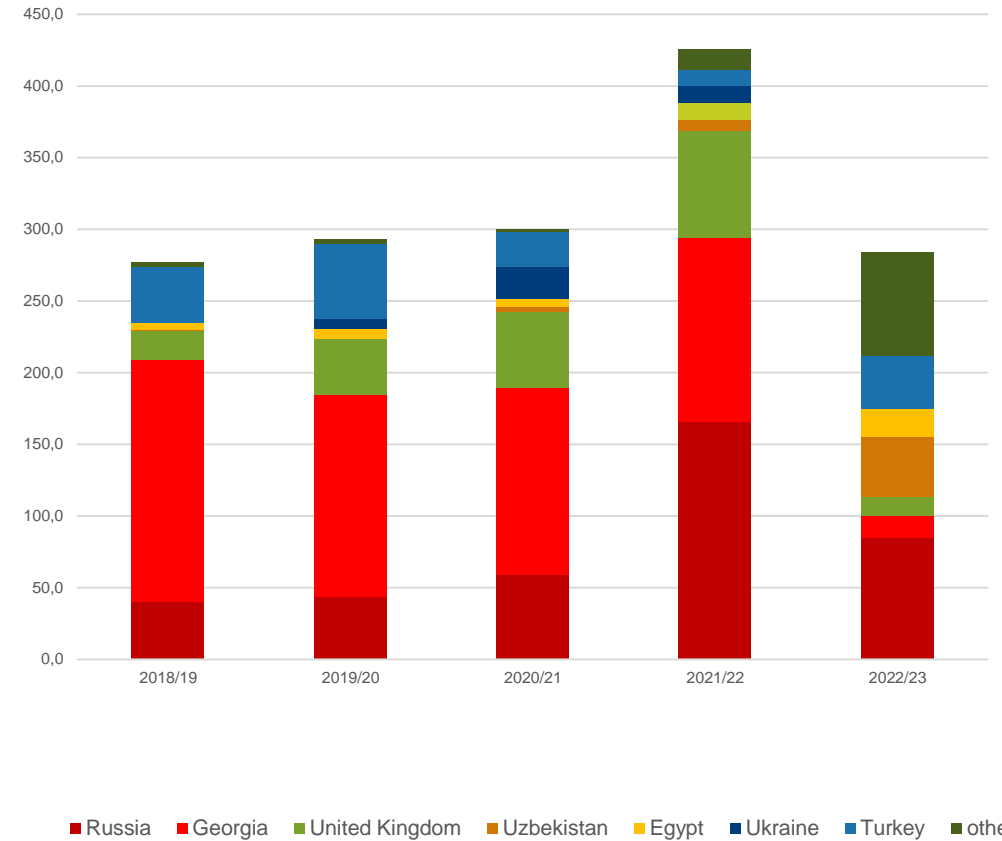
\* Urea imports include tech grade urea

# AN imports decreased compared to previous years

EU27

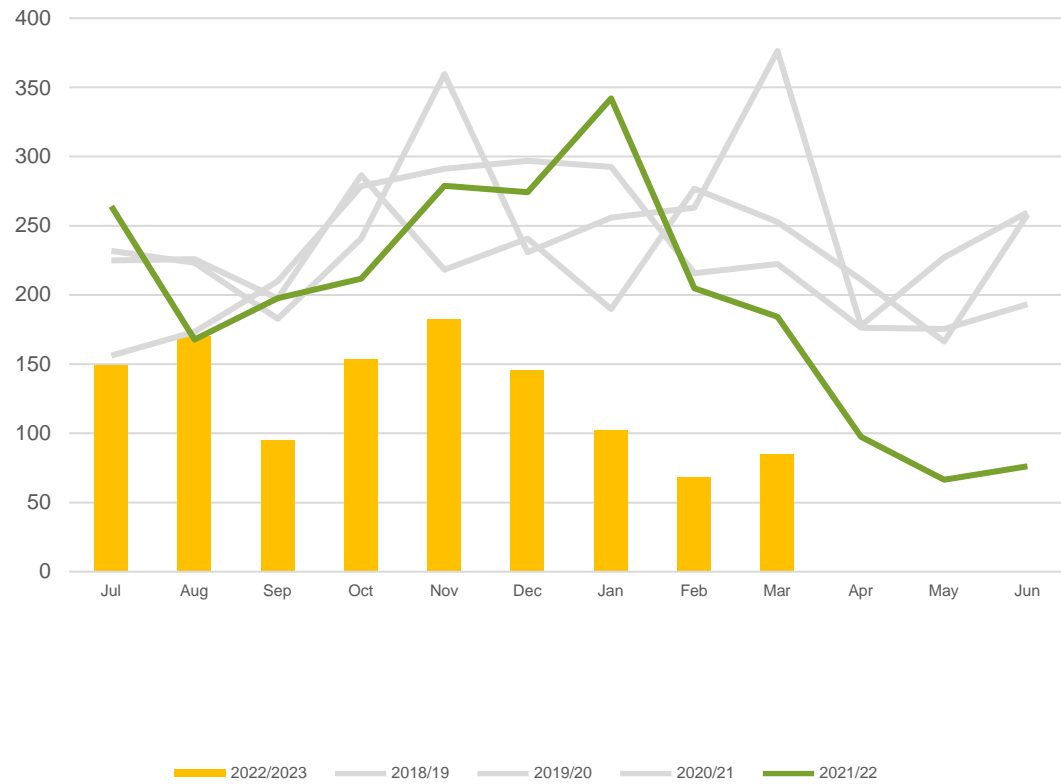


Season to date -33%

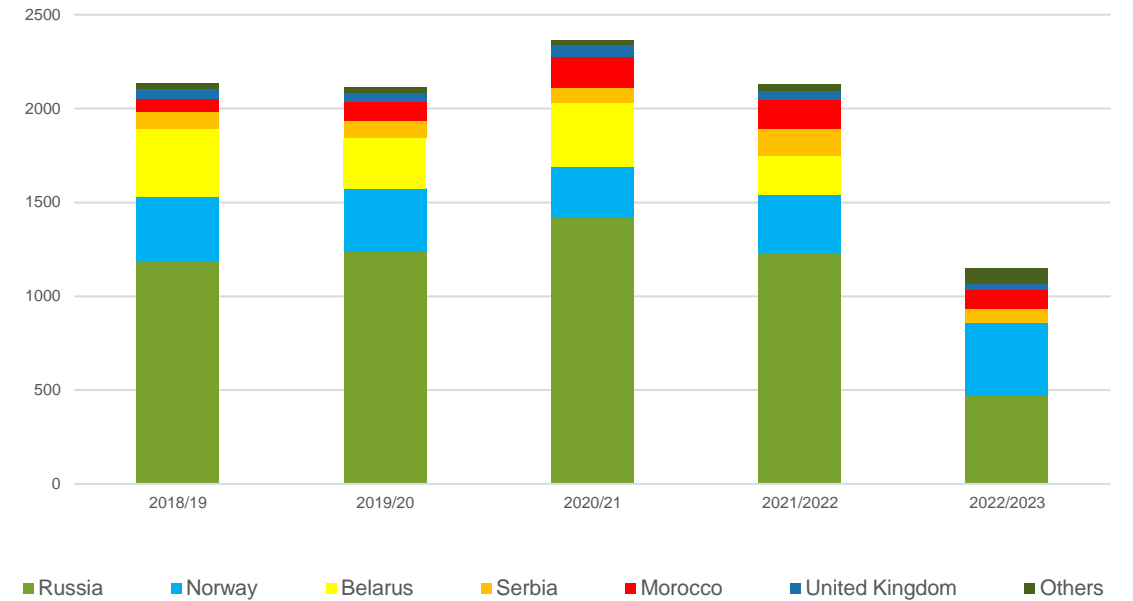


# NPK imports decreased

EU27



Season to date: -46%



Source: Eurostat

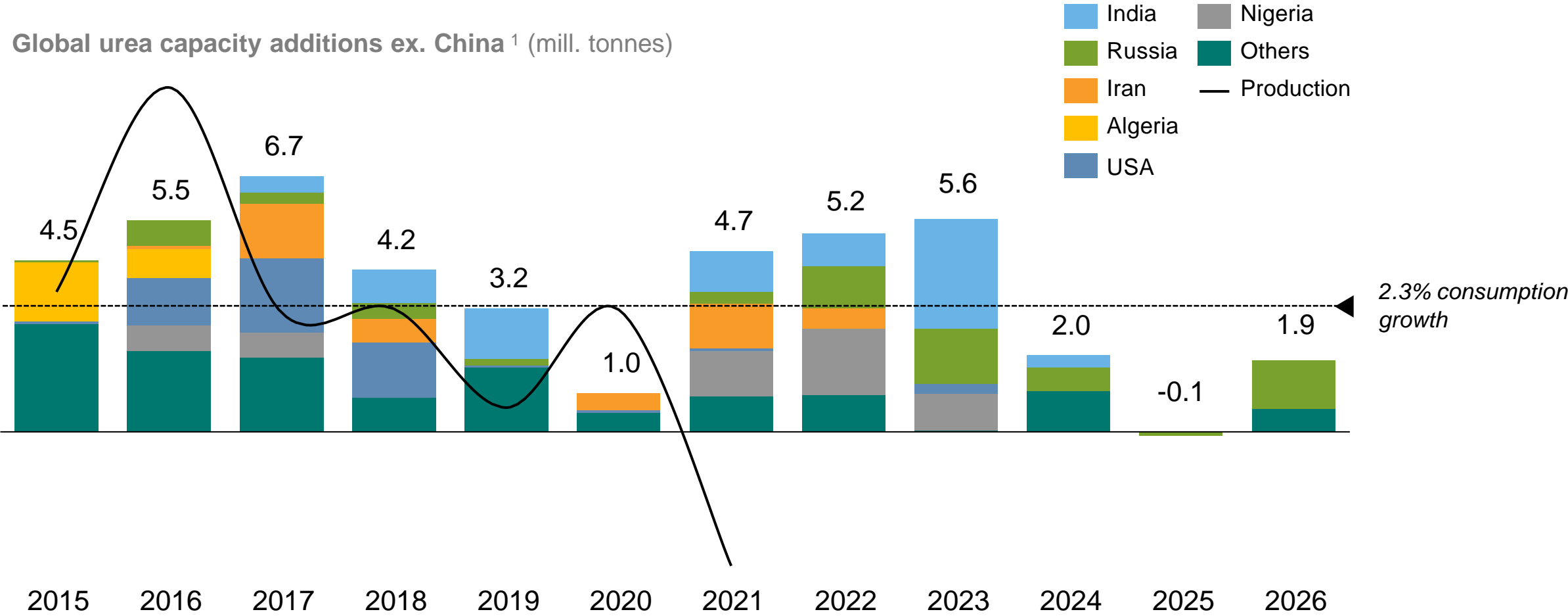


# A look ahead



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

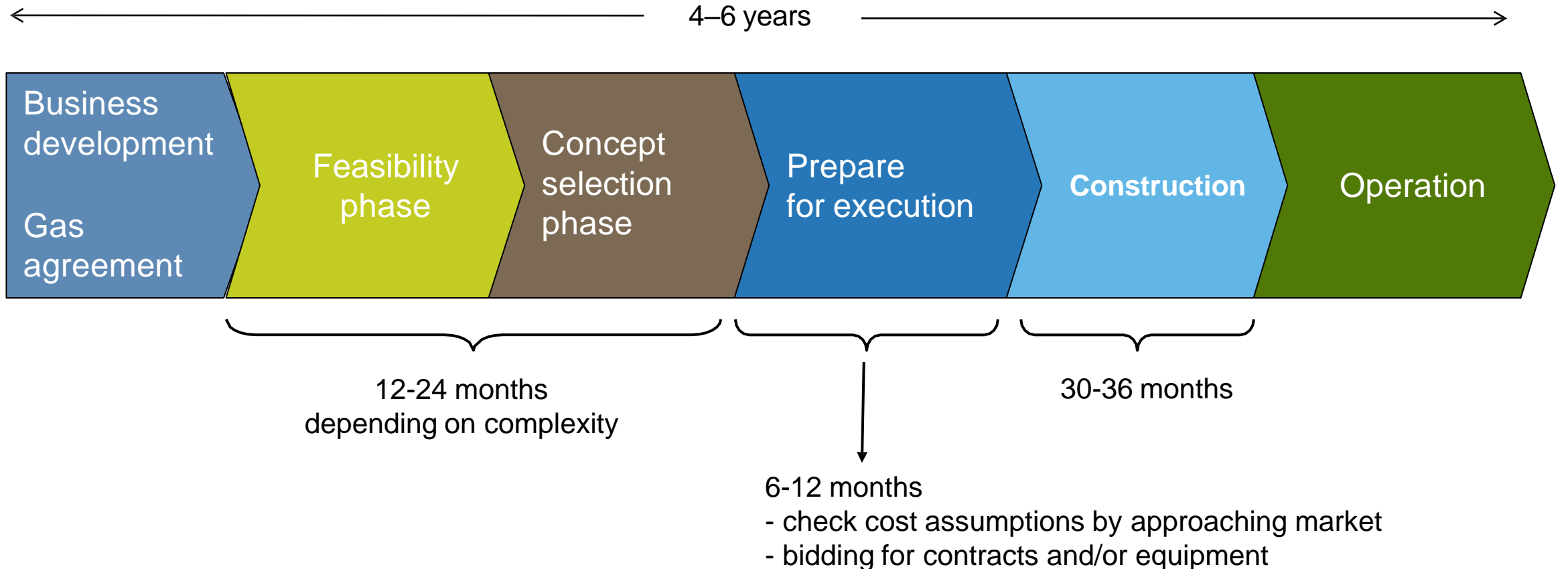
Global urea capacity additions ex. China <sup>1</sup> (mill. tonnes)



1) Urea projects assessed as “probable” by CRU

Source: CRU Aug 2022

# 5-year typical construction time for nitrogen fertilizer projects\*



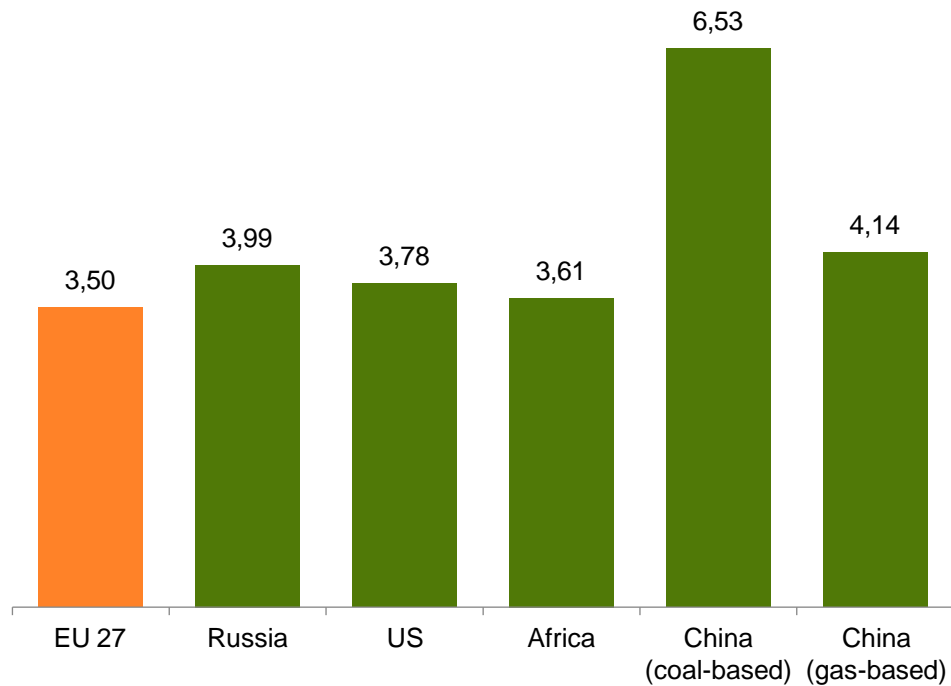
\* Ammonia and urea plant example



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

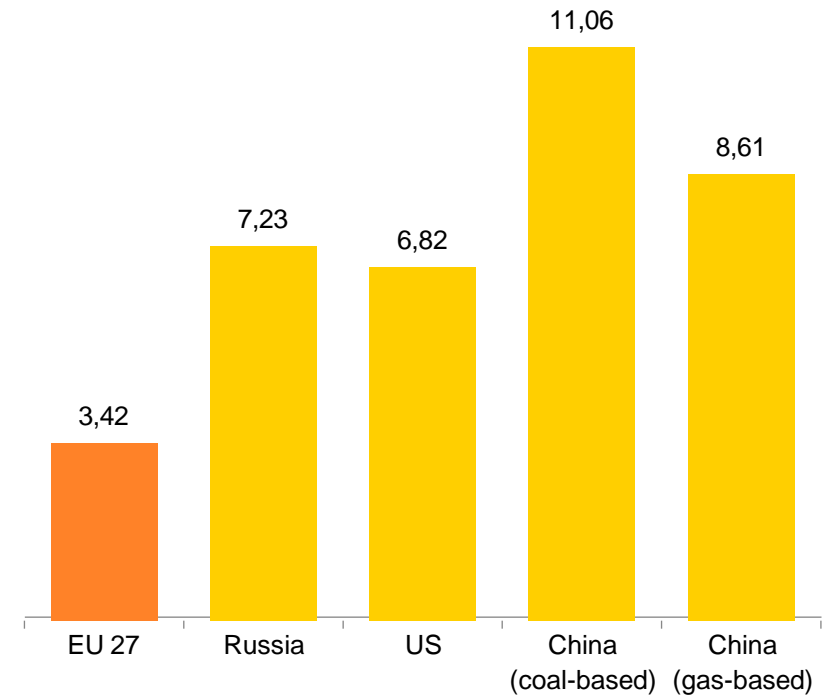
## Urea

kg CO<sub>2</sub> equivalents per kg urea nitrogen

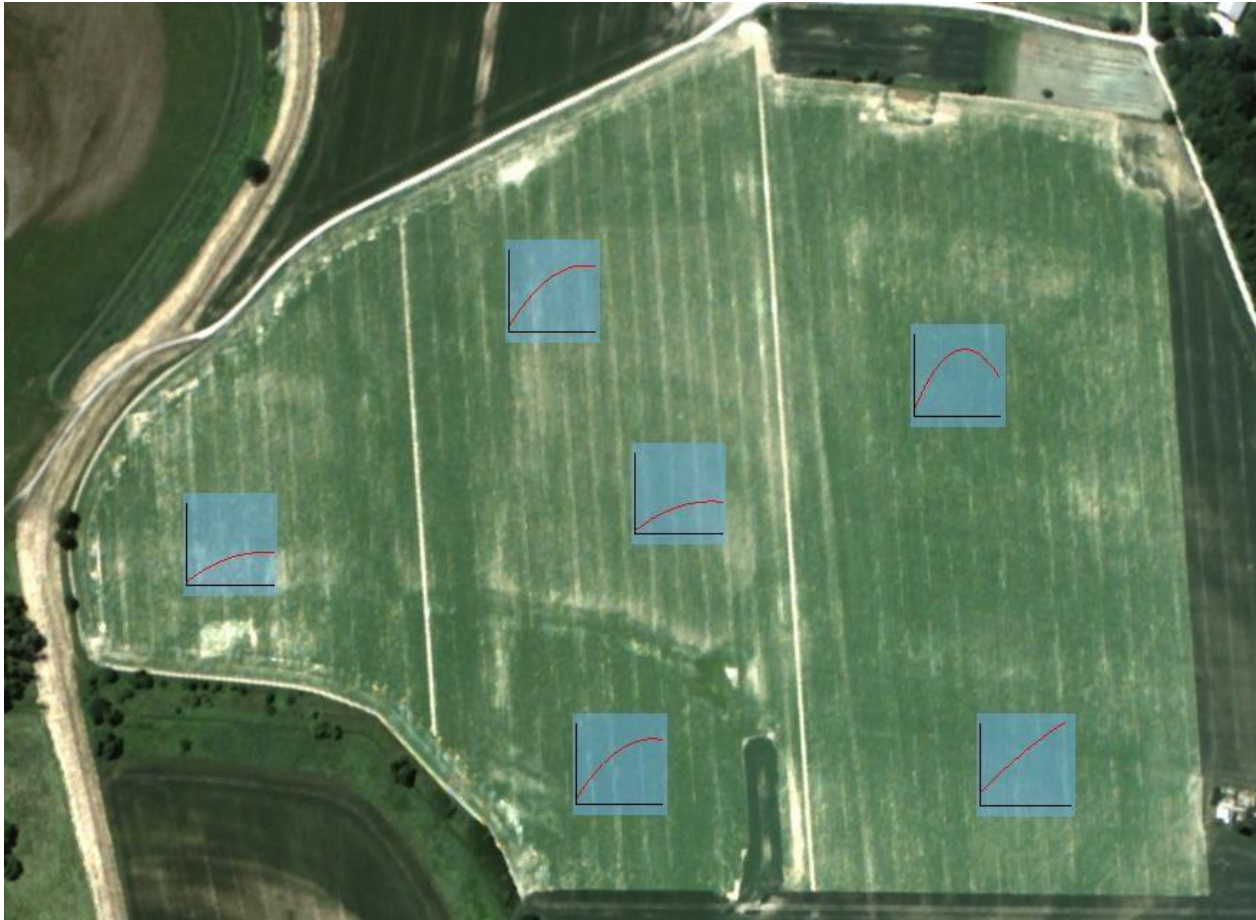


## Ammonium nitrate

kg CO<sub>2</sub> equivalents per kg AN nitrogen



# 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
- 
- **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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