

# Market Outlook

September 2023





# Notice to Investors

## Forward-Looking Statements

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Events or circumstances that could cause actual results to differ materially from those in the forward-looking statements include, but are not limited to: general global economic, market and business conditions; weather conditions, including impacts from regional flooding and/or drought conditions; crop planted acreage, yield and prices; the supply and demand and price levels for crops and crop nutrients; governmental and regulatory requirements and actions by governmental authorities, including changes in government policy (including tariffs and trade restrictions), government ownership requirements, changes in environmental, tax and other laws or regulations and the interpretation thereof; political risks, including civil unrest, actions by armed groups or conflict and malicious acts including terrorism; the occurrence of a major environmental or safety incident; risks of crises such as outbreaks, epidemics, pandemics or other similar public health crisis, and its resulting effects on economic conditions, restrictions imposed by public health authorities or governments, including government-imposed vaccine mandates; regional natural gas supply restrictions; the conflict between Ukraine and Russia and its potential impact on, among other things, global market conditions and supply and demand, energy and commodity prices; and other risk factors detailed from time to time in Nutrien reports filed with the Canadian securities regulators and the Securities and Exchange Commission in the United States.

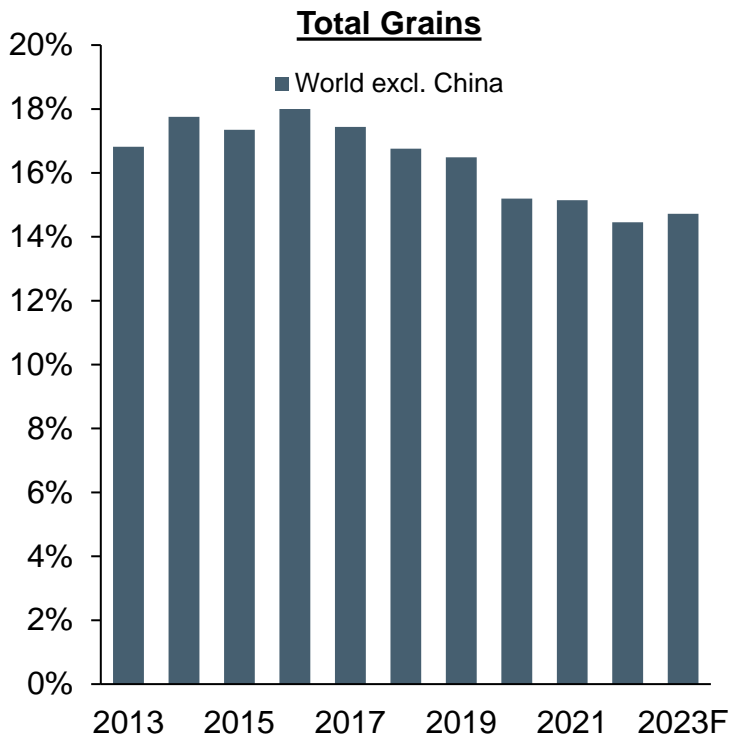
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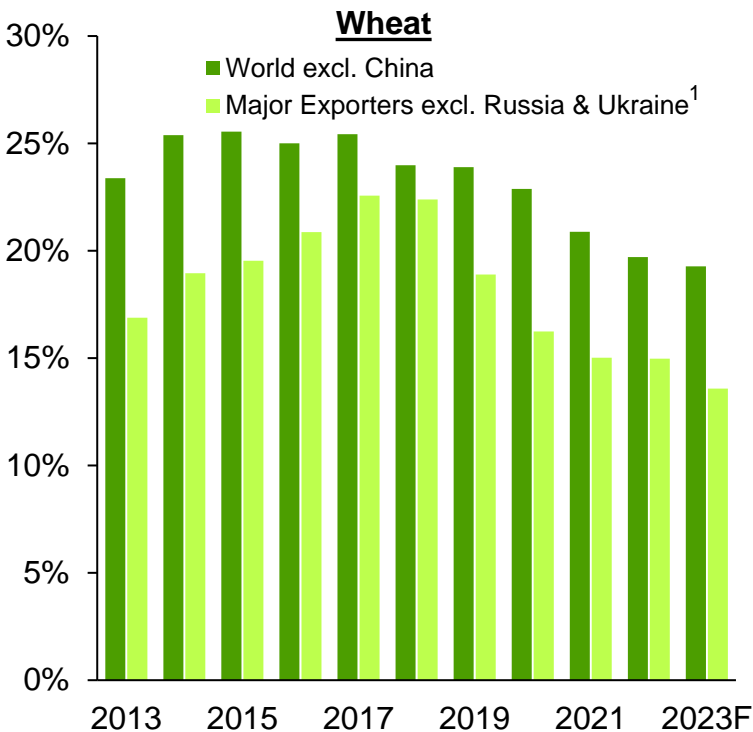
# Supply of key global grains continues to tighten

## Global Stocks/Use Ratios for Grains

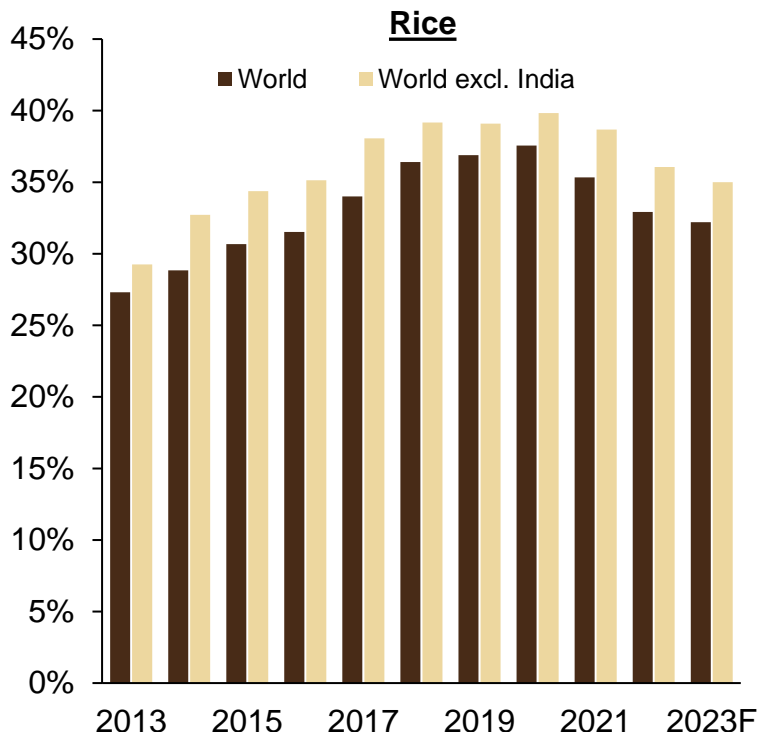
Percent



Historically low global grain supplies projected in 2023/24, making 4 consecutive years below 16%, which has only happened previously in the 1970s



Lowest wheat stocks/use ratios since 2007



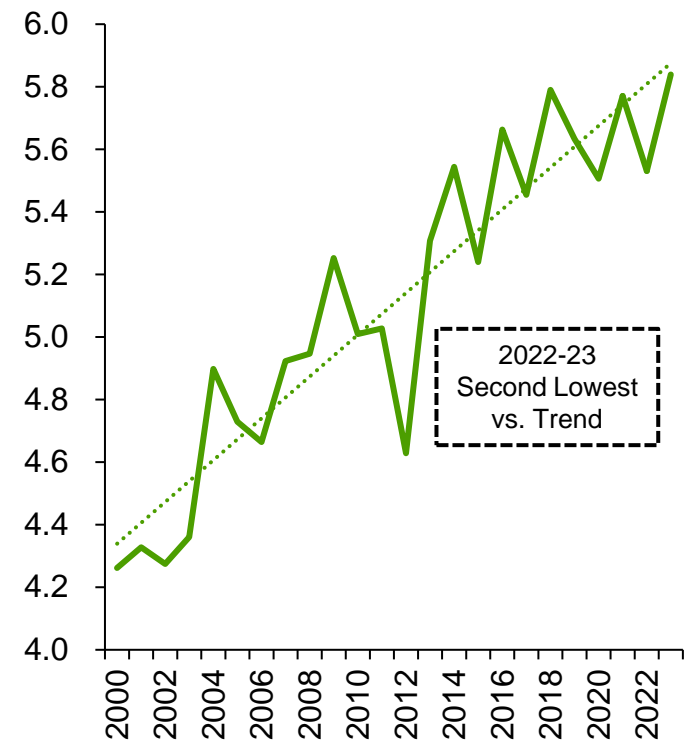
3<sup>rd</sup> consecutive year of tightening rice inventories and increased prices as a result of Indian export restrictions

1. Major exporters include United States, European Union, Australia, Argentina and Canada

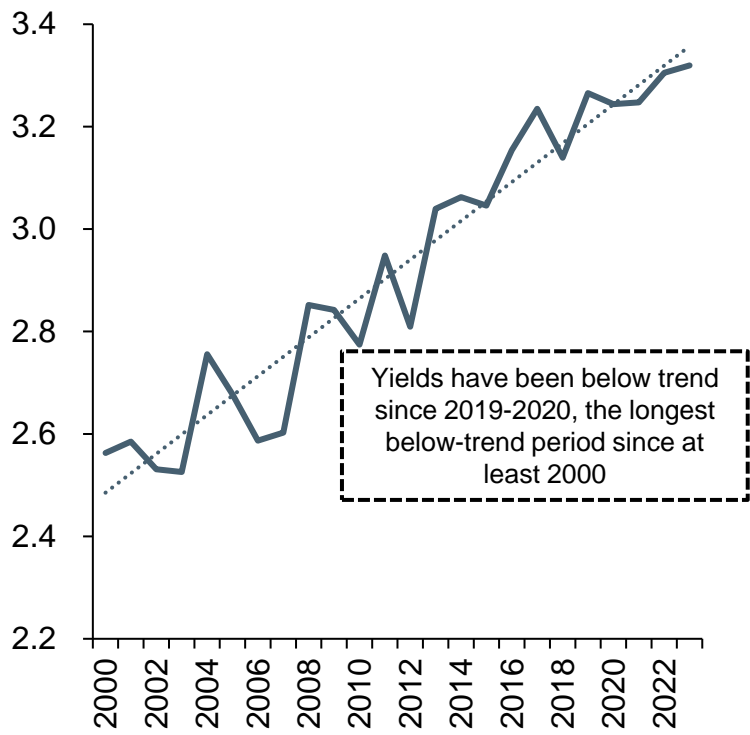


# Weather and sub-optimal nutrient application rates have both been drivers of recent below-trend grain yield levels

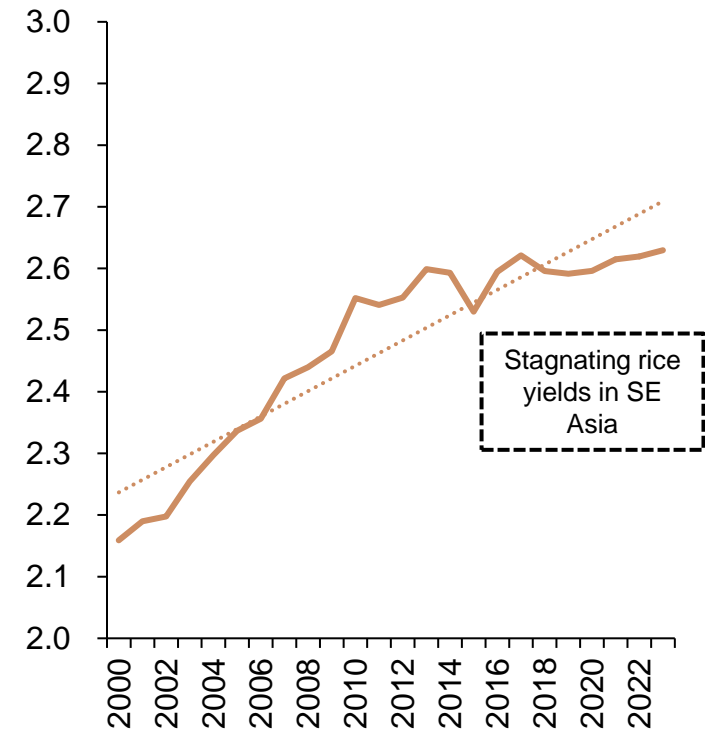
**Global Corn Yield** (excluding China)  
Tonnes/ha



**Global Wheat Yield** (excluding China)  
Tonnes/ha



**Thailand & Vietnam Rice Yields**  
Tonnes/ha



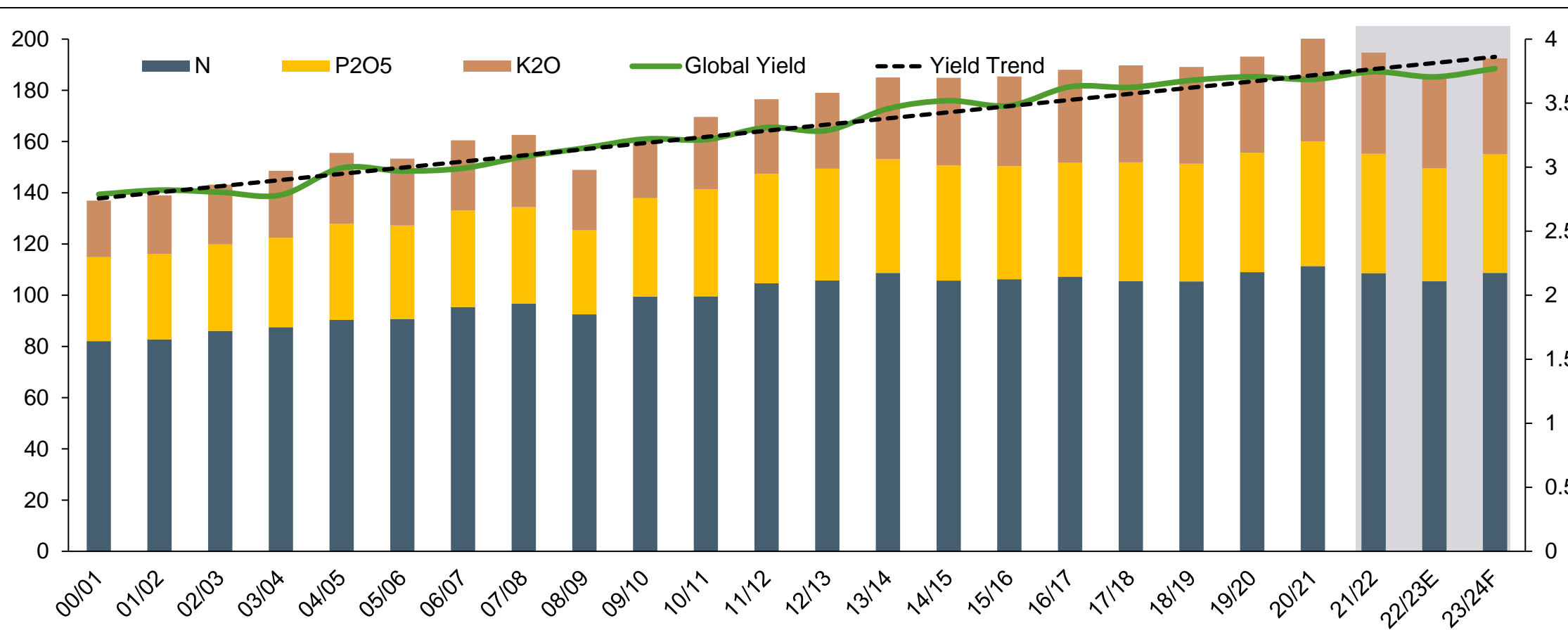




# Global crop yields have been at historically below-trend levels, corresponding to recent decline in nutrient applications

## Global Fertilizer Consumption & Crop Yields

Million Tonnes Nutrient Tonne/Hectare



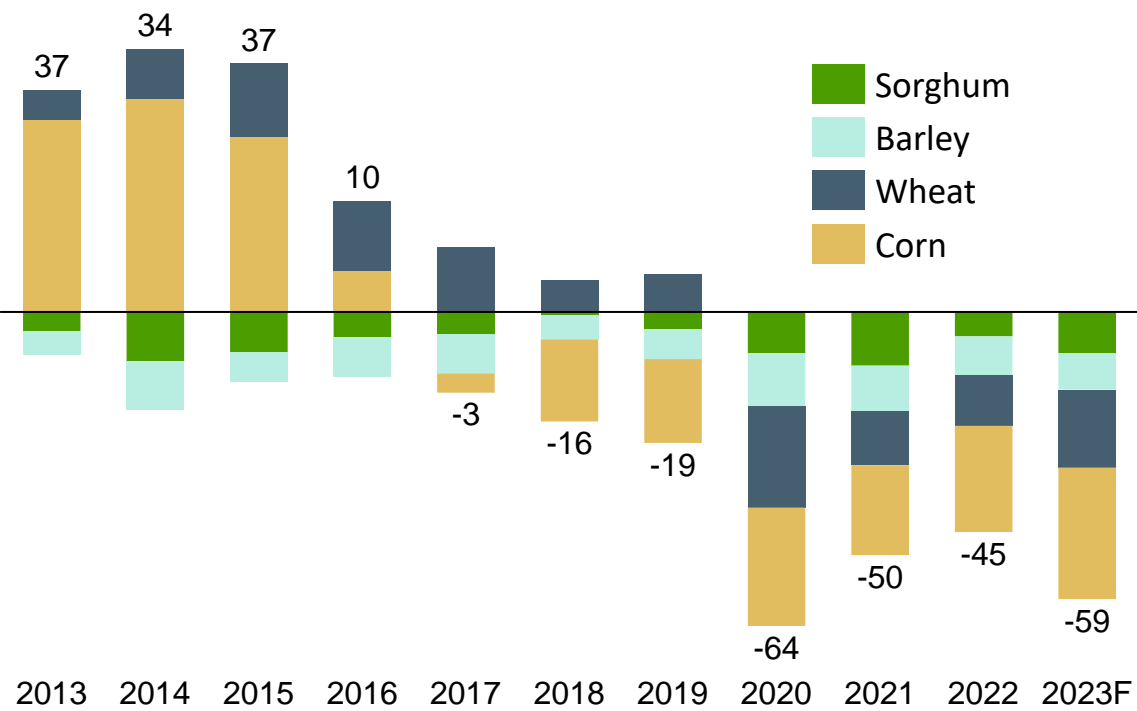
Note: Key crops shown for crop yields include corn, wheat, rice, rye, sorghum, oats, mixed grains, palm oil, canola, soybean and sunflower



# Structural deficit of China's grains as domestic yields are plateauing

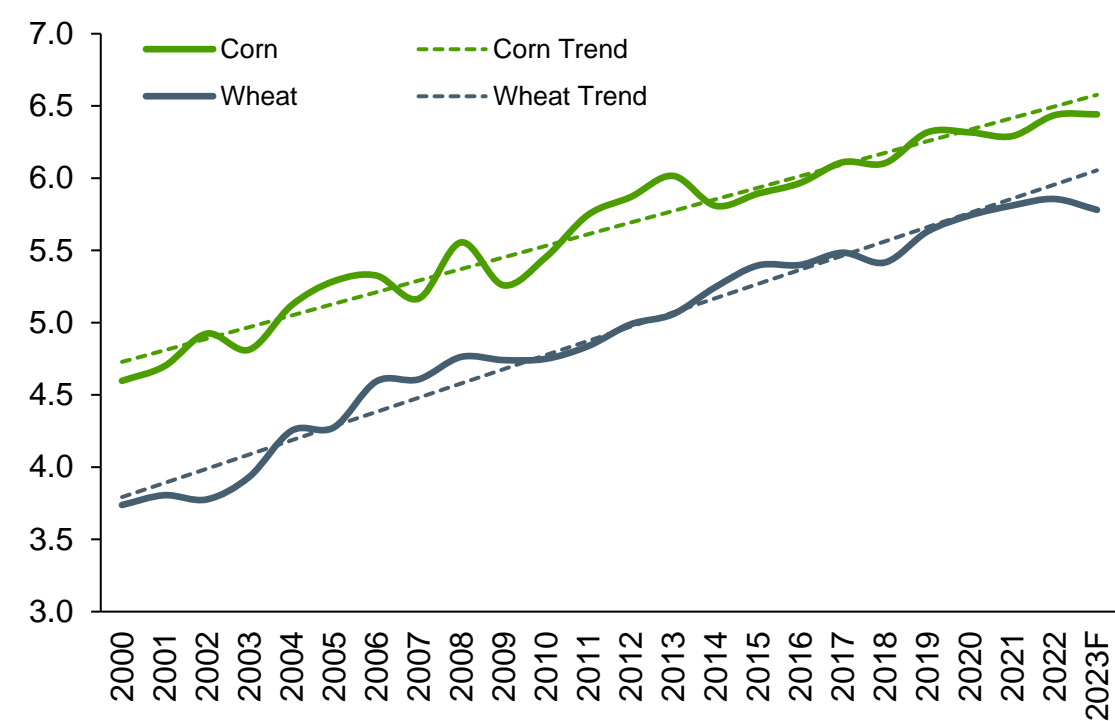
## China Major Grains Balance

Million Tonnes



## China Corn & Wheat Yields

Tonnes/Hectare



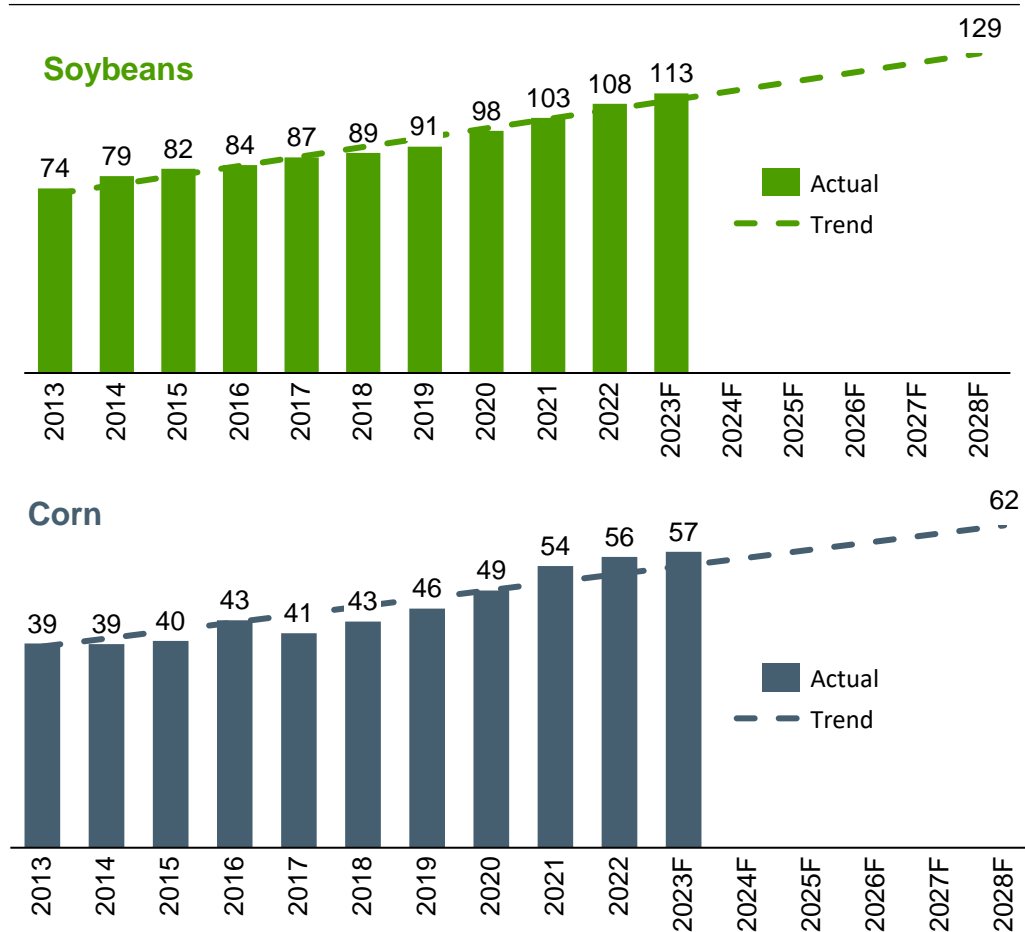
Structural shortfalls of major grains in China as a result of stagnating production

Multiple consecutive years of yields below historical trends in China, with 4 out of the past 5 years below trend in corn and each of the past 5 years below trend in wheat

# Brazil continues to boost production and export share of soybeans and corn, driving input demand growth

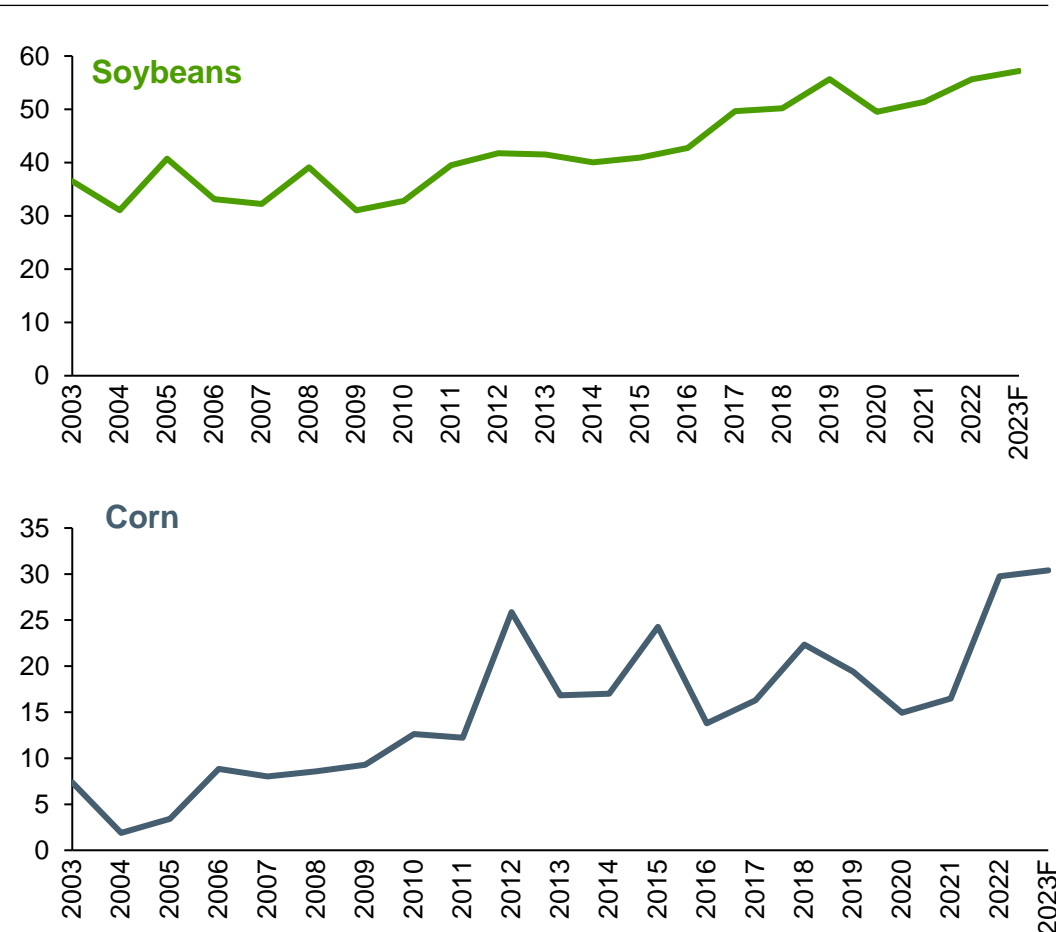
## Brazil Soybean & Corn Acreage

Million Acres



## Brazil Soybean & Corn Export Share

Percent

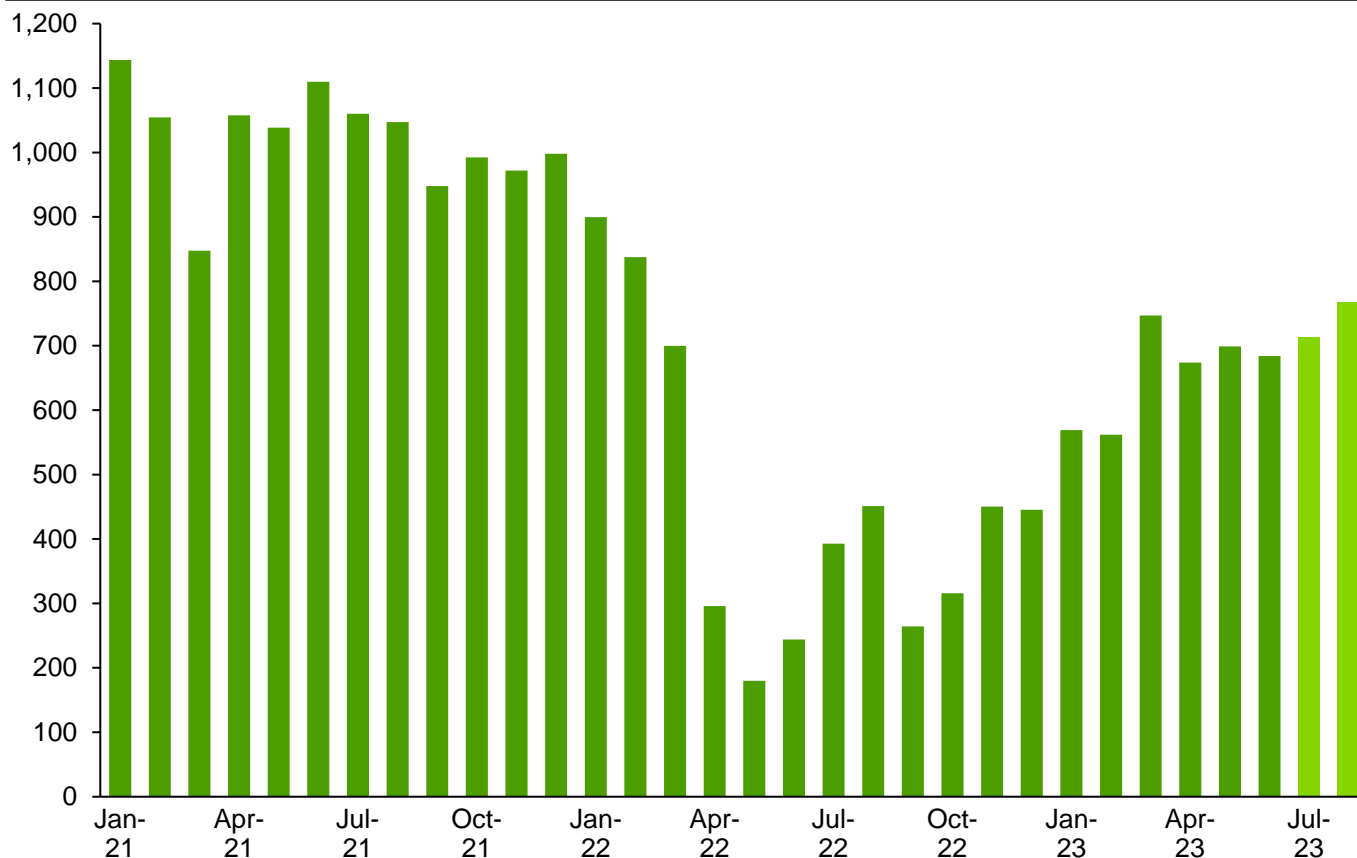




# Belarus potash shipments have been increasing in 2023 but remain well below 2021 levels

## Belarus Monthly Potash Exports

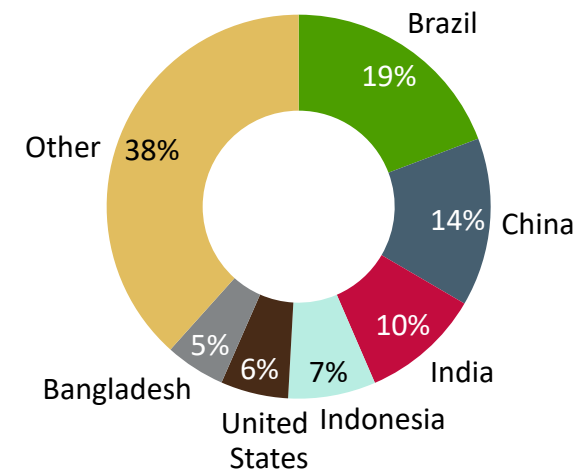
Thousand Tonnes



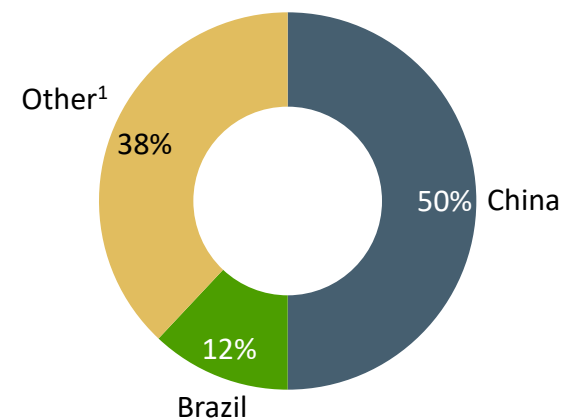
## Belarus Potash Exports by Destination

Percent

**2021**  
12.3 Mmt



**2023F**  
7-8 Mmt

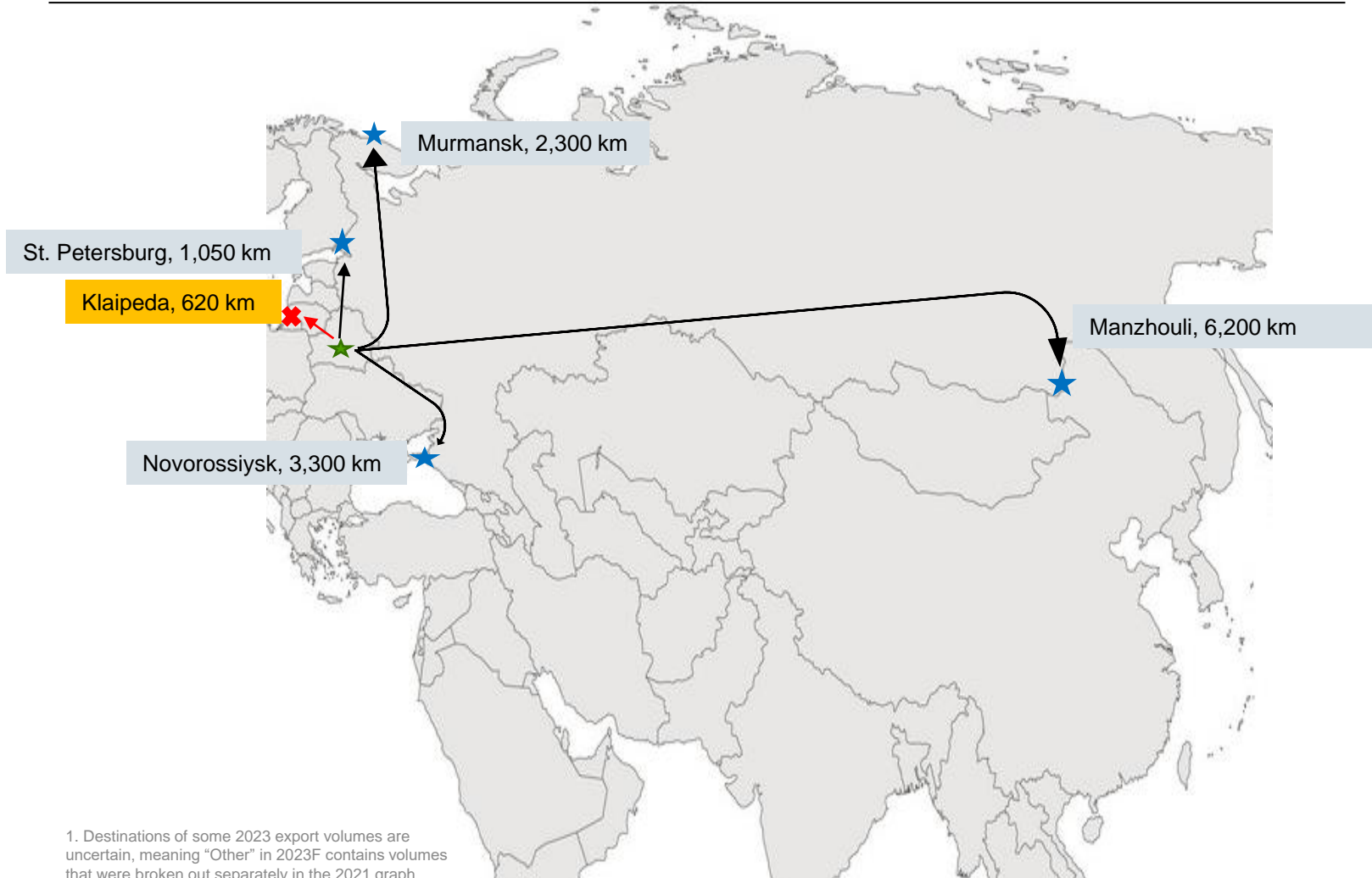


1. Destinations of some 2023 export volumes are uncertain, meaning "Other" in 2023F contains volumes that were broken out separately in the 2021 graph.

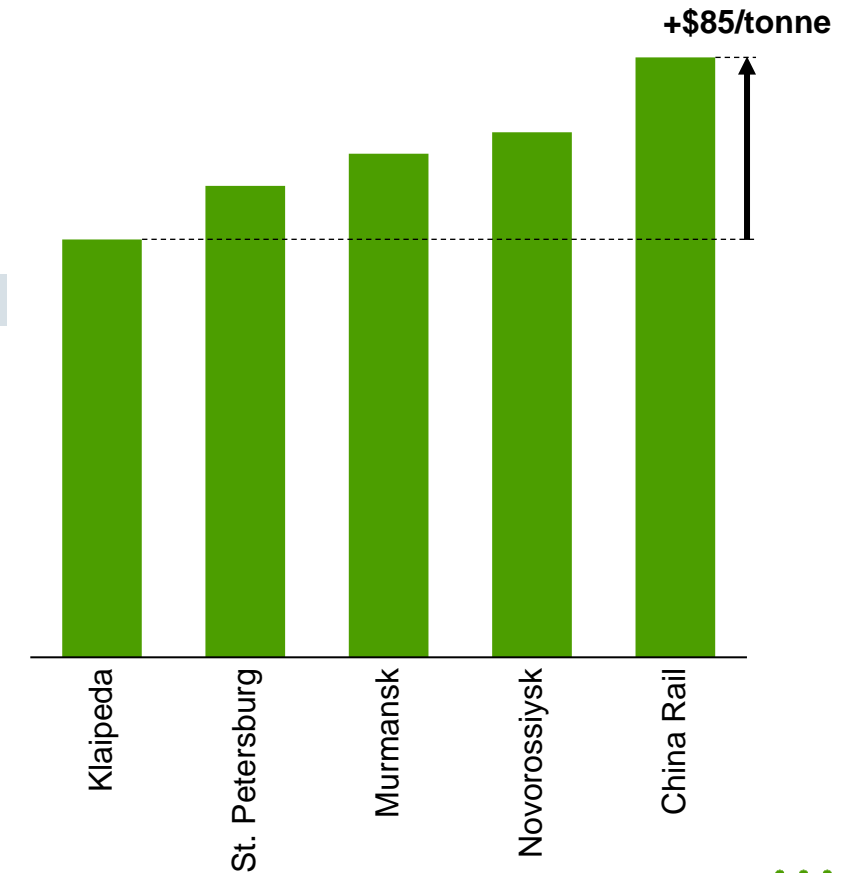


# Belarussian potash rail exports to China are increasing, resulting in a higher cost-to-serve

## Belarus Rail Distances



## Belarus Cost-to-Serve China Port (\$/tonne)

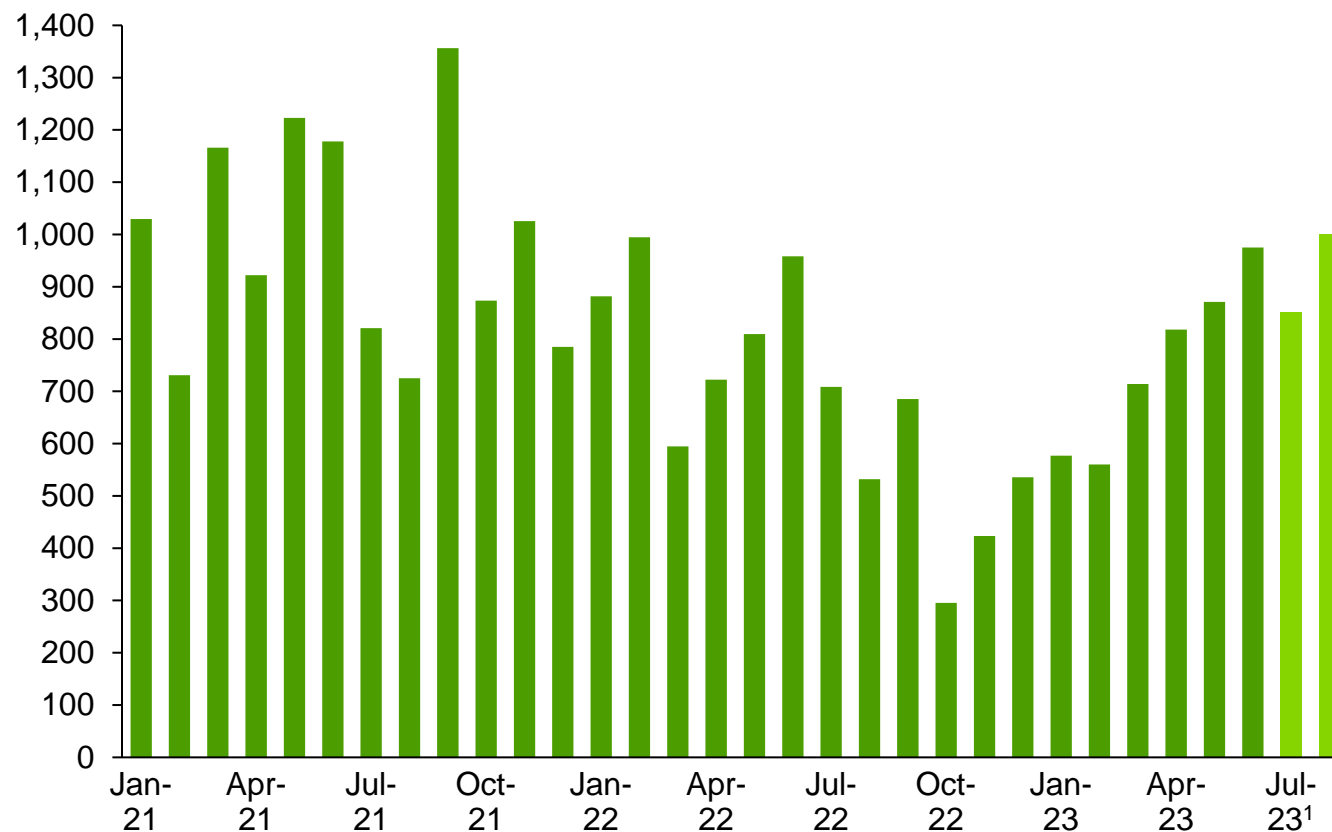




# Russian potash exports have increased in 2023 but remain well below 2021 levels

## Russia Monthly Potash Exports

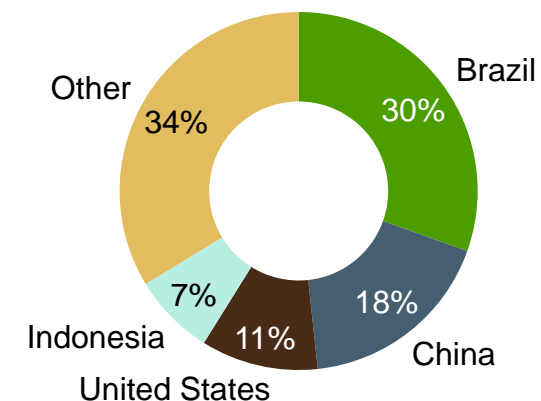
Million Tonnes



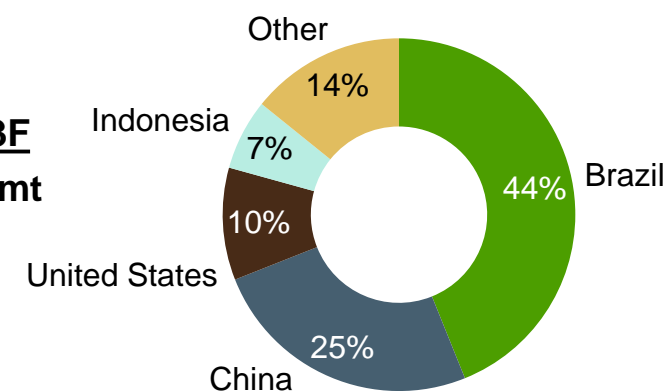
## Russia Potash Exports by Destination

Percent

**2021**  
11.8Mmt



**2023F**  
8-9Mmt



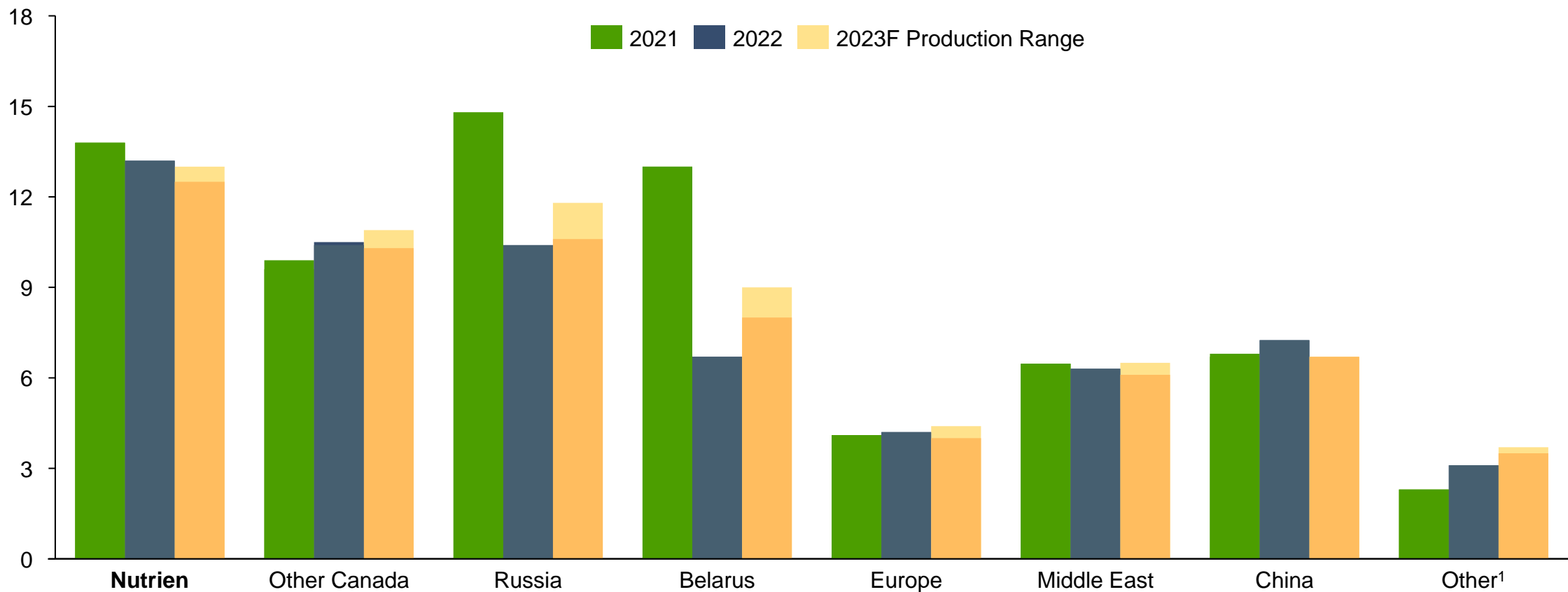
1. July and August 2023 data estimated based on most recent shipping data.



# Potash Production in Selected Regions

## Potash Production in Selected Regions

Millions of Tonnes KCl

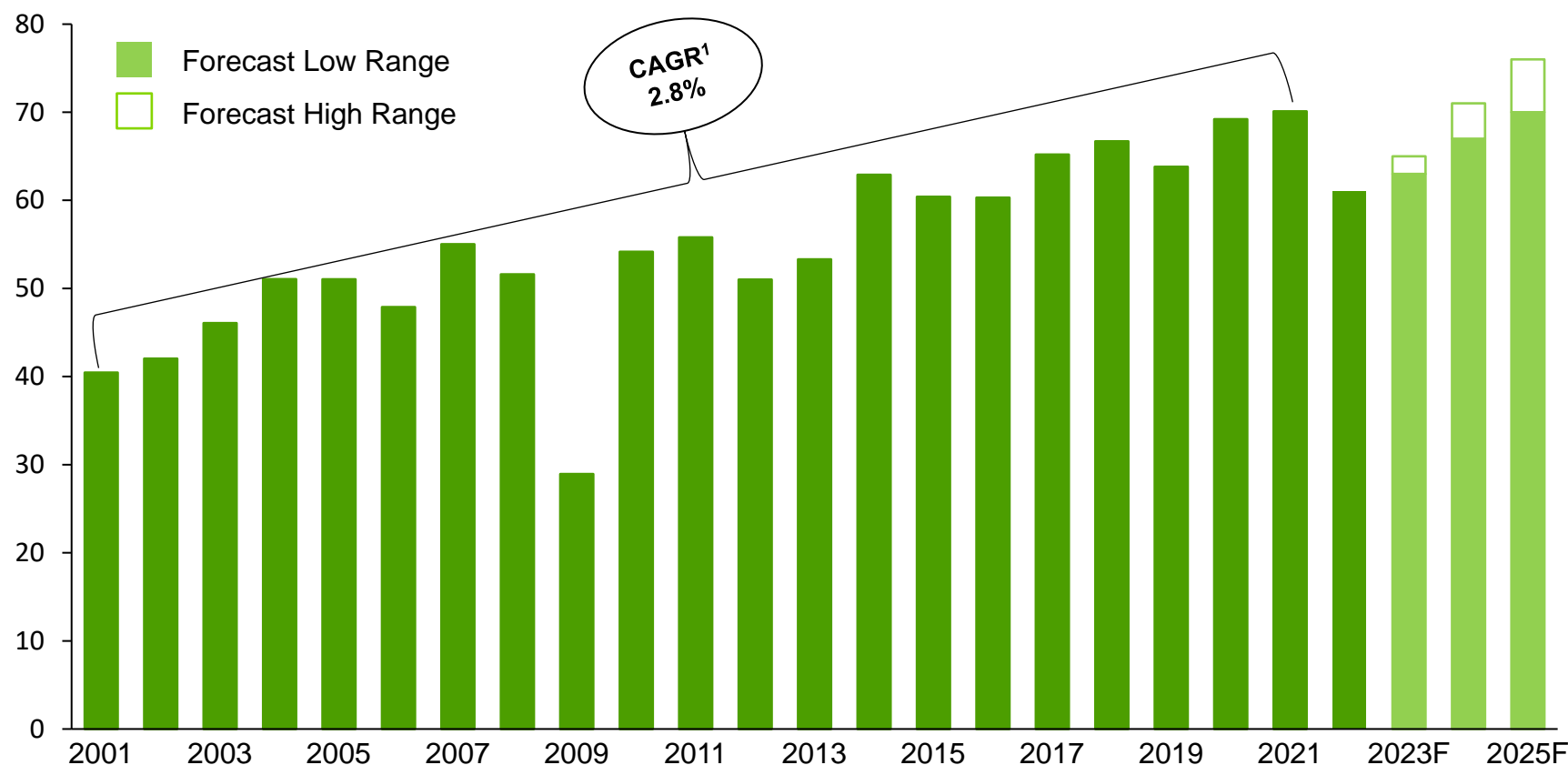


1. Includes production from Latin America and Laos.

# Expect long-term potash demand in line with historical growth rates

## Global Potash Demand

Millions of Tonnes KCl



- Historical periods of below trend demand have been followed by years of strong demand growth
- Nutrien's projected potash demand by 2025 falls in line with historical market growth rates

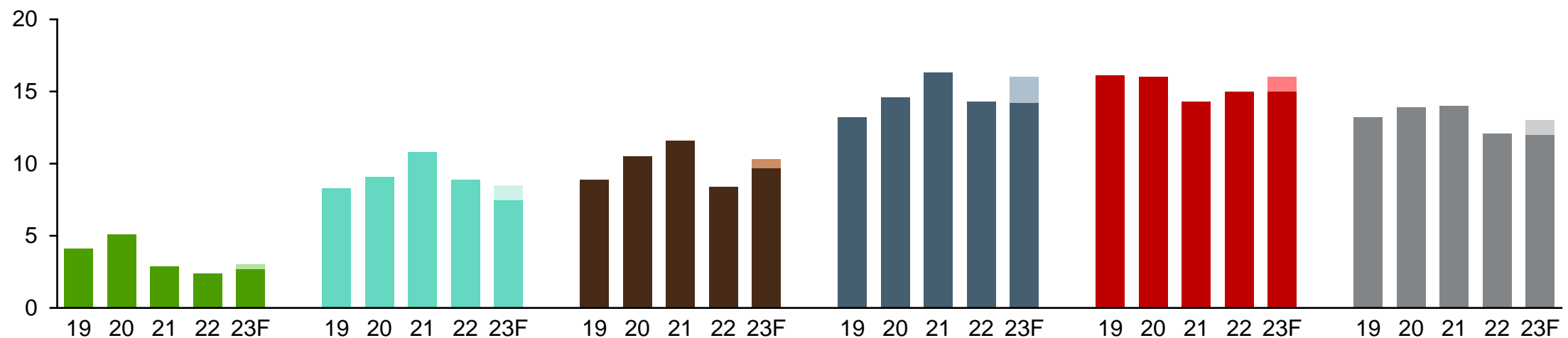
1. The 2.8% CAGR is based on the 20-year period of 2001-2021.



# Expect increased potash demand in North America and Brazil in 2023

## Potash Demand

Millions of Tonnes KCl



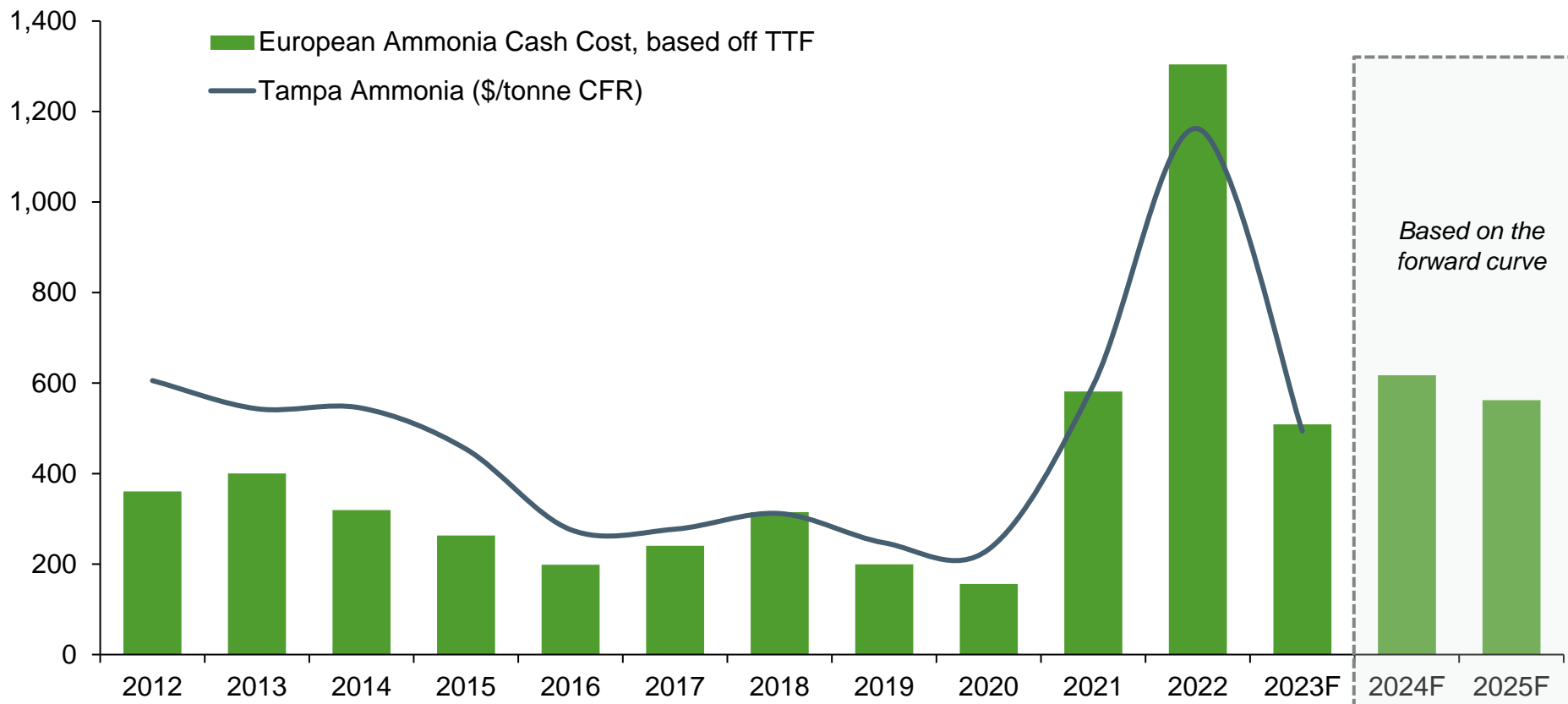
	India	Other Asia	North America	Latin America	China	Other
2022	2.4Mmt	8.9Mmt	8.4Mmt	14.3Mmt	15.0Mmt	12.1Mmt
2023 Forecast	<div>2.7 – 3.0Mmt</div> <div>Potential for improved affordability based on lower prices, although we anticipate shipments will fall below historical levels.</div>	<div>7.5 – 8.5Mmt</div> <div>Buyers destocked inventories through the first half of 2023. Palm oil prices are supportive of demand and buyers have started to reengage given lower inventory levels.</div>	<div>9.7 – 10.3Mmt</div> <div>Increased acreage and strong crop commodity prices led to healthy demand in spring 2023 and depleted channel inventories to historically low levels, which supported strong engagement on summer fill programs</div>	<div>14.2 – 16.0Mmt</div> <div>Brazil's 1H'23 imports are in-line with recent years and the domestic shipments have picked up recently driven by attractive potash affordability.</div>	<div>15.0 – 16.0Mmt</div> <div>China's 2023 potash contract settled in June provided market participants with price clarity for the balance of 2023. Gov't policies incenting increased grain production are expected to support crop input use.</div>	<div>12.0 – 13.0Mmt</div> <div>Growing demand for NPK fertilizers are expected to continue boosting potash demand in the long-run, however supply constraints likely to result in below trend demand in 2023.</div>



# European natural gas prices are well above long-term average levels and have led to ~25% of European nitrogen capacity curtailed

## European Gas, Ammonia Production Cost<sup>1</sup> and Key Ammonia Prices

US\$/tonne



- **European natural gas forward prices are currently trading above \$15/MMBtu** through 2023, and remain above pre-2021 highs through 2028
- **Natural gas prices and in turn nitrogen prices are likely to be volatile** depending on Russia/EU relations and demand factors including weather

1. Future production costs estimated based on forward curve for Dutch TTF, as of August 31, 2023.

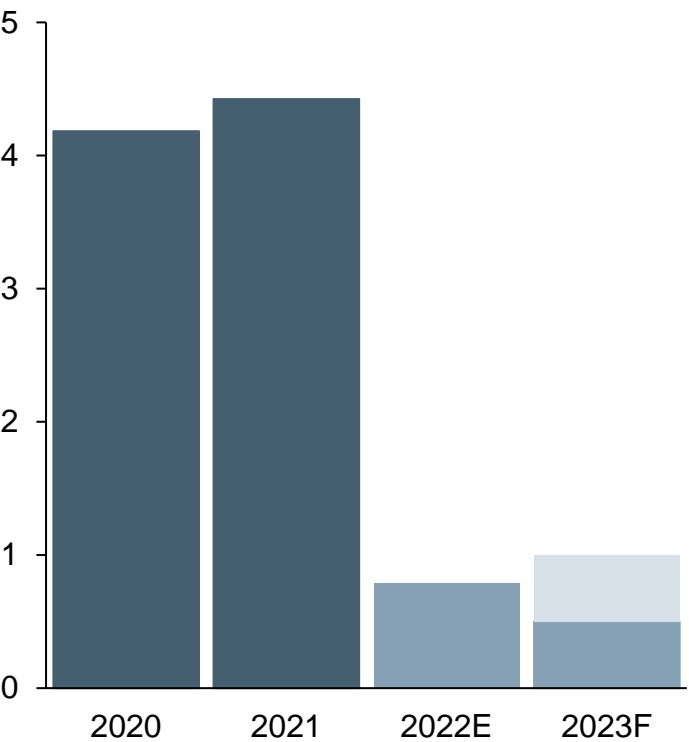




# Nitrogen supply from key regions remains constrained

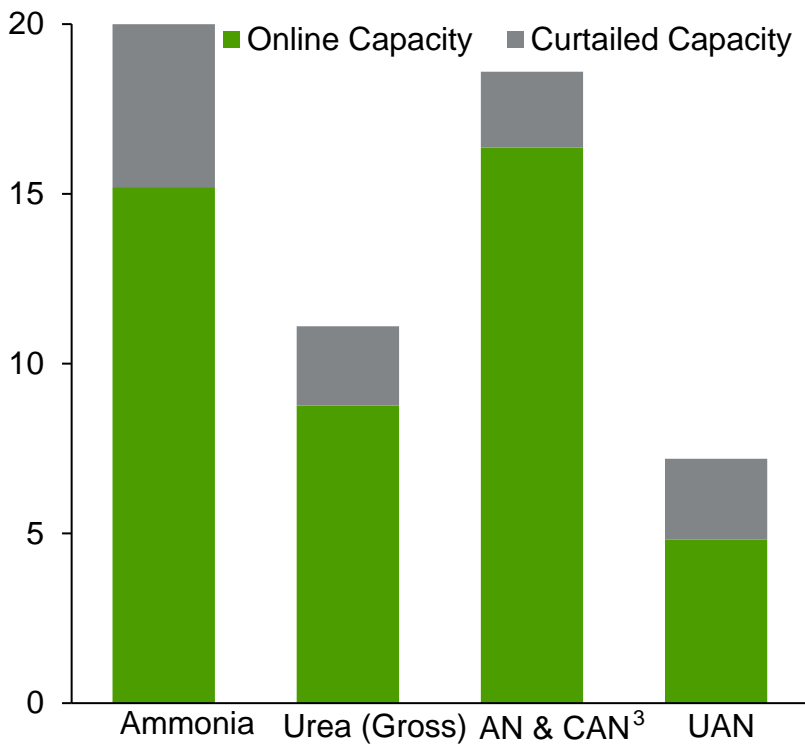
## Russian Ammonia Exports

Million Tonnes



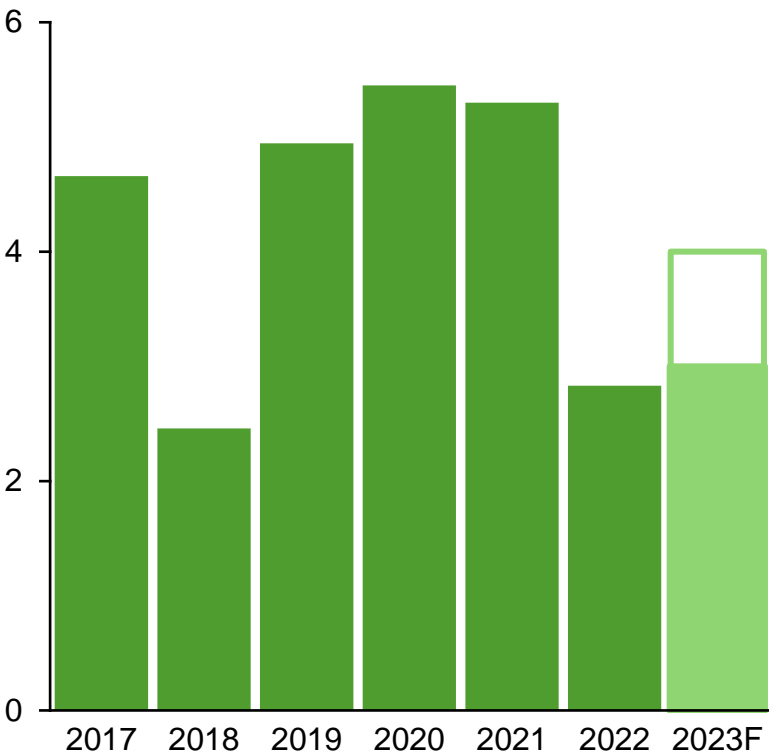
## European Nitrogen Capacity<sup>1,2</sup>

Million Tonnes



## China Urea Exports

Millions of Tonnes



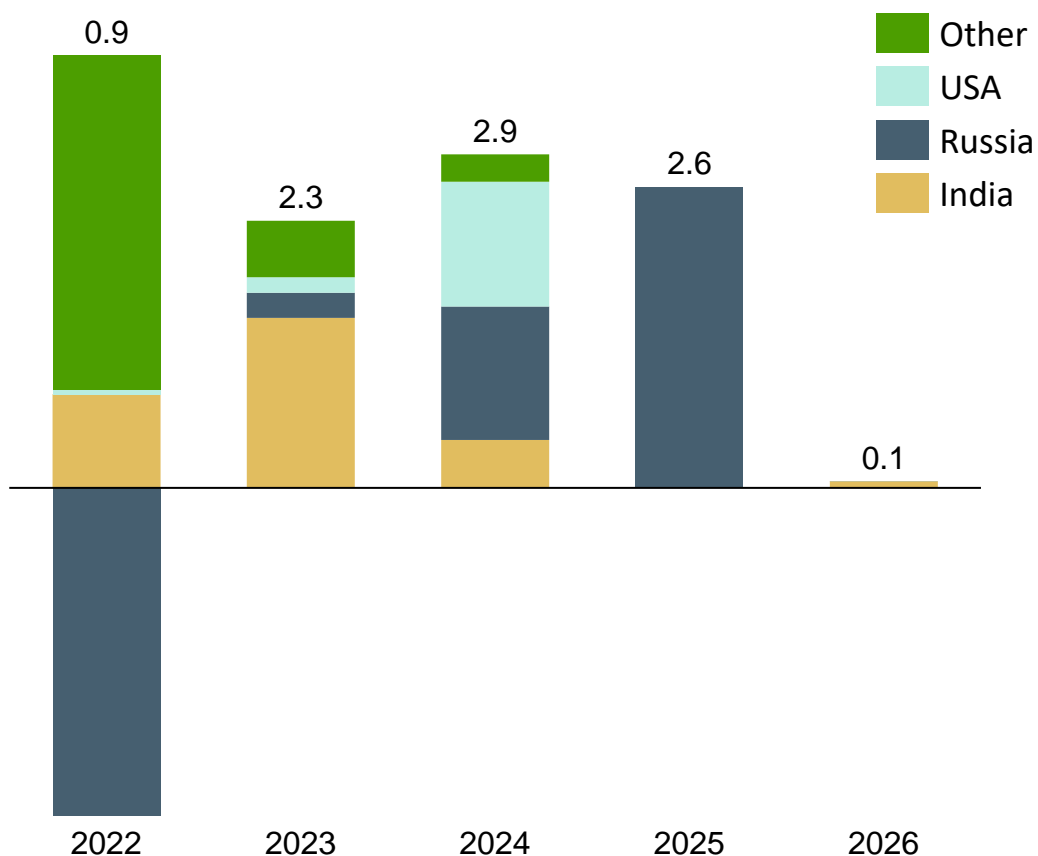
1. Capacity curtailments are point in time as of September 1, 2023, and represent current annualized run rate capability, vs estimated operating capacity.  
2. Russia excluded from capacity curtailments.  
3. Curtailments to AN & CAN are estimated based on total nitrate curtailments.



# Relatively slow nitrogen capacity growth is expected, with higher uncertainty around Russia

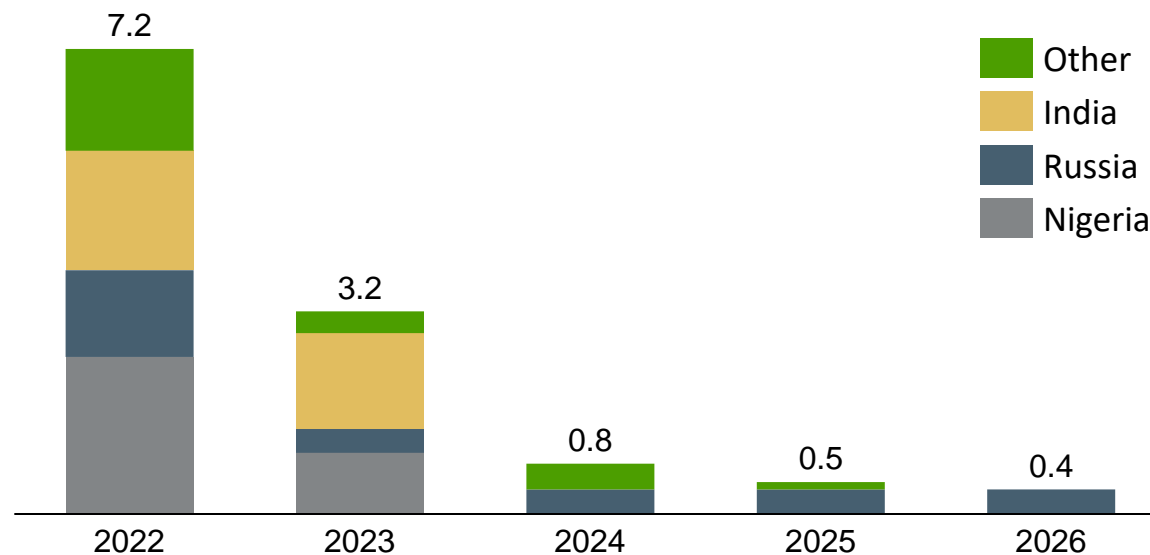
## Global Gross Ammonia Operational Capability Additions

Million Tonnes (Excluding China)



## Global Gross Urea Operational Capability Additions

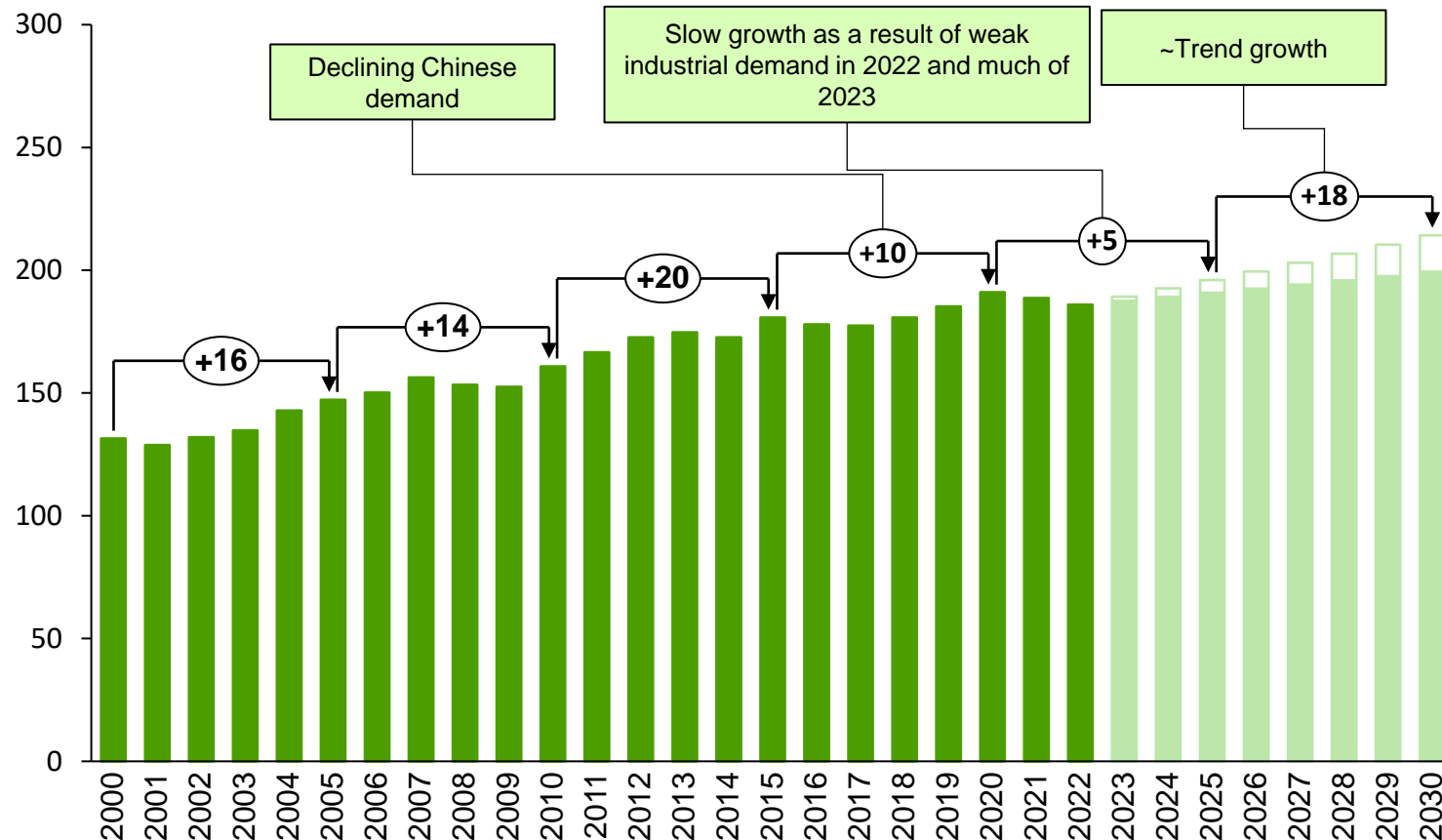
Million Tonnes (Excluding China)



# Industrial nitrogen demand has been weak the last few years, but a strong tendency to revert to trend over the long-term

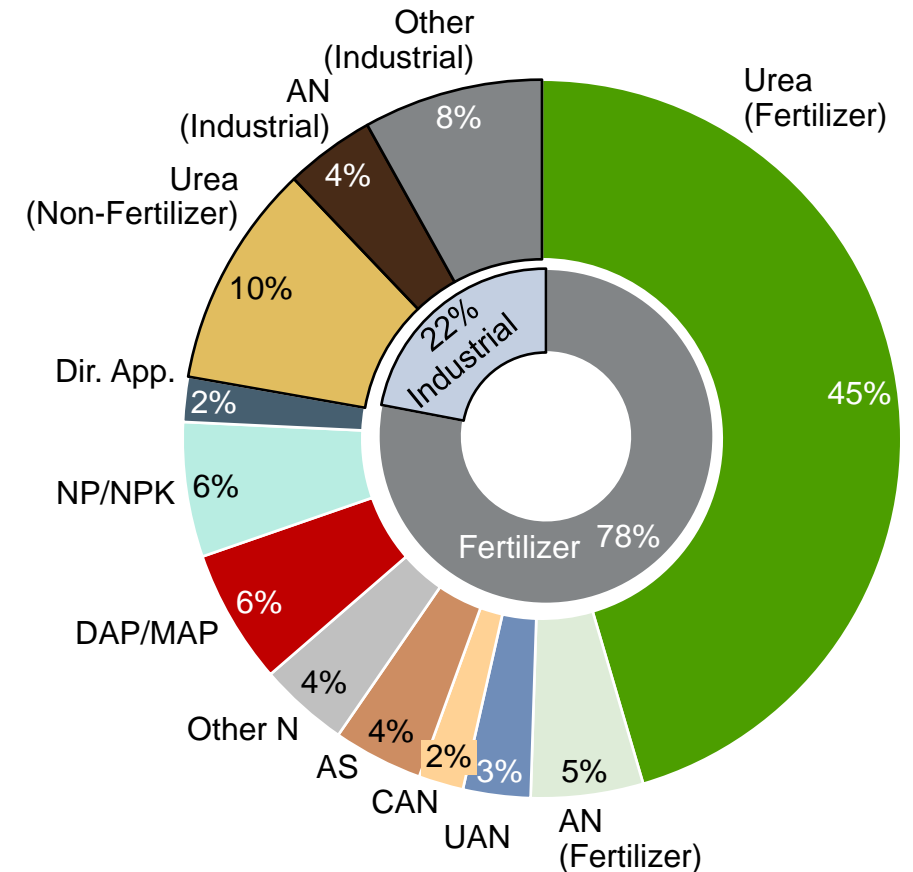
## Global Ammonia Demand

Million Tonnes of Ammonia



## Global Ammonia Demand by End Use

% of Ammonia End Uses





# Thank You!

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