



PHOSPHATE SEGMENT – UPSTREAM (SDGS 3 AND 12)



Apatit's Kirovsk Branch mines, beneficiates and processes apatite-nepheline ore into phosphate rock and nepheline concentrate.

Phosphate rock is processed by Apatit in Cherepovets and its branches in Balakovo and Volkhov. Apatit manufactures both phosphate and nitrogen fertilizers. In addition to phosphate-based fertilizers, its Balakovo branch makes feed monocalcium phosphate (MCP), while the Volkhov branch specialises in such complex fertilizer grades as PKS, NPKS and NPK, and industrial phosphates, including sodium tripolyphosphate (STPP).

Upstream

In 2019, Apatit's Kirovsk branch mined 38.05 mt of apatite-nepheline ore and produced 10.51 mt of phosphate rock, representing an increase of 4.4%, or 0.44 mt, on the previous year and a record high for the past 25 years.

Internal phosphate rock consumption was at 69%, or 7.3 mt, vs 71%, or 7.1 mt, in 2018, while sales to customers in Russia and abroad accounted for 15% and 16%, respectively, vs 11% and 18% a year ago.

Outlook

We expect a number of major investment projects to help us achieve consistent cost reduction in the upstream segment. These embrace efforts to re-equip the main shaft No. 1 and implement an in-pit crushing and conveying (IPCC) system at the Vostochny mine.

We will continue to optimise processing volumes and improve the quality of our low-cost phosphate rock, expecting to increase its output from the current 10.5 mt to over 11 mt.

4.4%
increase in phosphate rock production in 2019 compared to 2018

10.5 mt
of phosphate rock produced in 2019

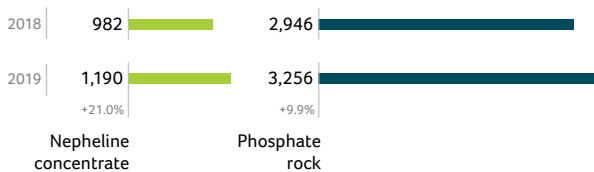
20.5%
increase in nepheline concentrate production in 2019 compared to 2018



Production volume, kt



Sales volume, kt



PhosAgro ore reserves as of 1 January 2020

Deposit	Balance reserves, kt (A + B + C1)	Average P ₂ O ₅ content
Kukisvumchorr	377,662	14.18%
Yukspor	473,361	14.06%
Apatitovy Cirque	96,756	14.03%
Rasvumchorr Plateau	310,454	13.05%
Koashva	587,667	16.88%
Njorkpahk	55,599	13.46%
Yolitovy otrog	134	19.40%
TOTAL	1,898,633	14.77%

The introduction of remote drilling at PhosAgro's underground mines in the Murmansk Region has brought about a 20% boost in rig efficiency due to shorter downtime between the shifts and significant improvement of occupational safety during the underground works.

Remote underground drilling is the future of mining. An operator can manage several drilling rigs from an above-ground control centre. PhosAgro currently owns ten such rigs, with more to come in the future.

Licences

Mining licence

Mine	Deposit	Expiry
Kirovsky mine	Kukisvumchorr and Yukspor deposits	31 December 2025
Vostochny mine	Koashva deposit	31 December 2038
	Njorkpahk deposit	31 December 2063
Rasvumchorrsky mine	Apatitovy Cirque and Rasvumchorr Plateau deposits	1 January 2024
Tsentralny mine	Rasvumchorr Plateau deposit	31 December 2020

Geological survey, exploration and mining licenses

Location	Expiry
Plot Plateau	14 December 2040
Yolitovy otrog deposit	1 February 2024