



WHERE DOES PLATINUM COME FROM?

Platinum is a rare resource that occurs in only a few places on Earth. It cannot be obtained easily

Thirty times rarer than gold, platinum occurs at very low concentrations in the Earth's crust. There are only four countries in the world that have platinum mining operations of any significance and of these South Africa has the largest platinum resources by far.

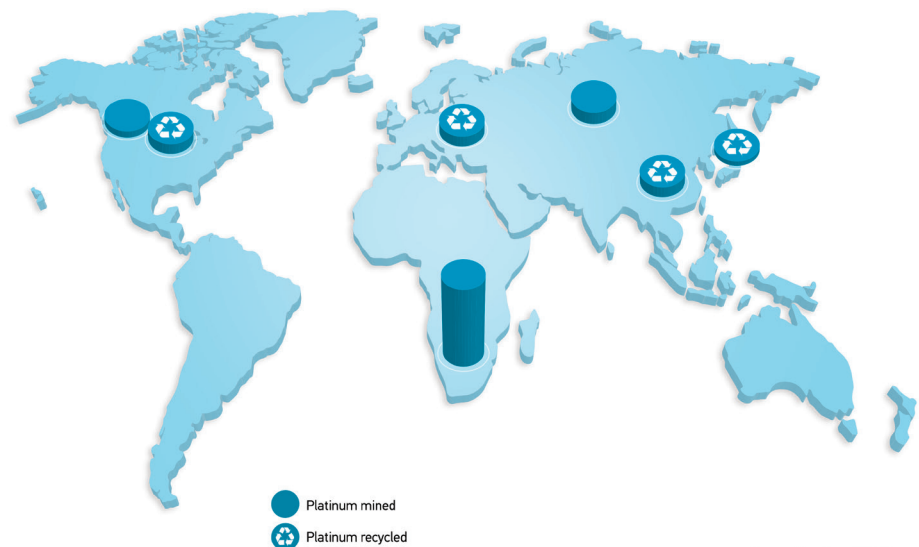
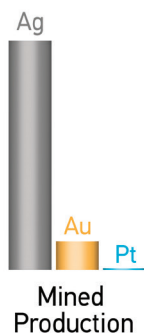
Around 6 moz (190 metric tons) of platinum is mined worldwide each year, compared to 108 moz (3,300 metric tons) of gold, with 72 per cent of annual platinum production coming from South Africa.

The balance comes from: Russia - 11 per cent; Zimbabwe - eight per cent; and North America - six per cent. Other minor producers including China, Colombia and Finland produce the remaining three per cent.

In addition to its rarity, platinum is not easy to access. While over 70 per cent of all mineral extraction globally arises from surface mining, in contrast, the geology and location of the world's platinum reserves mean that platinum mining takes place principally underground. The main exception to this is Mogalakwena in South Africa which is the largest open-pit platinum mine in the world, producing some 8 per cent of annual platinum mine supply.

When compared to gold and silver mine production the rarity of platinum is highlighted further. In 2018, the mined production of silver, gold and platinum was 860 moz, 108 moz and 6m oz, respectively.

Mining Supply 2018



Source: Bloomberg, WPIC Research.

Each year, a further 2 moz (60 metric tons) of platinum comes from mainly autocatalyst and jewellery recycling.

The PGM basket

South Africa's Merensky ore body has historically dominated global platinum production. Here, platinum is the highest concentration, 50 per cent – 60 per cent. Its sister Platinum Group Metals (PGMs) – palladium, rhodium, ruthenium, iridium and osmium – are present too, alongside base metals like nickel and copper as well as gold and silver.

This means that a platinum mine, established to meet the future growth in global platinum demand,

produces a basket of PGMs and other metals for each ounce of platinum mined, refined and sold. The price received by a mining company from the sale of platinum with its sister and other metals, each dependent on the price of the individual metal on global commodity markets, is referred to as the basket price.

Depending on the composition of the ore that is extracted, platinum can be classed as either the primary or secondary metal produced. In South Africa and Zimbabwe, platinum is mined as a primary metal, whereas in Russia platinum is produced predominantly as a by-product of nickel. In North America platinum is produced as a by-product of palladium.

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