



## Fertilizer Outlook 2017 – 2021

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## ECONOMIC AND POLICY CONTEXT

### ***World economic growth is slowly improving***

Economic activity has shown signs of recovery since the second half of 2016, especially in developed countries. Global growth is forecast to continue increasing slowly beyond 2017. It is expected to reach 3.8% by 2022. This trend is mainly due to expectations in emerging and developing economies, where output growth is projected to increase to 5% annually by 2022. Developed countries are expected to show more modest medium-term growth rates (1.7% in 2022).

### ***Policy developments continue to have an important impact on the fertilizer outlook***

Important policy developments recently occurred in the European Union (EU), India, Pakistan and Nigeria. In the EU, a new fertilizer regulation reflecting the Union's "circular economy" strategy should be adopted in the end of this year or in the beginning of 2018. Germany recently amended its Fertilizing Ordinance to comply with the EU Nitrates Directive, limiting permissible N and P balance surpluses. In India, the government continues to adapt the country's fertilizer subsidy policy; it is expected to scale-up, potentially nationwide, Direct Benefit Transfer (DBT) to farmers in an attempt to replace the current fertilizer subsidy regime. Nigeria has recently launched a "Presidential Fertilizer Initiative" expected to increase crop yields and save US\$ 200 million in foreign exchange by increasing production of soil- and crop-specific NPKs by 1.5 million metric tonnes (Mt) in 2017.

## WORLD AGRICULTURE

### ***Global cereal production to decrease in 2017/18, but with little impact on inventories***

Early prospects for 2017/18 point to a decline in cereal production, driven by coarse grains and wheat. Low coarse grain prices in the previous season have encouraged farmers to reduce their plantings in 2017/18, while lower yields are expected for wheat following the record reached in 2016/17. Global rice output is seen as remaining stable or as slightly up. Use of cereals is anticipated to rise only modestly in 2017/18, driven by coarse grains and rice. After increasing for four consecutive seasons, global cereal stocks are expected to decline. However, the reduction of global cereal inventories anticipated in 2017/18 will likely be small relative to the existing stockpile. Cereal prices are therefore forecast to remain low in the short term. Soybean stocks are expected to decline, but would remain comfortable, therefore preventing prices from increasing much. The price outlook is a little brighter for sugar and cotton, as the anticipated larger 2017/18 crops might remain below consumption levels.

### ***Agricultural production will grow more slowly in the medium term***

Expected slower population growth, together with more modest income growth, will slightly curb the expansion of global food demand in coming years.

Some foods will be in greater demand than others, as rising incomes and increasing urbanization in developing countries continue to induce gradual diet changes. Consumption of meat, dairy products, fish, sugar, fruits and vegetables is seen as increasing more rapidly than consumption of cereals. Agricultural production will adapt to reduced demand for food and will expand at about the same rate in the coming years. However, production of cereals could remain below consumption for some time as some of the comfortable stocks built up in recent years decrease. Oilseed production will increase more rapidly, supported by firm demand from the livestock sector. Expansion of cereal production will be based mostly on yield improvement, while increases in both area and yield will drive oilseed and sugar production.

Global inventories and stock-to-use ratios of most agricultural commodities are expected to contract during the next few years, supporting gradual but modest price increases.

## FERTILIZER DEMAND

### ***Following a firm increase in 2016/17, world demand is anticipated to grow modestly in 2017/18***

Owing to favourable weather following an exceptionally strong El Niño event and prospects for improving returns from farming in countries with supportive exchange rates, world fertilizer demand grew firmly in 2016/17 (+2.4%) to an estimated 186 Mt. Demand for P and K is anticipated to expand faster than that for N.

The outlook for 2017/18 is influenced by ample inventories and low prices for most crops; improving economic prospects in developed countries, Russia, Brazil and Sub-Saharan Africa; and growing political uncertainty in several large fertilizer-consuming markets. World fertilizer demand is forecast to grow modestly, by 1.2%, to 188 Mt. K demand would grow most rapidly, owing to good prospects in China, India, Brazil and Indonesia, and a rebound in Belarus. N and P demand would expand more moderately, as drops in Turkey, Pakistan and Germany partly offset increases elsewhere.

### ***Global fertilizer demand forecast to remain slightly below 200 Mt by 2021/22***

The medium-term outlook for world agriculture remains broadly unchanged compared to last year, with expectations of relatively flat real prices for most agricultural commodities, reflecting prospects for ample supplies and weakening demand growth.

In the absence of major weather-related shocks, or economic or policy changes in the main fertilizer-consuming markets, the current context supports modest fertilizer demand growth prospects in the next five years.

Under the baseline scenario, global fertilizer demand is seen as growing on average by 1.5% per annum (p.a.) between the base year (average of the three-year period 2014/15 to 2016/17) and 2021/22.<sup>1</sup> Aggregate world demand is projected to reach 199 Mt at the end of the outlook period. Reflecting the progressive adoption by farmers of best management practices that result in N use efficiency improvements, as well as the increasing recycling of organic nutrient sources, K demand is forecast to grow more firmly (2.1% p.a.) than demand for P (1.5% p.a.) and N (1.2% p.a.).

The highest growth rate is anticipated in Africa, followed by Eastern Europe & Central Asia and Latin America. These three regions have the greatest agricultural growth potential in the decade to come. Demand in South Asia is seen as rising below the historical trend, as neem-coated urea, upscaling of Direct Benefit Transfer to farmers, and rapid adoption of water-soluble fertilizers will influence the outlook. West Asian demand growth is very speculative, as it is highly dependent on the evolution of regional geopolitical tensions. In East Asia fertilizer usage is forecast to expand modestly, as Chinese N and P demand is seen as reaching a plateau during the outlook period. Demand growth in developed regions is seen as weak, with better prospects in Oceania than in North America and Western & Central Europe. In volume terms, Latin America, South Asia and East Asia together would account for three-fourths of the projected increase in global fertilizer demand in the next five years.

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<sup>1</sup> The average annual rate of growth in global fertilizer demand is calculated over a period of six years.

## FERTILIZER SUPPLY

The fertilizer industry was heavily challenged in 2016. It was confronted with uneven global nutrient demand, soft economic prospects, depressed crop prices, rising market competition and volatile energy prices. This combination created high uncertainty in fertilizer markets throughout the year.

As fertilizer prices dropped to their lowest levels during the past five years, several producers reacted with cost reduction measures, temporary curtailments or mothballing of capacity, and consideration of trade defence measures.

### ***Market conditions further deteriorated in 2016, driven by abundant supply and relatively soft demand growth***

On average, the fertilizer industry operated at 81% of primary nutrient capacity in 2016. Global nutrient demand was adequately supplied from existing production capacity. Total nutrient sales in 2016 were estimated at 249 Mt *nutrients*. Fertilizer sales, which accounted for 76% of total sales, were estimated at 186 Mt *nutrients*, recovering by 2.9% over 2015.

### ***Modest growth rate of fertilizer nutrient demand up to 2021***

In 2021 world total nutrient sales are projected at 266 Mt *nutrients*, for an average annual growth rate of about 1.4%. Nutrient fertilizer sales in 2021 would total 198 Mt *nutrients*, growing at 1.3% p.a. and representing 74% of total sales.

The near future appears to show a growing imbalance between rapidly increasing supply and moderate demand growth. Massive new capacity additions will be commissioned over the next five years, driven by investment decisions made four to eight years ago. Supply will be ample, if not abundant, at least up to 2021.

Other challenges confronting the fertilizer sector include more stringent environmental regulations, increasingly volatile energy prices, competing uses of feedstock, and rising trade protectionism. In response to these, the fertilizer industry is actively seeking new markets, diversifying product ranges and striving for operational excellence.

### ***Large capacity expansions in 2017-2021***

Between 2017 and 2021 the fertilizer industry will invest close to US\$ 110 billion in more than 65 new production units, increasing global capacity by 90 million tonnes products.

Based on current market conditions and a modest 1.4% demand growth projection during the next five years, the industry will face a supply-driven market, with growing structural imbalances.

## Nitrogen Outlook

### ***Global ammonia capacity still expanding by a net 8% between 2016 and 2021, despite some massive reductions in China***

Global ammonia capacity is projected to expand by 8% over 2016, to reach 234 Mt NH<sub>3</sub> in 2021. Large increases in capacity are expected in EECA, North America and Africa.

### ***Rising nitrogen demand will present opportunities for exports to Latin America and South Asia***

Regional nitrogen deficits are seen as increasing in Latin America and South Asia, while remaining relatively stable in West Europe and East Asia. The prevalent deficit in North America is shrinking thanks to growing domestic capacity. Rising demand in Latin America and South Asia will support higher imports by 2021.

### ***Supply/demand imbalance accelerating in 2017-2019***

Between 2016 and 2021 global nitrogen supply would expand by 1.8% p.a. while demand would see a 1.2% annual increase.



### ***New urea capacity rising in the short term, but little growth after 2019***

Urea represents half of total nitrogen output and will contribute two-thirds of the projected ammonia capacity increment. Global urea capacity is projected to increase by a net 17 Mt (+8%), to 226 Mt in 2021. Close to 90% of the planned expansions would occur in 2016/18. On a regional basis, North America, EECA and South Asia will account for 70% of overall capacity growth.

Global urea supply (effective capacity) is estimated at 200 Mt in 2021, growing at 1.6% p.a. over 2016.

### ***An increasing imbalance in the short term***

Global demand for urea for all uses is forecast to increase by 1.5% p.a. compared with 2016, to reach 187 Mt in 2021. Latin America, South Asia and Africa would contribute to the bulk of the global incremental demand.

## **Phosphate Outlook**

### ***Large supply of phosphate rock emerging, mostly for local uses***

Global phosphate rock supply would grow by 10% compared with 2016, to 249 Mt in 2021. Large expansions would occur in Africa and West Asia, together accounting for 80% of the net increase.

### ***Growing global phosphoric acid and processed phosphates capacity, with large increases in two countries in particular***

Global phosphoric acid capacity in 2021 is projected to expand by 12% over 2016, to 64.1 Mt  $P_2O_5$  in 2021. Global capacity of the main processed phosphates would grow by 6.9 Mt  $P_2O_5$  to 52.5 Mt  $P_2O_5$  (110.7 Mt products) in 2021. Large capacity additions are expected in Morocco and Saudi Arabia.

The global supply of phosphoric acid would increase by 2.4% p.a. compared with 2016, while demand would grow at 1.8% p.a., pointing to a rising potential surplus from 2017 to 2019, and then stabilizing until 2021.

## **Potash Outlook**

### ***Large capacity projects to add 17 Mt of MOP capacity between 2017 and 2021***

Global potassium capacity is forecast to grow by an overall 20% compared with 2016, to 65.5 Mt  $K_2O$  in 2021, thanks to new projects in Canada, Russia, Turkmenistan, Belarus, and China. In product terms, global potassium capacity in 2021 would reach 111.2 Mt products, expanding by a net 19 Mt over 2016, of which MOP would contribute 17 Mt.

### ***North America and EECA to account for 97% of world incremental potash supply***

Global potassium supply would increase to 53.3 Mt  $K_2O$  in 2021, representing a net increment of 9.1 Mt (+21%) and a growth of 4% p.a. compared with 2016. In terms of MOP equivalent, global potash supply would be 89 Mt MOP in 2021.

On a regional basis, North America will be the region with the largest potential supply in 2021, (35% global share), followed by EECA (34%), East Asia (14%), and other regions (17%).

### ***Moderate potash demand growth, leading to rising trade volumes amid larger surpluses***

Global demand for potassium would grow by 11% (2.1% p.a.) compared with 2016 and reach 45.6 Mt  $K_2O$  in 2021. Global supply/demand conditions show growing potential surplus, exceeding 6.3 Mt in 2018 and reaching 7.7 Mt  $K_2O$  in 2021 (14% of potential supply). This growing imbalance is essentially driven by large capacity increments against moderate demand growth. Import demand is projected to increase in East Asia, South Asia, Latin America and Africa.



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