Platts | CERAWeek | Chemical Week

FERTECON

S&P Global
Commodity Insights

Mining for Nutrients

The Evolving Role of Phosphates and Potash
(And Let's Not Forget Nitrogen)

A presentation for the Mining and Metallurgical Society of America

Alberto Persona / Associate Director — Fertilizer Analytics

May 9th, 2025

Image credits: PhotographyTTL via Getty Images

S&P Global
Commodity Insights

S&P Global Commodity Insights

What we do: various analytical approaches, applied to various industries

Coverage:

- Market Price Reports
- Short-Term Forecasts
- Long-Term Market Outlooks
- Proprietary Market Data
- Project Consulting

A simple example:

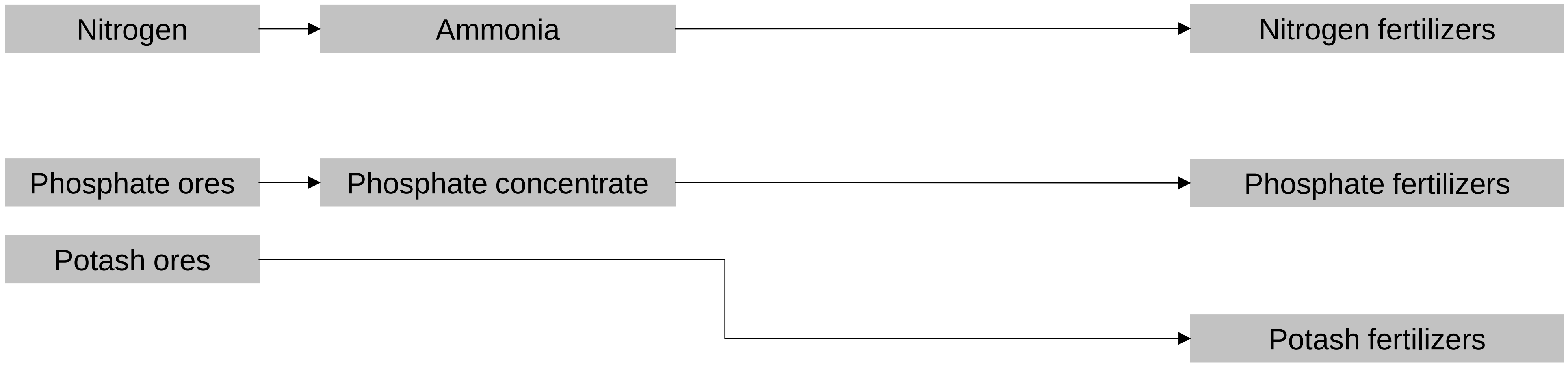
“Notice: there’s an outbreak of African Swine Fever in China. How is it evolving, what is the impact on pork chops, and can this have an impact on the fertilizer market, or on diesel prices?”

Contents of today's presentation

- The nitrogen/phosphate/potash value chain: a quick refresher
- Current market structure: consolidated supply structures, progressively more fragmented demand
- Demand drivers: fertilizer demand vs non-fertilizer demand
- Ensuring availability in the long-term: challenges for new projects
- Retaliatory tariffs: potential impact

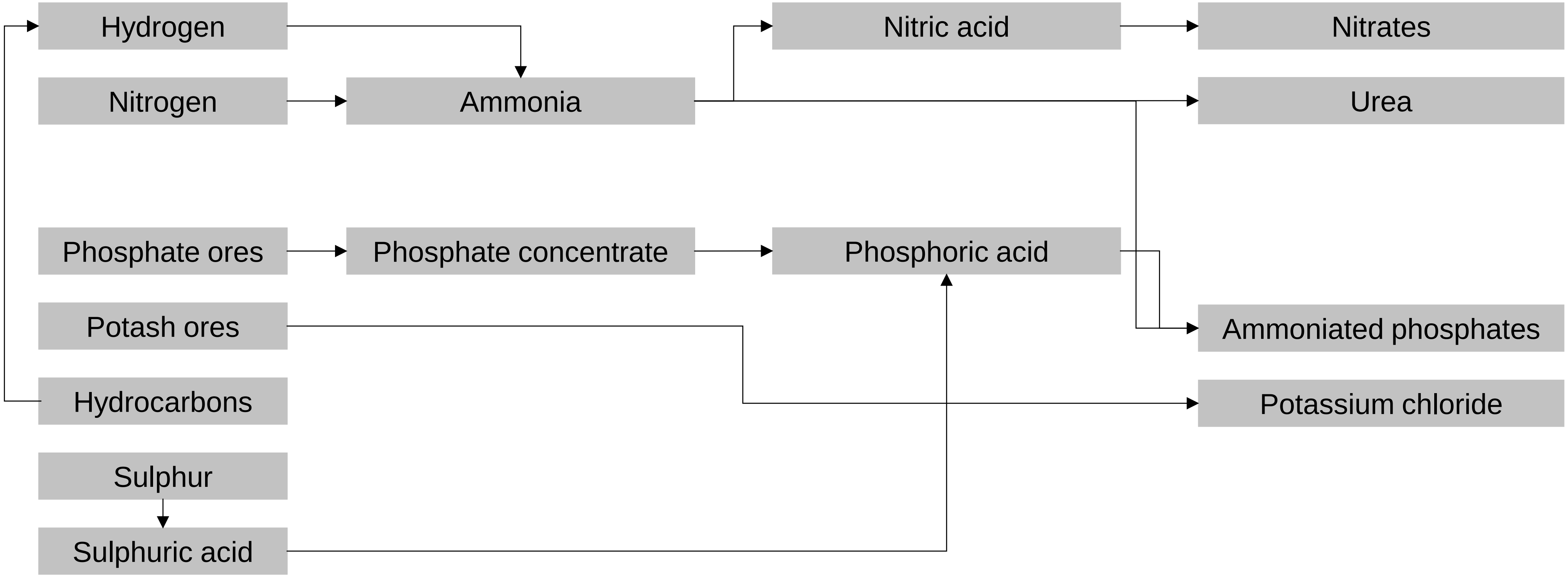
The N/P/K value chain

A simple structure



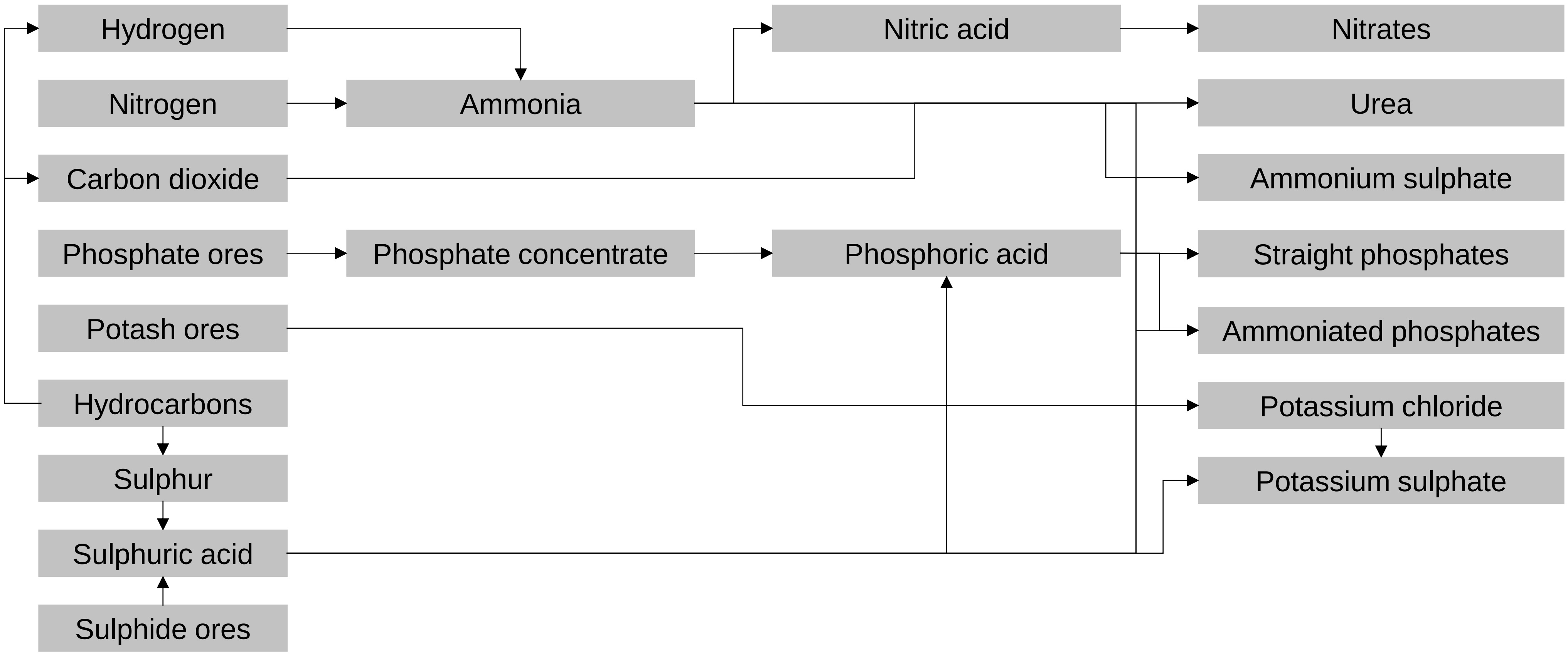
The N/P/K value chain

…a few extra steps…



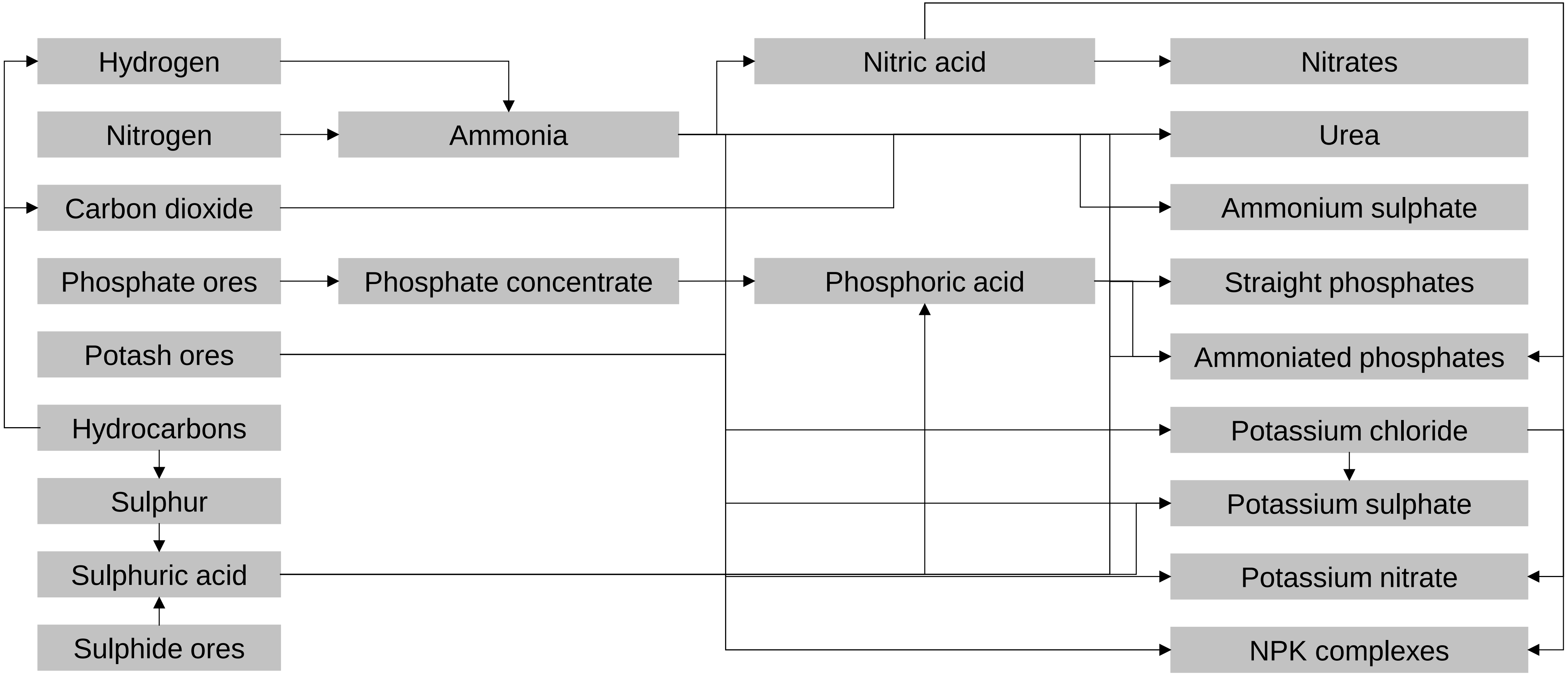
The N/P/K value chain

…uh-oh…



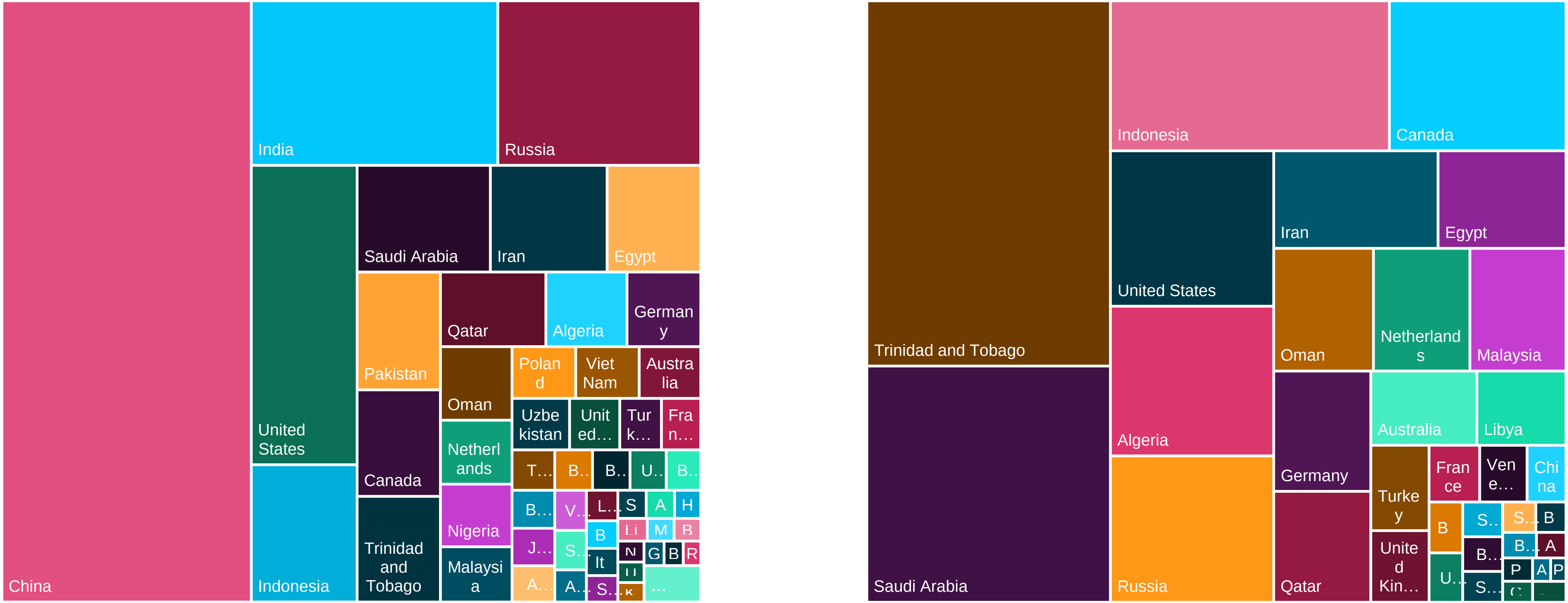
The N/P/K value chain

…ok, perhaps not so simple!



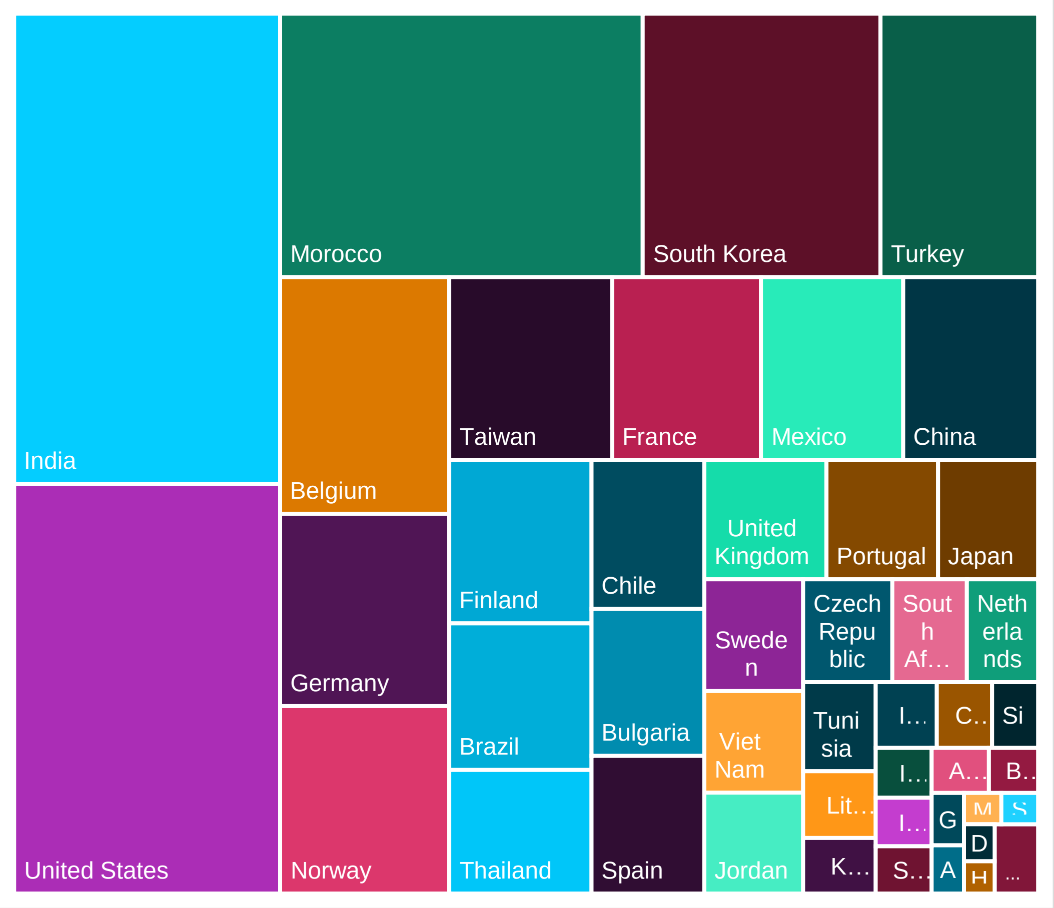
Nitrogen: ammonia supply structure

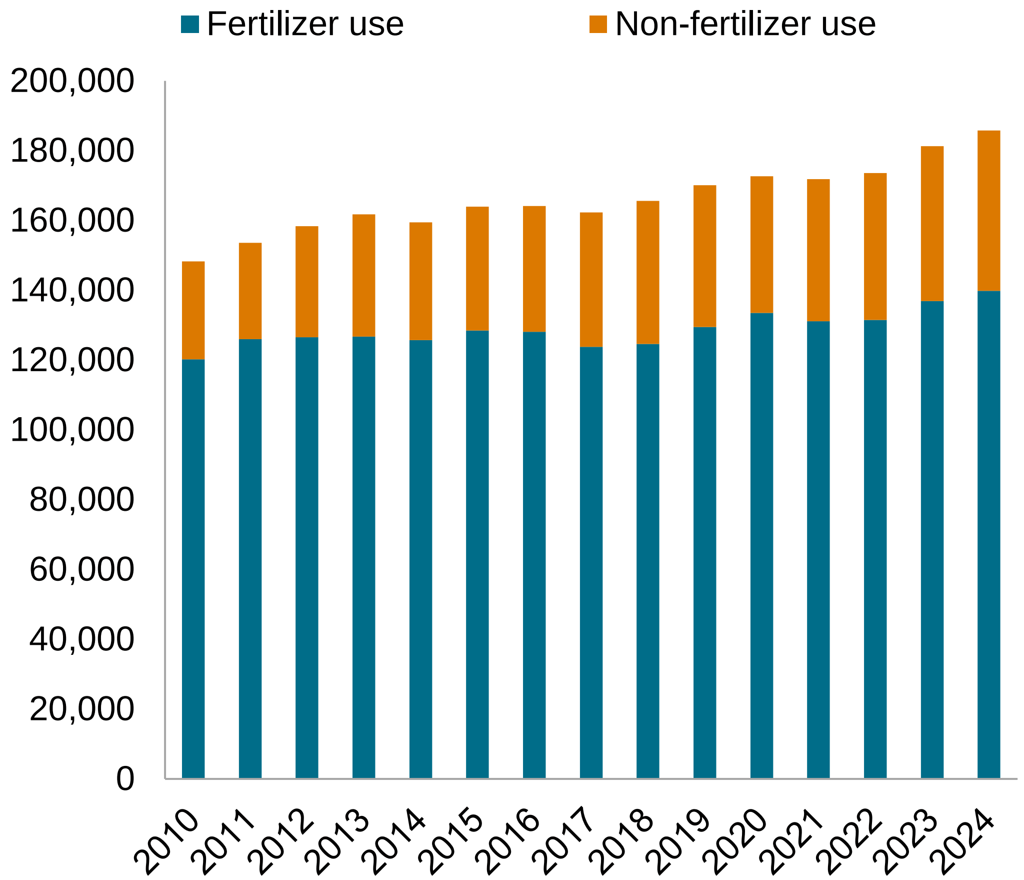
Production (left – 198 mln t) and exports (right – 17 mln t) by country



Nitrogen: ammonia demand

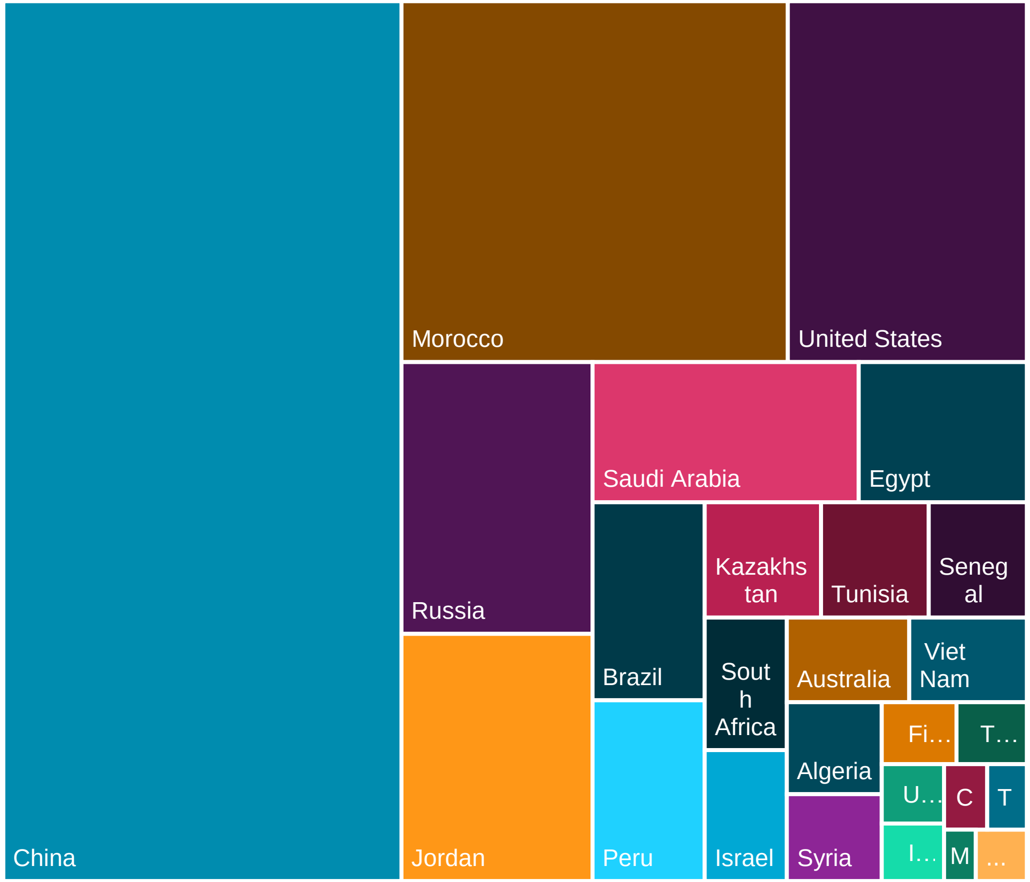
Imports by country (left) and key end-uses (right)

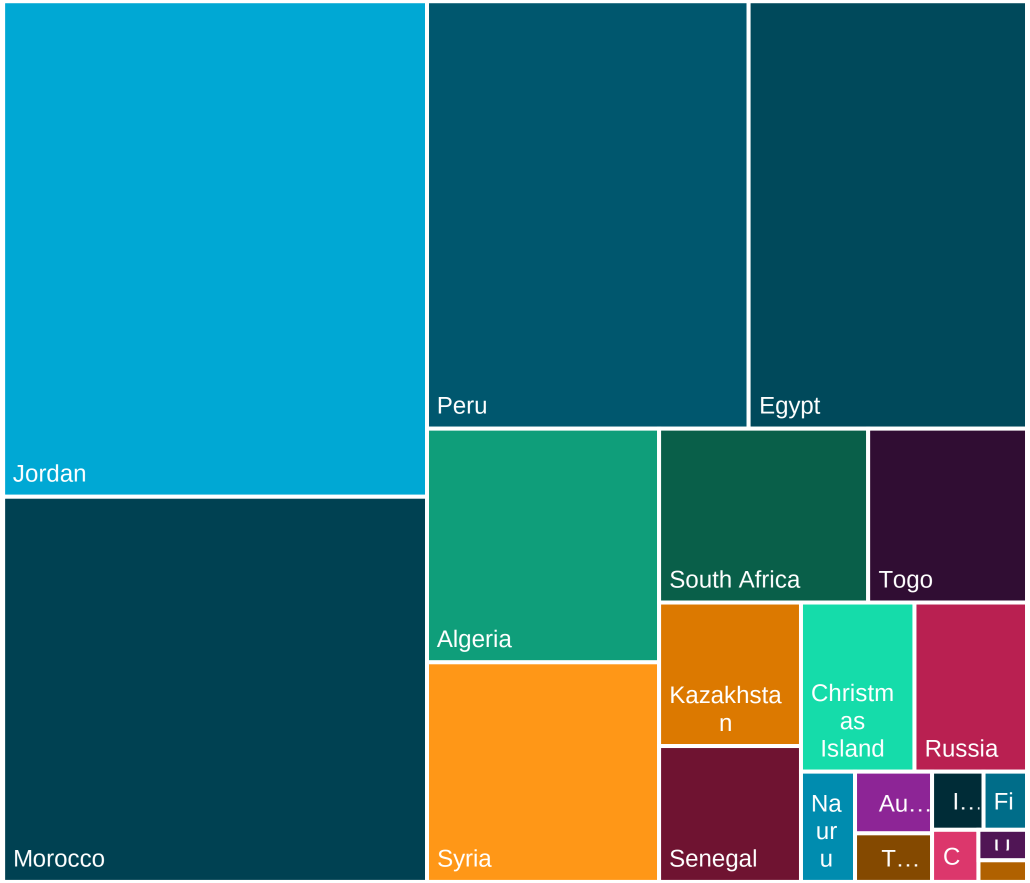




Phosphates: phosphate rock supply structure

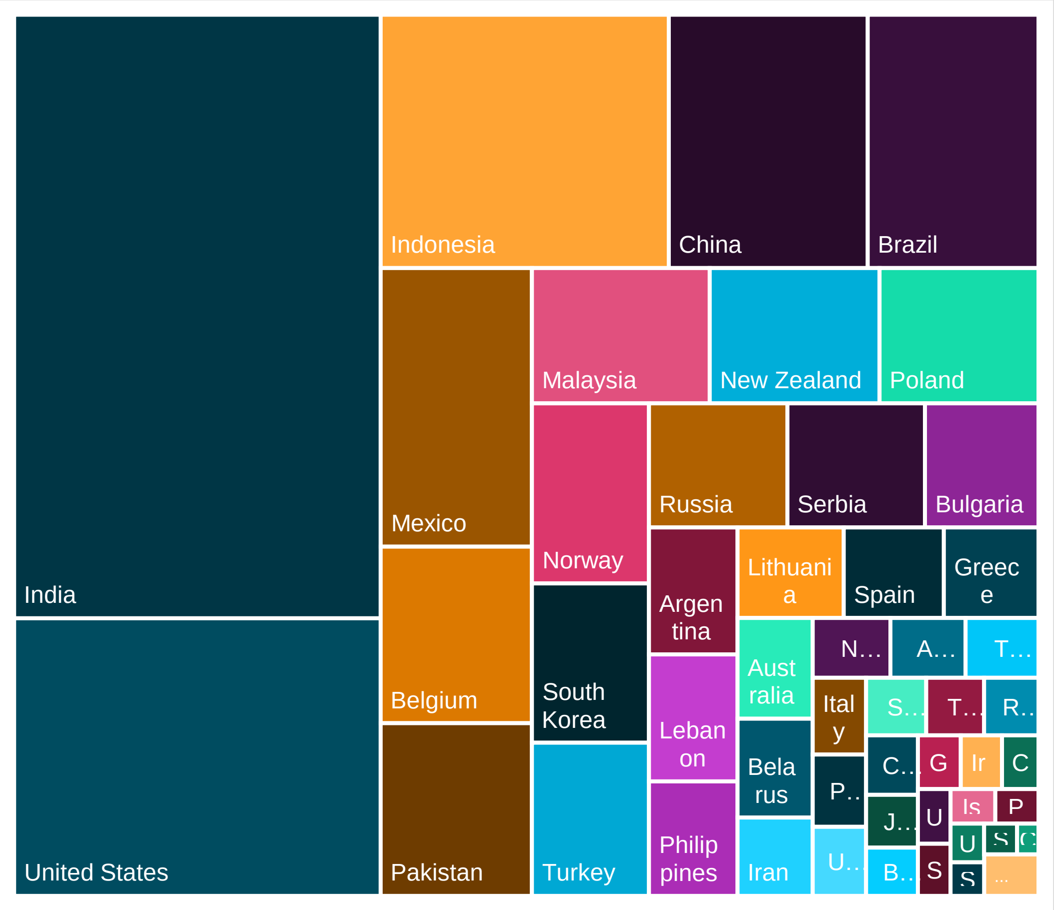
Production (left – 207 mln t) and exports (right – 30 mln t) by country

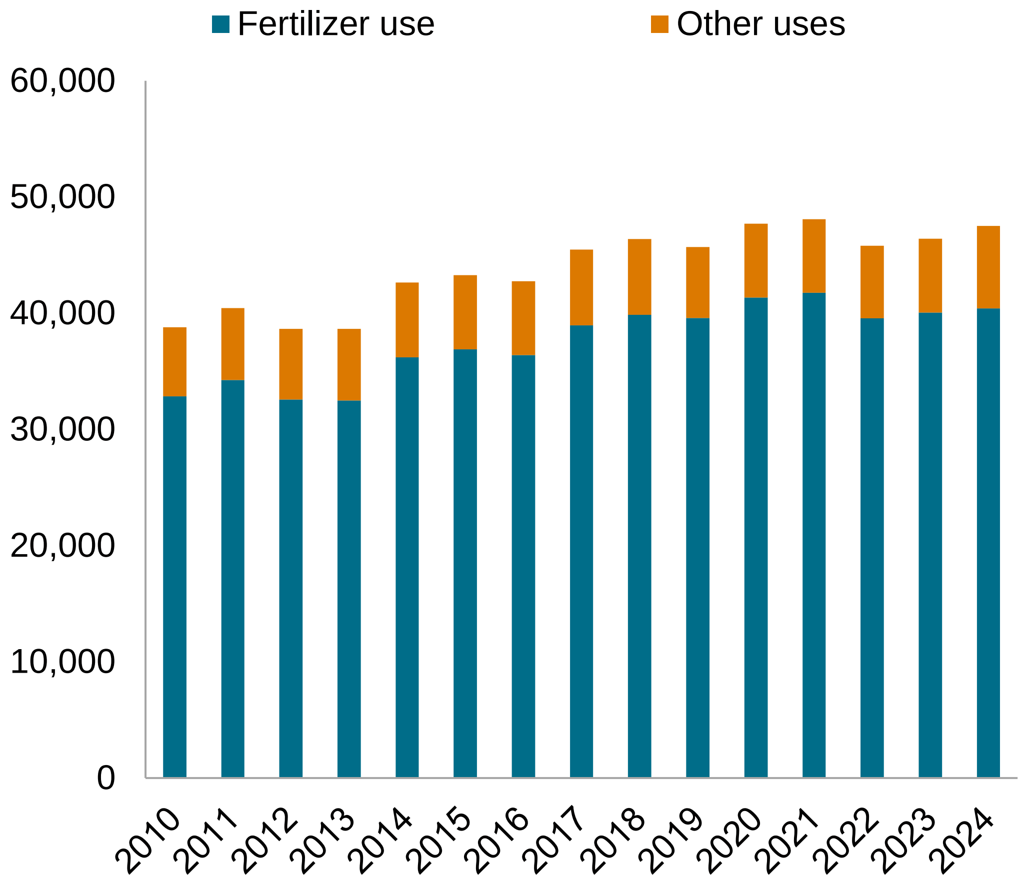




Phosphates: phosphate rock demand

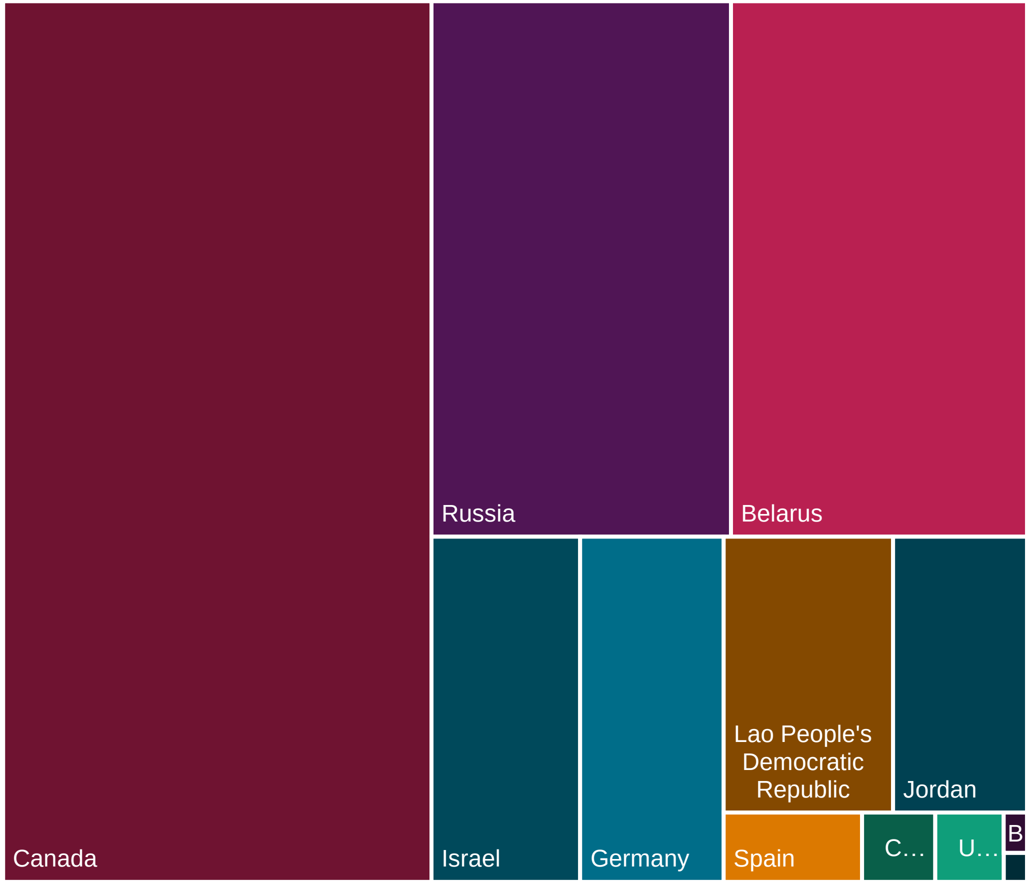
Imports by country (left) and key end-uses (right)





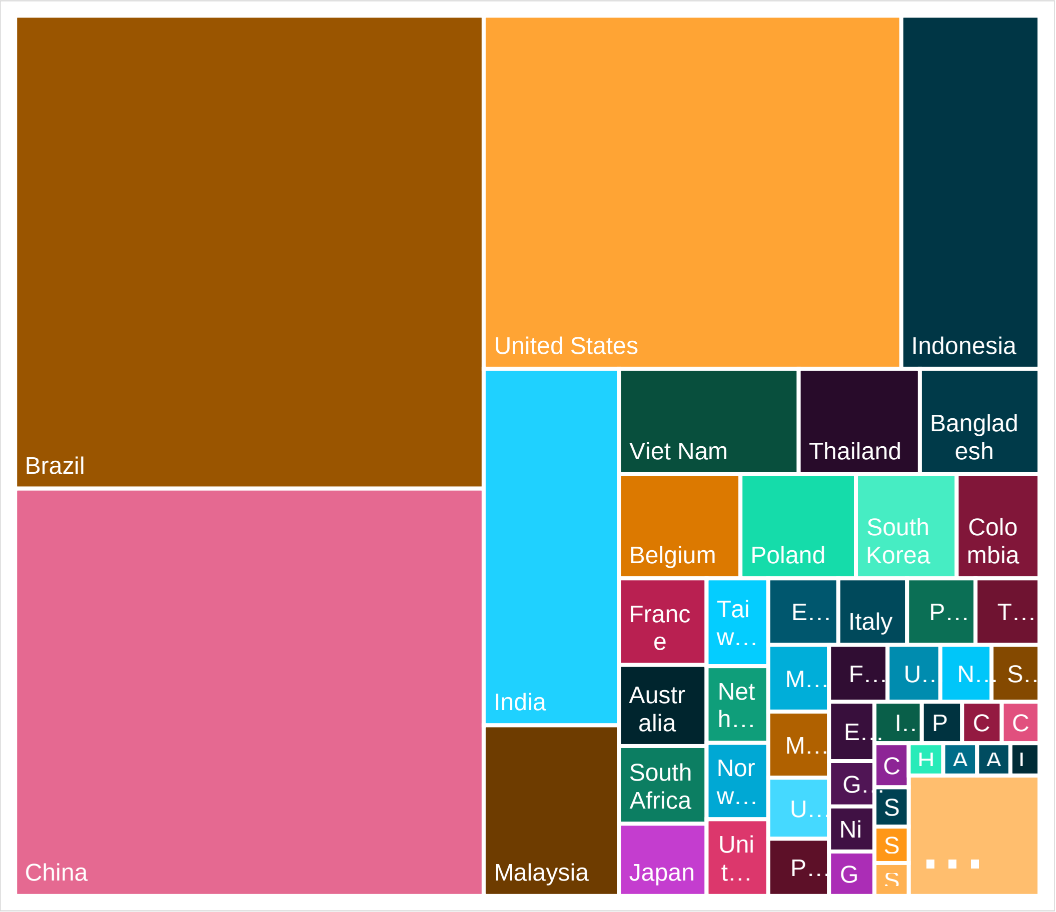
Potash: potassium chloride supply structure

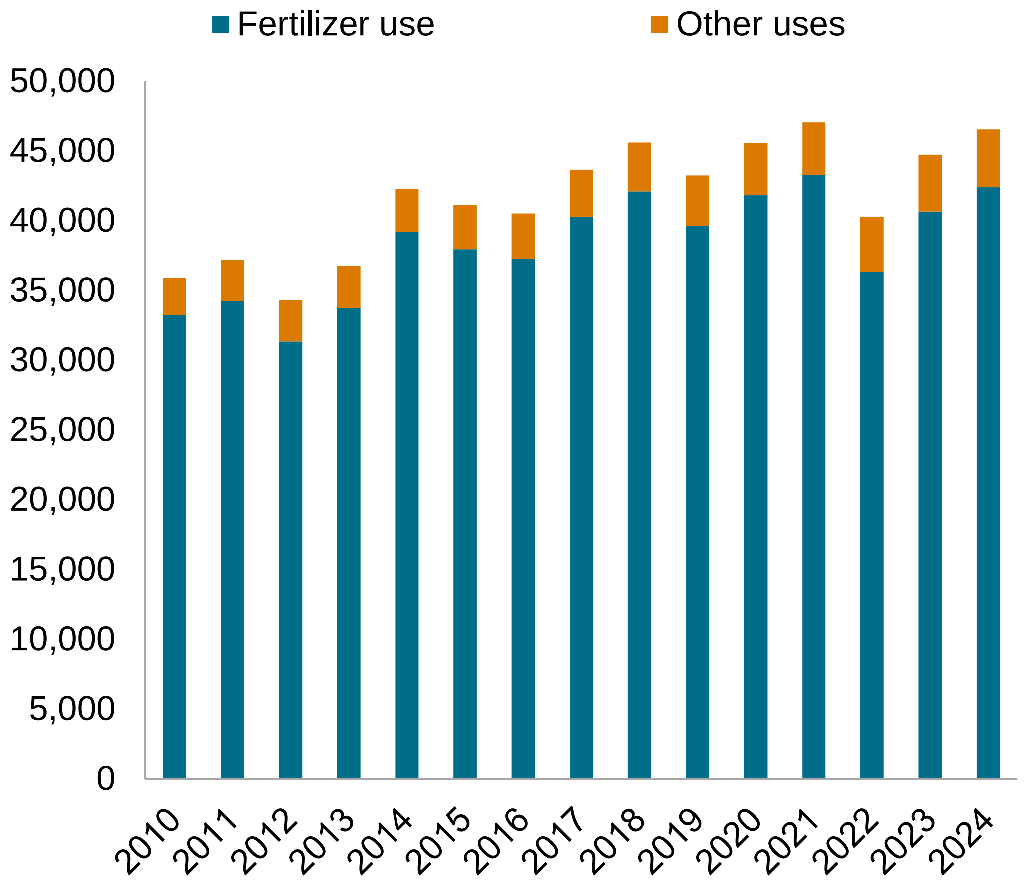
Production (left – 75 mln t) and exports (right – 60 mln t) by country



Potash: potassium chloride demand

Imports by country (left) and key end-uses (right)

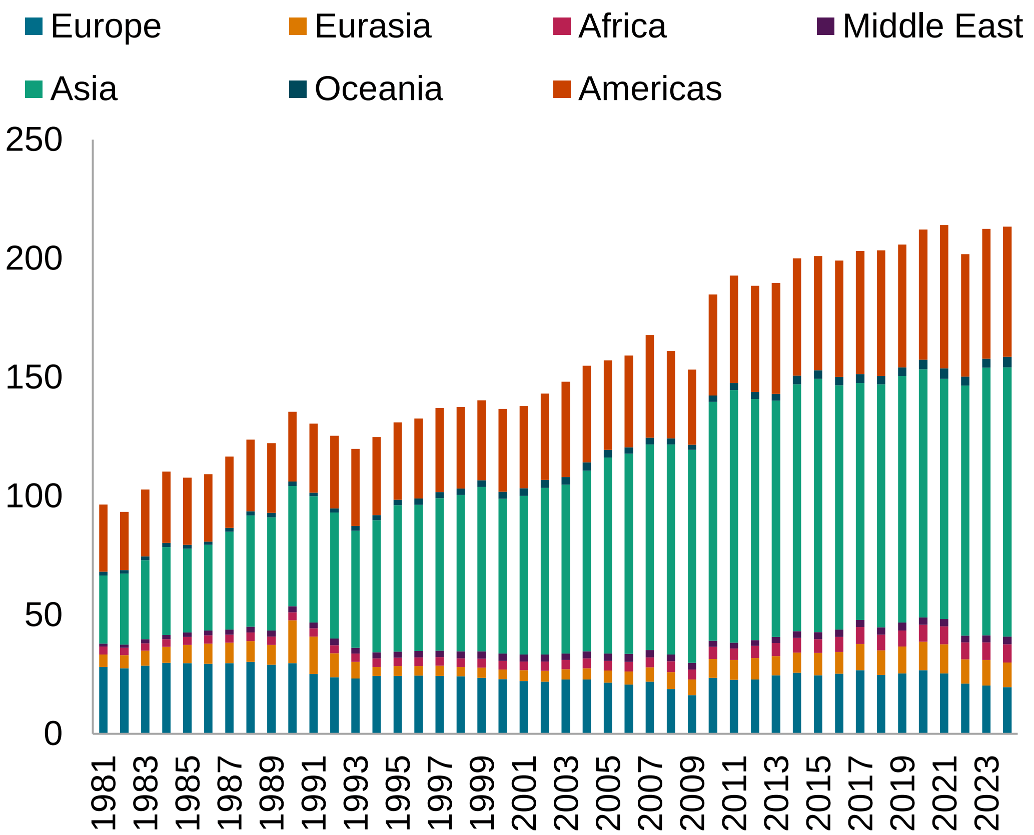




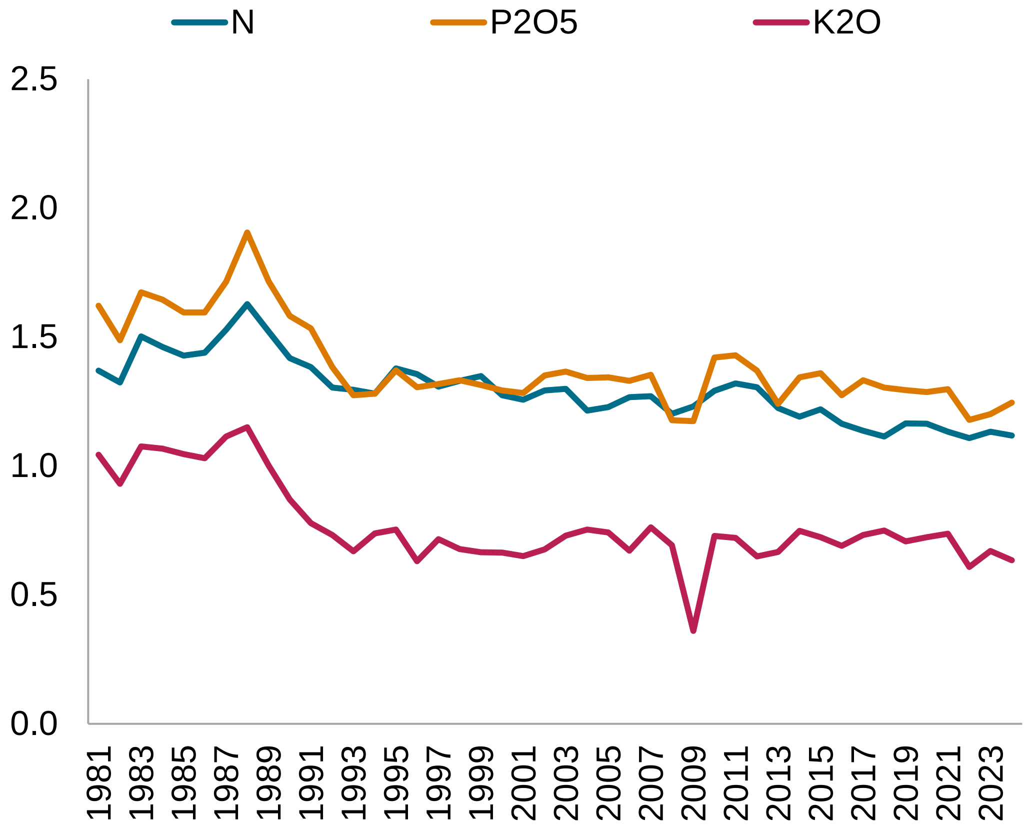
Fertilizer demand has grown considerably, but not quite as fast recently

Climate change and a focus on over-application are causing more variability along a slower trend

Total nutrient demand, million tonnes nutrient



Ratio of nutrient demand to nutrient removal

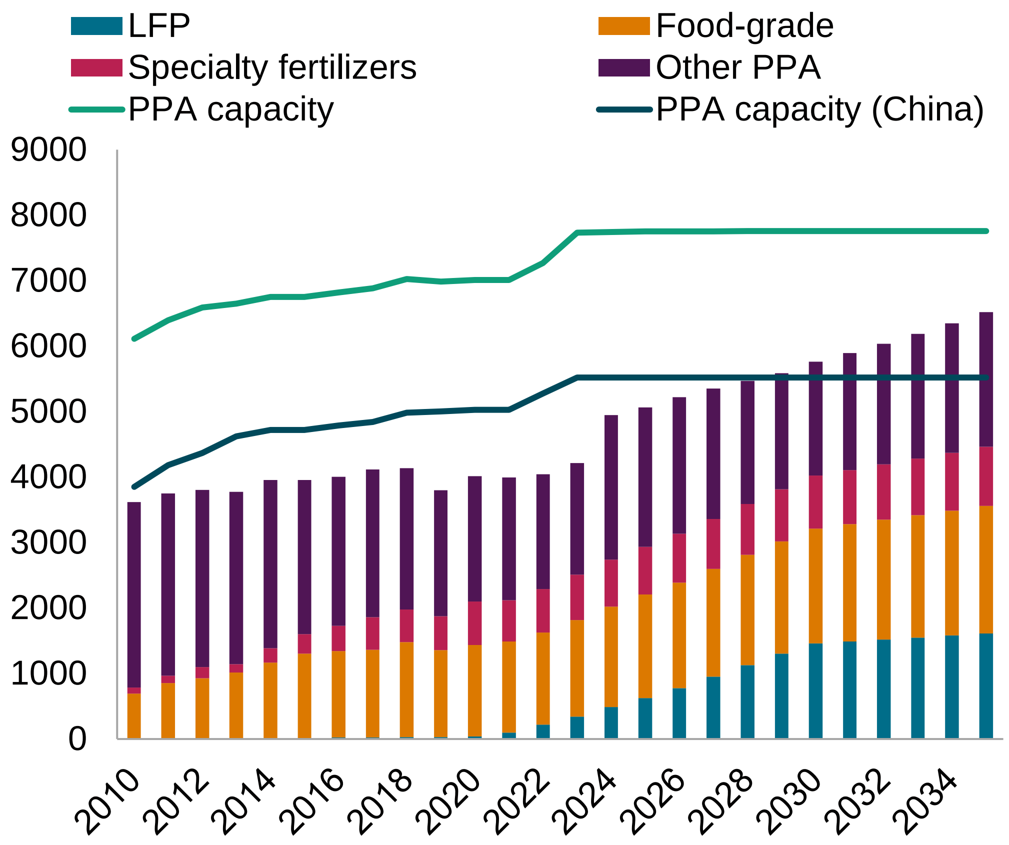


S&P Global
Commodity Insights

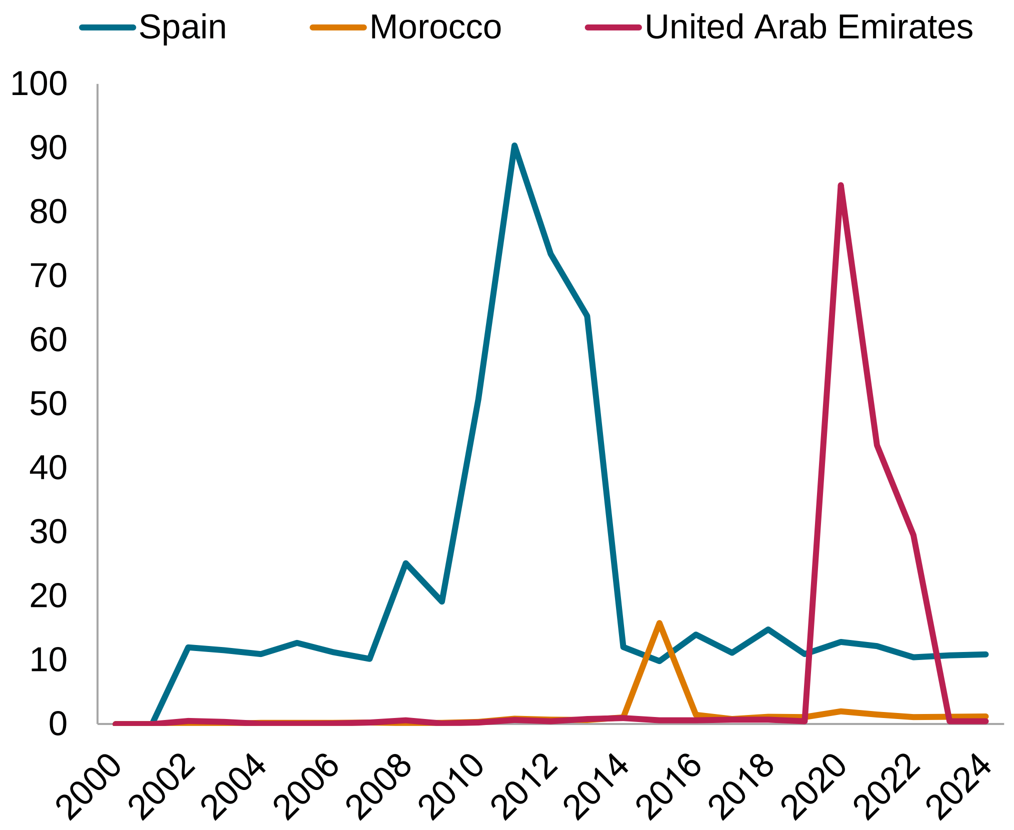
Non-fertilizer uses open new opportunities (even beyond “ammonia as H”)

Significant sectors affected by “energy transition” require P and K as inputs

Purified phosphoric acid: the rise of LFP



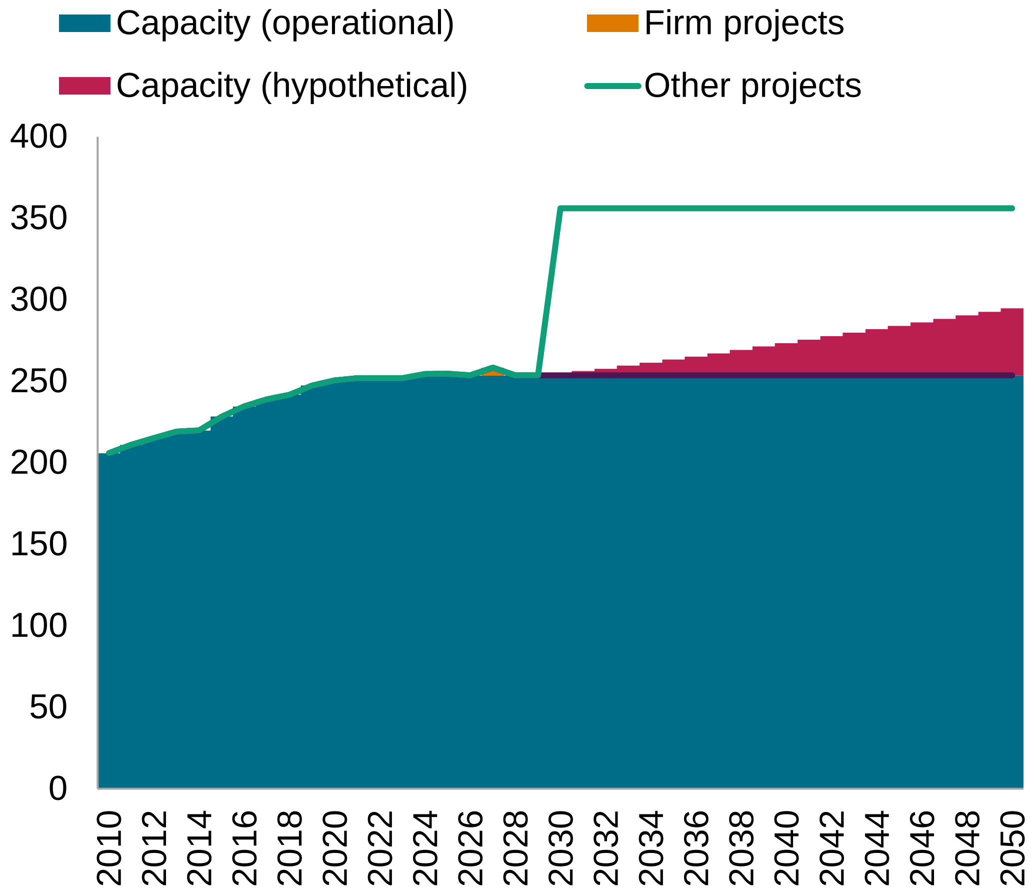
Potassium nitrate: CSP plants can cause surges

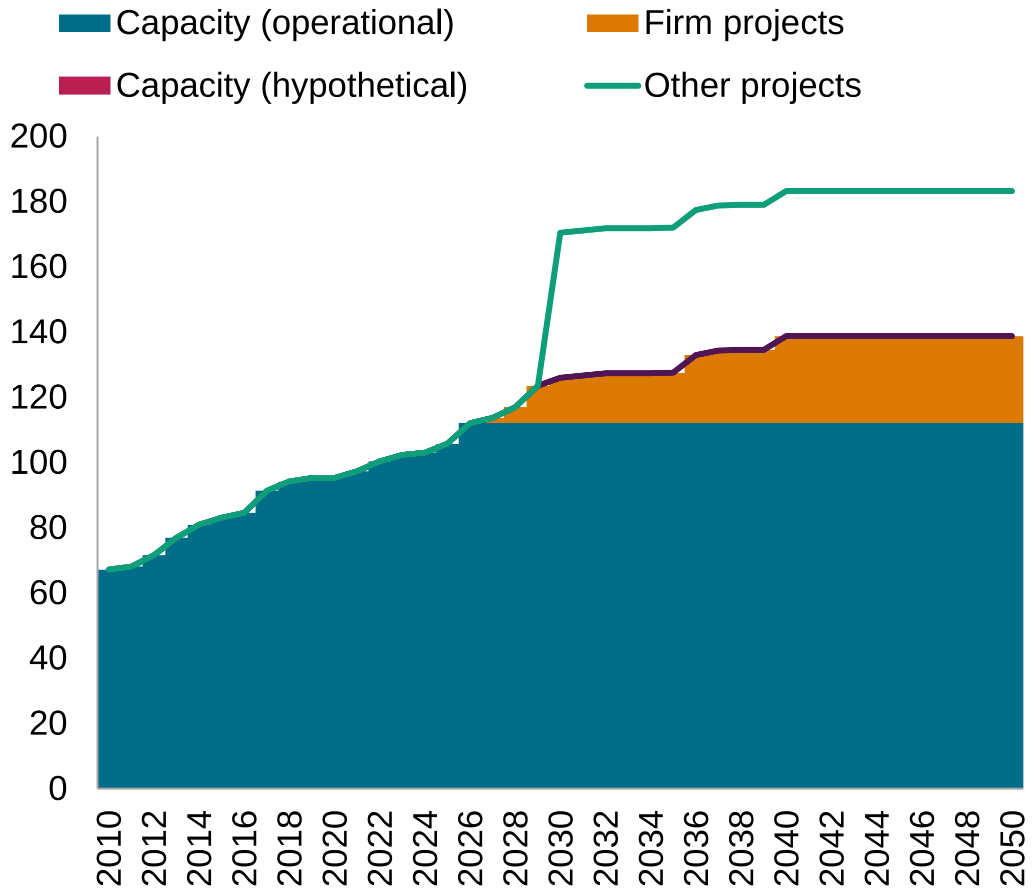


S&P Global
Commodity Insights

Projects are in plentiful supply

Phosphate rock (left) and potash (right)



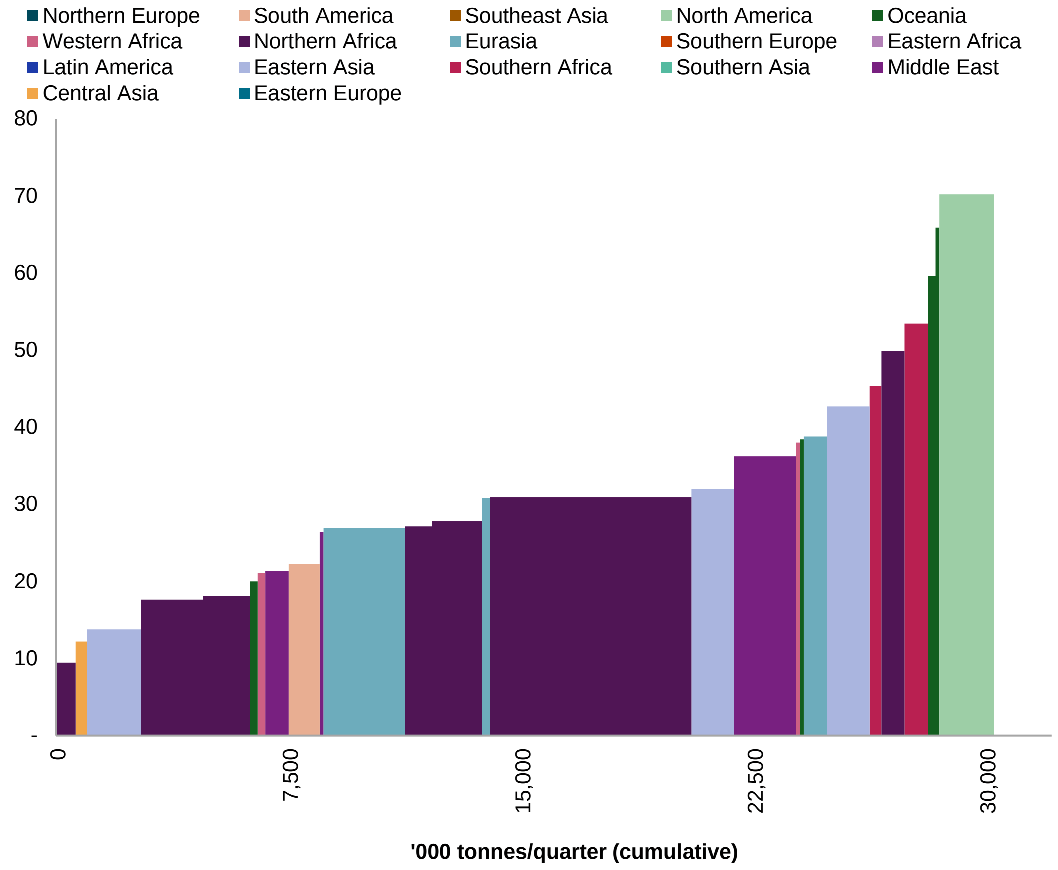


S&P Global
Commodity Insights

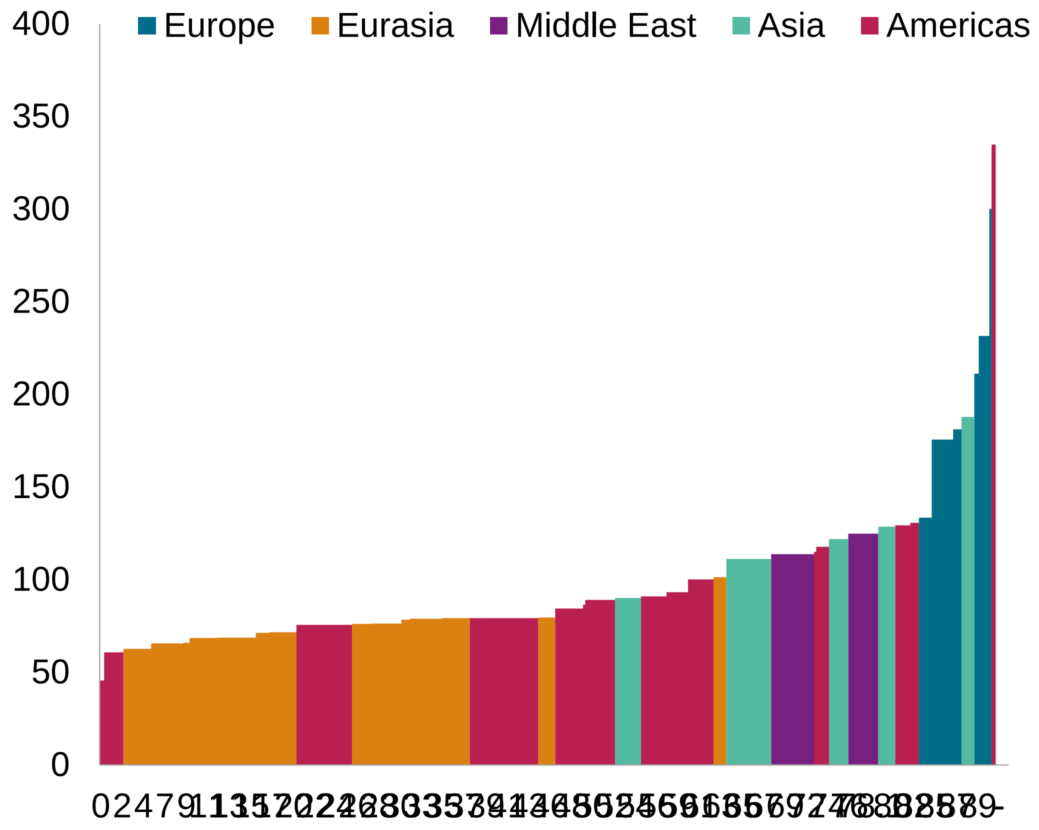
Operating costs are very much lower than market prices

Focus on key exporters only for phosphate rock

Phosphate rock cost curve in 2025Q1, US$/t concentrate EXW



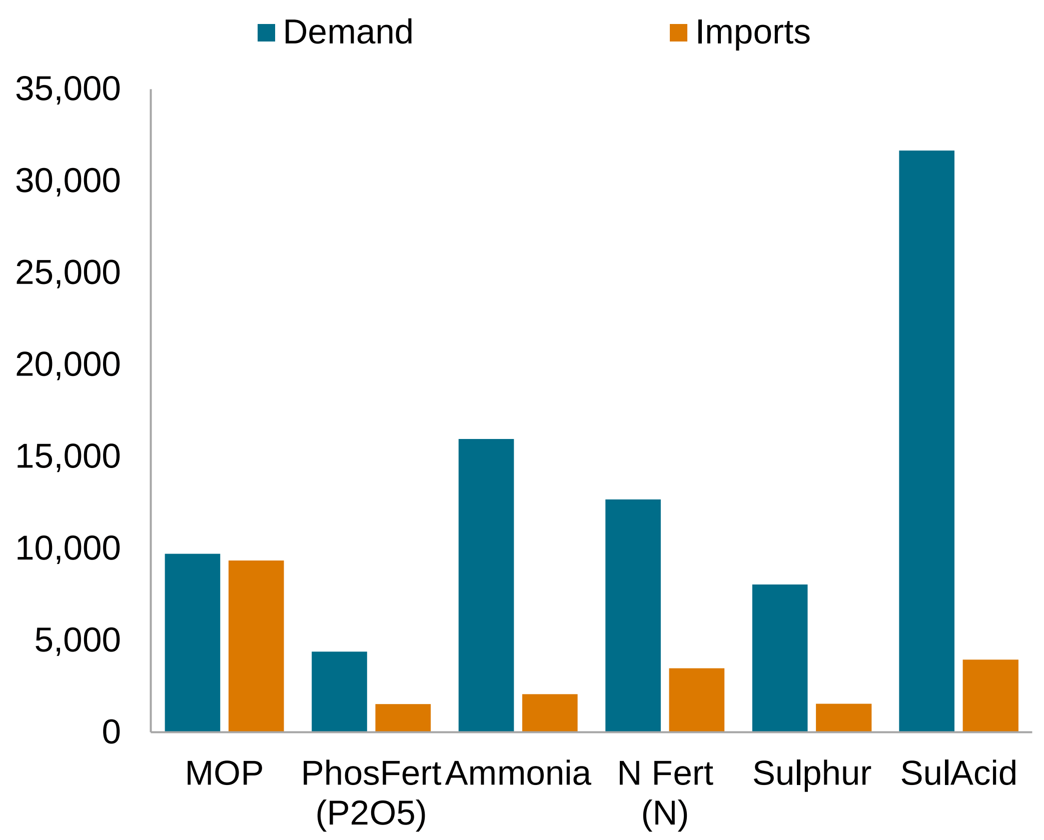
MOP cost curve in 2025, US$/t MOP EXW



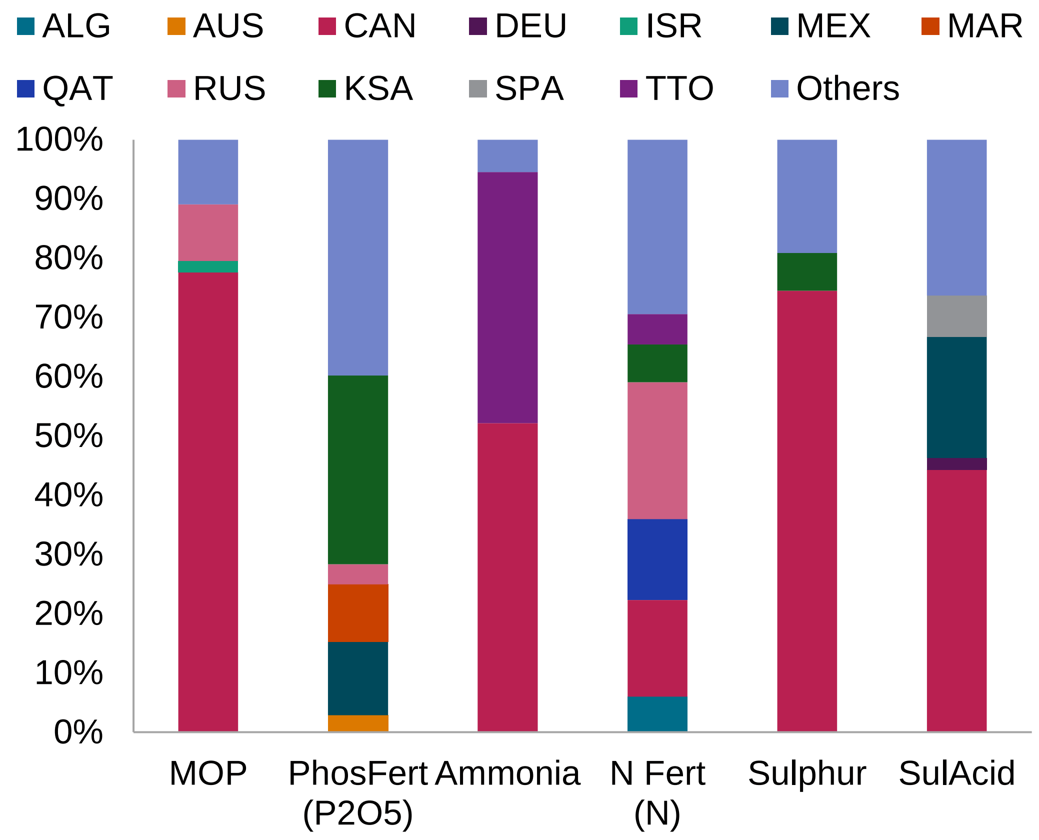
Retaliatory tariffs: the exposure of the US market to foreign trade in N/P/K/S

K/S/ammonia highly concentrated within USMCA; N/P more exposed to "baseline rate"

US demand vs imports by product, kt (metric)



Import shares by partner country (2024)



S&P Global Commodity Insights

Conclusions

- The value chain for nitrogen, phosphate, potash and sulphur are deeply inter-connected, with significant external links to other key industries such as hydrocarbons and metals

- Directly or indirectly, these are resource-based industries – and indeed geographies with access to primary natural resources already represent a large share of global exports

- Expected future demand growth, particularly when related to strategic industrial sectors, offers significant opportunities for additional investment

- However, the main challenge lies on raising capital to meet large upfront CAPEX: large-scale incumbents have so far attracted the majority of investment, with juniors struggling to bring into production even the most promising new deposits

Contact us

PRIMARY CONTACT(S)

Alberto Persona

alberto.persona@spglobal.com

CONTACT US

Americas	+1 800 597 1344
Asia-Pacific	+60 4 296 1125
Europe, Middle East, Africa	+44 (0) 203 367 0681

www.spglobal.com/en/enterprise/about/contact-us.html

www.spglobal.com/commodityinsights

S&P Global
Commodity Insights