



## Fertilizer Outlook 2019 – 2023

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## ECONOMIC AND POLICY CONTEXT

### ***2019: slowing momentum***

Both global trade and investment weakened in early 2019, influenced by ongoing trade tensions. The International Monetary Fund (IMF) expects global economic growth to decrease from 3.6% in 2018 to 3.3% in 2019. Beyond 2020, global growth is expected to remain stable at about 3.6%, supported by the continued expansion of emerging economies such as China and India (despite gradually lower growth in China) but slowed by relatively modest growth in advanced and other emerging market economies such as Russia, Mexico and Turkey.

### ***Increasing uncertainties***

The global balance of risks leans towards the negative side. Escalating trade tensions may impact financial markets, which could in turn affect access to credit by vulnerable countries. Growing political and economic tensions between major powers are a source of major uncertainty. As the world enters a period of fragmentation following a period of globalization, global reconfiguration could entail unforeseen risks. In this respect, increased cooperation between countries to meet global challenges is unlikely to advance significantly in the short and medium term.

### ***A significant policy focus on environment***

Increasing international calls to improve fertilizer use efficiency and mitigate the impact of nutrient losses to the environment have resulted in two concrete initiatives in 2019:

- The United Nations Environment Assembly (UNEA) adopted the first ever global resolution on nitrogen (N) in March 2019,
- The Food and Agriculture Organization of the United Nations (FAO) adopted in June 2019 the first International Code of Conduct for the Sustainable Use and Management of Fertilizers.

In addition, agreement has been reached on the new European Union (EU) Fertilizer Regulation.

It will enter into force in mid-2019 and will be implemented from 2022. The EU is also working on biodegradability criteria for polymer coatings of controlled-release fertilizers. Moreover, EU policies that address climate change are expected to impact fertilizer use where they target N losses to the environment.

## WORLD AGRICULTURE

### ***Global cereal production to expand in 2019/20***

Global cereal production is expected to increase by 2% in 2019/20 and could reach the 2016/17 record level again. Looking at the main cereals, production of coarse grains is expected to rise slightly, wheat production would rebound after a drop, and rice output would remain stable. However, the impact of severe flooding in the US on its maize crop is still very uncertain. Cereal utilization is continuing to rise, supported by ample supplies. Nonetheless, the stocks-to-use ratios remain comfortable.

The global soybean area could expand slightly in 2019/20, but a return to average yields could reduce output. After a weather-related drop in 2018/19, rapeseed production could contract slightly in 2019/20. A small increase in global oil palm area in 2019/20 should translate into new production gains. Global sugar production is expected to increase very little in 2019/20. Global cotton production is anticipated to rise by 6% or 7% in 2019/20 after a weather-related contraction in 2018/19. Trade tensions have affected the soybean, rapeseed and cotton markets.

### ***Uncertainty complicates forecasts beyond 2019/20***

The Organisation for Economic Co-operation and Development (OECD) and the FAO anticipate that global food demand will grow at a reduced pace over the next decade compared to the previous one. While population expansion remains the driving force behind demand for food, it is slowing gradually. Furthermore, per capita food consumption is expected to increase more slowly as it approaches saturation levels in

some markets. The expansion of global crop production in the next decade will follow the same trend as demand for agricultural commodities. Gains in output will come mostly from higher yields.

Looking at specific crops, as of early June 2019 there was considerable uncertainty regarding future trends in maize and soybean production and demand due to the ongoing trade dispute between the US and China and the spread of African swine fever in East Asia.

## FERTILIZER DEMAND

### ***Contracting consumption in North America affects the 2018/19 fertilizer year***

Following 1.3% growth in 2017/18, global fertilizer consumption is seen as dropping by 1.0% in 2018/19, to 190 Mt nutrients. This contraction reflects a combination of low international prices for most crops; unfavorable weather in important agricultural and fertilizer-consuming areas; currency depreciation in some fertilizer-importing countries; trade tensions between China and the US and between Russia and Ukraine; sanctions against Iran; and increasing emphasis on the more efficient use of fertilizers in developed countries and China. Global consumption is anticipated to contract more moderately for N and K than for P. The largest year-on-year (y/y) change is expected in North America.

### ***A firm rebound in perspective for 2019/20, driven by North America and South Asia***

Global fertilizer demand is expected to rebound in 2019/20, assuming a return to average weather conditions and the expansion of cereal area. Demand is anticipated to increase by 2.6% to 195 Mt in absence of major unexpected geopolitical or economic shocks. Demand is anticipated to fully recover for the three nutrients. A rebound is forecast in North America, while strong growth is expected in Africa, Eastern Europe & Central Asia (EECA), South Asia and West Asia. Expansion in the rest of the world is seen as more modest.

### ***Medium-term demand growth prospects are deteriorating***

The medium-term outlook for world agriculture remains broadly unchanged compared with previous years, but agricultural production growth rates are steadily declining. In addition, expectations to improve fertilizer use efficiency and recycle more organic nutrient sources will put pressure on fertilizer demand in developed countries and an increasing number of emerging economies. Demand in South Asia and Africa will continue to be highly influenced by fertilizer subsidies, which are subject to frequent changes.

Global fertilizer demand is seen as expanding on average by 1.1% per annum (p.a.) between the base year (average of the three-year period 2016/17-2018/19) and 2023/24. It is projected to reach 204 Mt at the end of the outlook period. Global demand is anticipated to grow faster for K (1.4% p.a.) than for P (1.2% p.a.) and N (1.0% p.a.) as a result of steady improvements in N management practices and more balanced fertilization. The average growth rate for K has been sharply declining since the beginning of the current decade, as China's demand is likely to plateau.

The highest rate of growth in demand is anticipated in Africa (especially Sub-Saharan Africa), followed by EECA, South Asia and Latin America. North America comes next owing to a low base year impacted by poor US weather. Demand would remain stable in East Asia and Western & Central Europe and would increase only modestly in Oceania and West Asia. In volume terms, South Asia, Latin America, Africa and EECA would account for 33%, 24%, 15% and 12%, respectively, of the projected increase in global fertilizer demand during the outlook period.

## FERTILIZER SUPPLY

World fertilizer market conditions were quite subdued in 2018, a year marked by mixed performance in crop prices and escalating trade tensions. These conditions impacted fertilizer affordability and trade flows well into 2019.

### ***While global nutrient demand was static, supply continued to expand***

World primary nutrient sales in 2018 grew by a mere 0.7% compared with the previous year, reaching 252 Mt *nutrients*. Global fertilizer sales (accounting for 75% of total sales) were static at 190 Mt *nutrients*. Industrial uses and non-allocated tonnages totaled 62 Mt *nutrients*.

Exports remained firm (+2% to 59 Mt *nutrients*), but domestic deliveries declined modestly to 193 Mt *nutrients* and accounted for a 77% share of total sales.

### ***Increasing regulatory pressure on production and products***

In many jurisdictions, at regional, national and sub-national levels, the fertilizer industry is subject to new supply-related regulations. Policymakers are adopting new regulations on fertilizers, product and plant certifications, and tailings management due to environmental and safety considerations. More fertilizer producers are seeking registration in high-standard certification programmes.

### ***Trade sanctions impact fertilizer flows and global growth***

In recent years the pace of trade liberalization has slowed while restrictive trade measures have increased.

Trade policy actions in 2018/2019 impacted movements of commodities, including fertilizers. They comprised a variety of initiatives such as trade defense measures, import bans and administrative import barriers. Trade sanctions have emerged since 2018, leading to greater impacts on the trade of agricultural commodities than on fertilizers; rising policy uncertainty may further weaken economic growth.

### ***Growing capacity in all segments in the near term***

Between 2018 and 2023 the fertilizer industry would invest close to US\$110 billion in constructing 70 new production units, adding 65 Mt products of capacity. Investments in new capacity are seen as accelerating in all sectors, but new nitrogen capacity would account for two-thirds of planned capital expenditures during the forecast period.

### ***Global nutrient demand growing steadily at 1.2% per annum towards 2023***

In 2023 global primary nutrient sales are projected at 268 Mt *nutrients*, for an average annual growth rate of 1.3%. Nutrient fertilizer demand in 2023 would reach 203 Mt *nutrients*, growing at 1.3% p.a. and representing 76% of total sales.

### ***Global supply adequate to meet rising nutrient demand in 2019-2023***

Thanks to sustained capacity expansions during the next five years, global supply will be more than sufficient to meet global demand. Based on a modest 1.3% average annual growth in global demand for all uses, compared with an average of 1.6% annual growth in supply, markets will remain generally supply-driven.

## Nitrogen Outlook

### ***Global ammonia capacity increasing, mostly driven by urea expansions***

Global ammonia capacity is projected to expand by 4% (a net 8 Mt NH<sub>3</sub>), from 220 Mt in 2018 to 228 Mt NH<sub>3</sub> in 2023. On a regional basis, ammonia capacity is seen as expanding rapidly in South Asia, Africa and EECA, while reducing in China.

### ***Nitrogen supply/demand imbalance to decrease marginally in the near term***

Between 2018 and 2023 global nitrogen supply would expand by an average of 1.3% p.a., compared with a 1.4% annual increase in demand, essentially supported by higher industrial demand growth at 2% p.a.

The prevalent potential surplus of 8.6 Mt N in 2018 would decline to 7.3 Mt N in 2019 and pick up moderately until 2023, to 8.2 Mt N. The main driver of change would be China, with reduced supply and rising industrial uses.

#### ***Nitrogen demand growth leading to higher imports into Latin America and Sub-Saharan Africa***

Nitrogen demand would grow in all regions, but with very marginal increases in Europe, North America and Oceania. The largest increases are projected in South Asia, Latin America and Southeast Asia, together accounting for half of all growth between 2018 and 2023. Rising demand in Latin America and Sub-Saharan Africa will create significant import opportunities in the near term.

#### ***Urea capacity to increase throughout the whole period, accelerating by 2021***

In 2018 urea accounted for 55% of nitrogen production; Urea capacity expansions will contribute 70% of the projected ammonia capacity increment over the period of 2019-2023.

Global urea capacity is projected to increase by 16 Mt (+8%) to 226 Mt in 2023; large capacity additions are planned to come on stream in South Asia, Africa and EECA.

#### ***The imbalance between urea supply and demand to decrease in the short term***

Global urea supply (effective capacity) is estimated at 200 Mt in 2023, growing by a net 1.8% p.a compared with 2018, while demand would increase by 1.2% p.a. to 184 Mt in 2023.

Significant increases in urea demand are anticipated in Latin America and East Asia, including China for its industrial sectors.

## **Phosphate Outlook**

#### ***Phosphate rock supply continues to increase, but at a slightly lower rate***

The global phosphate rock supply is projected to grow from 235 Mt in 2018 to 255 Mt in 2023, an increase of 8%. Africa would account for 75% of the net increase during the outlook period.

#### ***Processed phosphates capacity is evolving towards more product flexibility and diversification***

Global phosphoric acid capacity would increase by 7% compared with 2018, to 63.9 Mt  $P_2O_5$  in 2023.

Global processed phosphates capacity is projected to increase by 13%, from 101 Mt in 2018 to 114 Mt products by 2023. Africa will be the largest contributor to capacity growth during the outlook period. Expansion is also seen in EECA, West Asia and South Asia.

#### ***Supply and demand are expected to grow modestly in the near term***

The global supply of phosphoric acid would increase by 1.5% p.a. between 2018 and 2023, while demand would grow at 1.4% p.a. The potential surplus would increase marginally until 2019, declining gradually until 2022 and followed by an increase in 2023.

## **Potash Outlook**

#### ***Ongoing capacity growth, with an additional 8 Mt $K_2O$ expected to be brought on stream between 2018 and 2023***

Global potassium capacity is forecast to increase by an overall 13%, from 59.9 Mt  $K_2O$  in 2018 to 67.8 Mt  $K_2O$  in 2023. This equates to a net increment of 8 Mt  $K_2O$ , most of which is represented by new projects expected to be commissioned in Russia and Belarus, as well as an increase in North America and West Asia. In product terms, global potassium capacity in 2023 would reach 122.6 Mt products, expanding by a net 21.5 Mt.

#### ***EECA and North America will account for 92% of potential potash supply growth in 2018-2023***

In terms of MOP equivalent, global potash supply would reach 92 Mt in 2023. The EECA and North America would account for around 36% and 34% of potential supply, respectively, in 2023.

#### ***New large-scale capacity additions, coupled with modest potash demand growth, will lead to a growing potential surplus***

Global demand for potassium for all uses would grow at 1.2% p.a., from 43.0 Mt  $K_2O$  in 2018 to 45.7 Mt  $K_2O$  in 2023. Potential global potash supply/demand conditions show a considerable widening of the estimated annual surplus between 2018 and 2023, then reaching 9.4 Mt  $K_2O$ .

***Expansion of regional deficits would support an 8% increase in potash trade by 2023***

The near-term projected increase in demand will occur in Latin America and some key consumers across Southeast Asia, suggesting large import growth potential in Brazil, Southeast Asian countries (including Indonesia and Malaysia) and Africa.



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