

The Russian PGM Mining Industry

In the latest issue of Johnson Matthey's annual review of the platinum group metals (pgms), "Platinum 2012", Dr Jonathan Butler, Publications Manager at Johnson Matthey, presents a special feature giving an overview of the Russian pgm mining industry, historically the main source of platinum before the discovery of the Merensky Reef in South Africa in the 1920s.

World's Second Largest PGM Supplier

Currently, Russia is the second largest global pgm supplier. In 2011 shipments amounted to 835,000 oz of platinum and 3.48 million oz of palladium, or 12.9% and 47.3% of the world's total supplies, respectively. However, over recent years the supply volumes for both metals have been on the decline due to both falling ore grades at the existing deposits and depletion of state stocks, which in the last 5 years have contributed 14% of global palladium shipments.

The special feature is largely dedicated to Norilsk Nickel, by far the major Russian pgm producer. Its main operations both on the Taimyr Peninsula (Oktyabrsky, Talnakh and Norilsk-1 deposits) and on the Kola Peninsula (Pechengskoye ore field) are based within the Arctic Circle and, unlike South Africa, pgm output there is a byproduct of nickel and copper extraction, so it is strongly dependent on the economics of base metals mining.

On the Taimyr Peninsula the current falling grades are partially compensated by the processing

of tailings from previously mined ores and also stockpiled pyrrhotite concentrates. Exploration confirms further massive cuprous ore deposits at the Talnakh ore field and longer term at the new Maslovskoye deposit.

Opportunities for PGM Mining

There is also good potential for pgm mining on the Kola Peninsula and in adjacent Karelia. Recently confirmed deposits in Fedorovo Pana province and a variety of smaller deposits close to Monchegorsk are being explored by a number of companies, including Eurasia Mining and Barrick Gold.

Up to 20% of the platinum mined in Russia comes from alluvial deposits, mostly from the Russian Far East (Kondjor and Korjak-Kamchatka platinum belt), but also the original pgm province of the Urals mountains. The Russian Platinum Company, owner of Kondjor, is in the process of exploring the promising disseminated Chernogorskoye deposit close to Norilsk-Talnakh.

Due to operational and environmental challenges, it is concluded that Russian pgm output will remain largely flat in the near term. However, with significant investment, there are a small number of new projects which have the potential to add reasonable volumes to current pgm output.

The special feature is equipped with a useful interactive map showing details of Norilsk Nickel's operations at Kola and Taimyr.

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Metallurgical processing at Norilsk Nickel's Monchegorsk plant (Image © Jonathan Butler/Johnson Matthey Plc)

Availability of the Special Feature

The special feature can be downloaded, free of charge, as a PDF file from Platinum Today at: http://www.platinum.matthey.com/uploaded_files/PT_2012/the_russian_pgm_mining_industry.pdf. The interactive map for the Kola Peninsula can also be accessed at: <http://www.platinumtoday.co.uk/platinum-2012/kola>. The interactive map for the Taimyr Peninsula can be accessed at: <http://www.platinumtoday.co.uk/platinum-2012/taimyr>.