

# Market overview

In 2022, amid complications in the global geopolitical situation, the international fertilizer market faced a number of challenges that had a predominantly negative impact on the fertilizer industry and farmers as the end consumers. The key negative drivers include:



**Direct and indirect sanctions against mineral fertilizer producers in Russia and Belarus, which until then accounted for a total of 23% (49.4 mt) of global trade volumes (global exports).**

**Disruptions in natural gas supplies and a marked rise in global prices for natural gas and other energy sources. Natural gas is the key raw material component in the production of nitrogen-based fertilizers, and a strong rise in natural gas costs, especially in Europe, caused production capacities to be scaled down and closed.**

**Persisting restrictions on fertilizer exports from China, which have been in place since late 2021 as a way to make sure the domestic market remains well-supplied.**

**As a result of all of the above, global prices for fertilizers surged, especially in 1H 2022, reaching levels above record highs for some of the fertilizer types.**

**The spike in global prices made fertilizers less affordable (fertilizer/crop price ratio), dampening demand for them.**

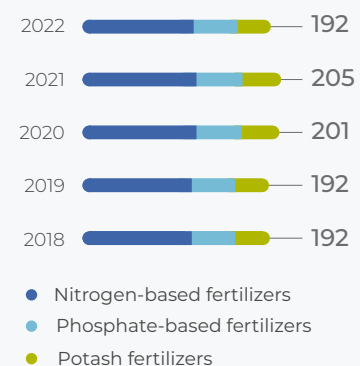
Preliminary estimates by consulting agencies and industry analysts<sup>1</sup> suggest that in 2022, global consumption of mineral fertilizers stood at 192 mt nutrient, a reduction of 6%, or 13 mt nutrient, against 2021. Consumption of nitrogen-based fertilizers was down by 3 mt of N (-3%) to 111 mt; for phosphate fertilizers, it shrank by 3 mt of P<sub>2</sub>O<sub>5</sub> (-6%) to 47 mt, and for potash fertilizers, consumption fell by 6.0 mt of K<sub>2</sub>O (-15%) and reached 35 mt.

In terms of geography, consumption of mineral fertilizers declined across all regions except for the CIS (not including Ukraine). The reduction

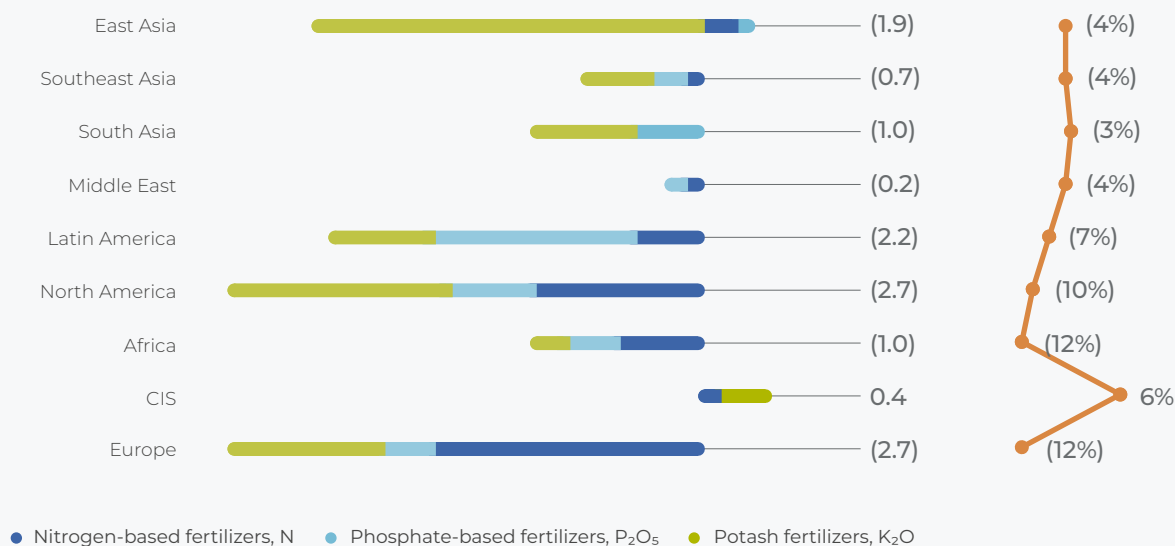
was most pronounced in Europe (down by 2.7 mt nutrient, or 12%, y-o-y), North America (down by 2.7 mt nutrient, or 10%), and Latin America (down by 2.2 mt nutrient, or 7%). In Africa and Asia, consumption dropped by 12% and 3-4% respectively.

In the CIS, there was price control on our priority market, an uptick by 0.4 mt, or 6%, against 2021 on the back of export restrictions imposed against Russian and Belarusian products and refocusing of export supplies towards the domestic market.

## Global fertilizer consumption estimates, mt nutrient

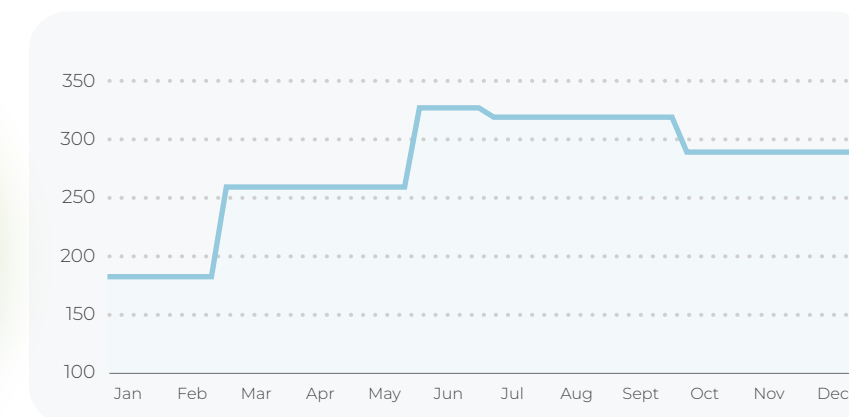


## Estimate of changes in consumption by region, mt nutrient



## Phosphate rock and phosphate-based fertilizer market

### Phosphate rock prices, FOB Morocco (31-33% P<sub>2</sub>O<sub>5</sub>), USD/t



**202<sup>mt</sup>**  
-7% vs 2021  
global production of phosphate rock in 2022 (according to preliminary estimates)

The reduction was driven by weaker conditions in the markets for phosphoric acid, mineral fertilizers and industrial phosphates seen in 2022. The most significant decline in phosphate rock production came from China and Morocco, along

with other African nations. Russia, Latin America and the Middle East saw no major changes in their phosphate rock production volumes.

Pricing in the phosphate rock market has the traditional time lag associated

with changes in price indices in phosphate-based fertilizer markets. In 1Q-3Q 2022, prices for the key types of phosphate rock were growing steadily before price correction kicked in, following the trend for phosphate-based fertilizers.

<sup>1</sup> Hereinafter based on data by CRU, Argusmedia, Profercy; expert estimates of industry analysts in Russian and international media.

According to preliminary estimates, global production of complex phosphate-based fertilizers (DAP + MAP) in 2022 reached 55 mt, a 6 mt (10%) reduction y-o-y that reflects temporary weakening of demand for mineral fertilizers in general in 2022. The bulk of the production decline was seen in China, Morocco, and the USA. Global production of complex NPK fertilizers is also expected to go down by 5–7 mt to 92 mt in 2022.

Global trade in DAP/MAP in 2022 was down by 5 mt, or 17%, to 25 mt y-o-y.

The most significant drop in DAP/MAP imports was seen in Europe and North and South America, with the trend only partially offset by higher DAP imports to India. Global imports of NPK fertilizers shrank by 2 mt to 16 mt, driven mainly by Europe and Africa's weaker demand for import.

In 1H 2022, phosphate-based fertilizer prices reached record highs of USD 1,200–1,300 per tonne (CFR)<sup>1</sup> in sales markets, which

was due to concerns over a seasonal shortage of fertilizers after export restrictions were imposed by the key supplying nations (direct or indirect sanctions against products from Russia and Belarus; China's limitations on exports to benefit the domestic market). In 2H 2022, global prices for phosphate fertilizers saw correction amid weaker demand in the key importing markets, including Brazil, USA, and Europe.

**Global DAP/MAP prices in 2022, FOB Baltic, USD/t**



**Global NPK (15:15:15) prices in 2022, FOB Baltic, USD/t**



**25<sup>mt</sup>**  
-17% vs 2021

global trade in DAP/MAP in 2022, according to preliminary estimates

## Nitrogen-based fertilizer market

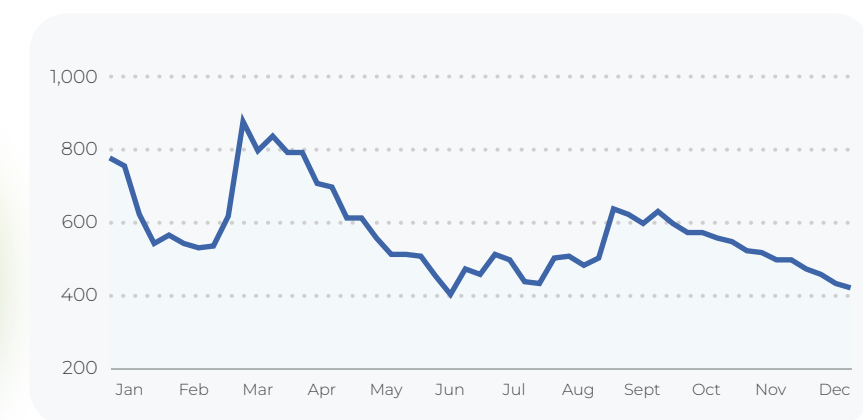
In 2022, the global fertilizer market was under pressure from surging and persistently high natural gas prices in Europe, which caused a reduction in domestic production of nitrogen-based fertilizers in Europe and contributed to their substitution with imports. The launch of new facilities in West Africa and Southeast Asia, coupled with increased utilisation of existing capacities in countries with their own cheap raw materials (natural gas), managed to offset lower production volumes in Europe and other regions with high energy costs.

According to preliminary estimates, global production of urea expanded by 4 mt (2%) to 175 mt in 2022. Lower output in Western and Eastern Europe (down by 3–4 mt) was offset by production ramp-up in Africa, North America and Asia (up by over 7 mt combined), including by new capacity launches in Nigeria, India, and Brunei.

Global urea trade volumes in 2022 stayed virtually flat at some 53 mt. A 2.5 mt uptick in imports of urea to Europe was offset by weaker import demand seen in Latin America and Asia.

In 2022, the global urea market remained highly volatile, with price fluctuations between all-year highs and lows reaching as much as 100% and above. Changes in the urea pricing environment reflect the natural gas market volatility, importer concerns over potential reductions in urea exports from Russia, and irregularities in seasonal demand from the key sales markets of South Asia and Latin America.

**Global urea prices in 2022, FOB Baltic, USD/t**



**175<sup>mt</sup>**  
+2% vs 2021

global production of urea in 2022 (according to preliminary estimates)



<sup>1</sup> CFR (Cost and Freight)





## Potash fertilizer market

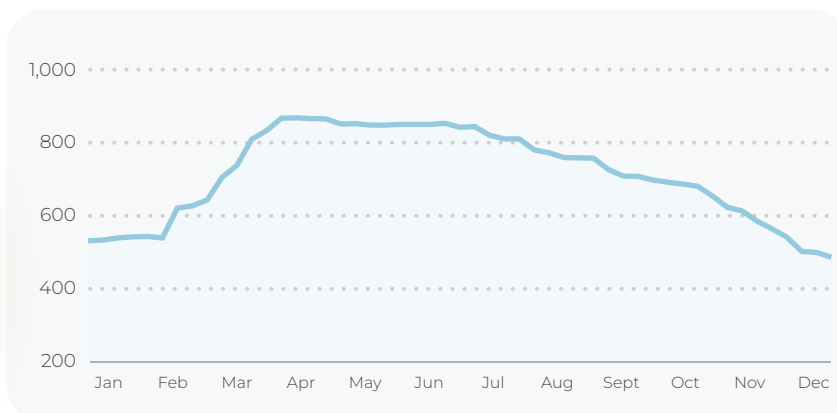
The key driver in the potash fertilizer market was the introduction of sanctions against exports of potassium chloride from Russia and Belarus.

These two nations account for around 40% of global production and exports.

Preliminary estimates show global production of potassium chloride to drop by 10 mt (14%) to 61 mt, with global trade in this fertilizer also going down by 10 mt (18%) on the back of lower shipments from Russia and Belarus.

The downward trend in export supply drove up prices for potassium chloride in 1H 2022, causing them to reach as much as 1,000 USD/t and above. High potassium chloride prices made the fertilizer less affordable for farmers, driving a reduction in demand and global price correction in 2H 2022.

Potassium chloride prices in 2022, FOB Baltic, USD/t



**61 mt**  
-14% vs 2021  
global production of potassium chloride (according to preliminary estimates)

# Strategy

## Strategy to 2025

In 2022, PhosAgro continued to make good progress towards the goals of its Strategy to 2025 approved by the Company's Board of Directors in 2019.

Despite the changing external environment, we consider most objectives of the Strategy to 2025 to be relevant and achievable and continue to implement respective projects and programmes.

Our record-high production of 11.1 mt of mineral fertilizers and other chemical products in the reporting year is an important milestone along this journey.

