

KEY TRENDS IN THE PLATINUM MARKET

2016: strong industrial consumption and support on the investor demand side.

Outlook: neutral. In 2017, the market will remain balanced state on the back of stable supply, recovering jewellery demand, but weaker industrial consumption.

In January 2016, platinum prices fell to a seven-year low last seen during the global financial crisis of 2008–2009. This development was caused by the overall downward trend in the commodities market on the back of a strong US dollar and repercussions of the Volkswagen diesel emissions scandal, which had an adverse impact on investor sentiment about the future of diesel vehicles. The ongoing unprofitable mines production and stable metal supply put additional pressure on prices.

Later on, in the first half of the year, when the US Federal Reserve left rates unchanged and investors fled to the safety after the unexpected Brexit vote in the UK, platinum prices bounced back reaching their maximum since May 2015 in August (USD 1,182 per troy ounce). This was followed by a downward movement, with prices falling to the levels of the beginning of the year (USD 900 per troy ounce) affected by the negative news about a slump in diesel car sales, low demand for platinum from the jewellery sectors in China and India, and an expected surplus in the metals market in 2017. The average platinum price in 2016 was at its eleven-year low (USD 989 per troy ounce).

Platinum



No.4

Nornickel is the world's
fourth largest
producer of platinum

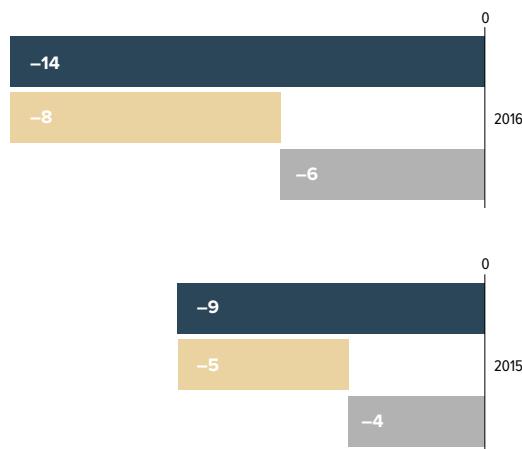


Primary platinum consumption by region, %



Platinum market balance, t

- Demand/supply balance
- Accumulation of investment stocks
- Production/consumption balance

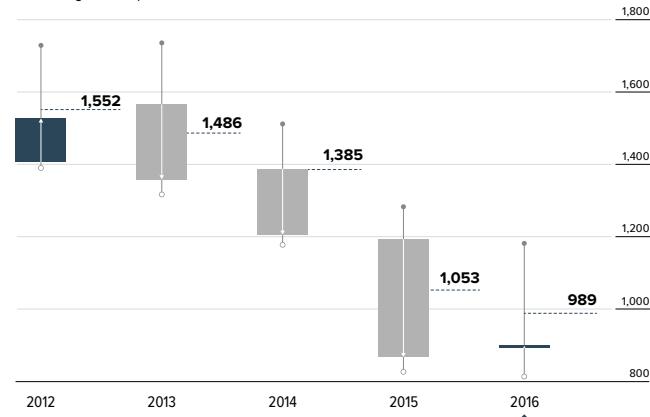


Source: Company data

The deficit in the platinum market increased in 2016 compared to 2015, driven primarily by the growth in consumption that exceeded platinum production, and discontinued outflow from exchange-traded funds (ETFs).

Platinum prices, USD/oz

- Price increase (start-end of the year)
- Reduction of price (start-end of the year)
- All-year high
- All-year low
- Average annual price



Drivers of the platinum price in 2016

1. Cautious Fed, weak US dollar
2. Rally in precious metals post-Brexit
3. Negative background related to the declining share of diesel cars in major markets, waning jewellery demand in China and India, and expected market surplus in 2017
4. US presidential election results

Source: LBMA price, Company data

CONSUMPTION

Industrial consumption of platinum in 2016 increased by 4 t (+2% y-o-y) to an all-time-high of 251 t, while the consumption of primary platinum remained flat at 193 t mainly due to the use of jewellery scrap, with recycling volumes remaining the same despite weaker demand.

The automotive industry is the largest consumer of platinum. Over 70% of platinum in this industry is used to manufacture exhaust gas catalysts for diesel vehicles. In 2016, the industry's consumption increased by 3 t fuelled by growing diesel car production and tightening environmental standards. At the same time, the reporting period was affected by the consequences of the 2015 scandal around Volkswagen manipulating vehicle emission tests to demonstrate environmental compliance. Many car manufacturers, including Volkswagen, which became the world's largest automaker in 2016 by the number of cars manufactured, announced plans to reduce the share of diesel sales and to shift to hybrid (combining petrol and electric engines) and, ultimately, fully electric propulsion systems. Governments and municipalities of a number of nations, including key diesel engine markets such as the UK, EU and India, announced plans to restrict the use of diesel vehicles in large cities. These developments affected consumer behaviour, especially in the EU, where diesel's market share fell below 50% for the first time in years. The leading analytical agencies have revised downwards their forecast regarding the share of diesel vehicles in production. Yet, in absolute terms, manufacturing of this type of vehicles will continue to show a positive trend in the nearerterm.

The second biggest platinum consumer is the jewellery industry. In 2016, its consumption rates decreased significantly (by 6 t, or 7% y-o-y), primarily due to weaker consumption in China and India. In China, a decrease in consumption was caused by the overall contraction of jewellery demand on the back of lower consumer confidence, high stockpiles of precious metals accumulated in 2015, and consumer shift to white gold owing to an aggressive marketing campaign. A drop in platinum consumption by the Indian jewellery industry comes as a result of higher import duties on gold and platinum, new requirement to identify buyers of expensive jewellery, and the currency reform in the country.

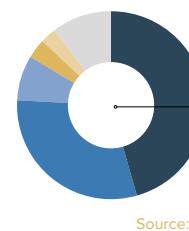
In 2016, primary platinum consumption for industrial catalyst manufacturing increased by 2 t, following the ramp-up of catalytic reforming, isomerisation, nitric acid and silicone production capacities, as well as the launch of plants to produce paraxylene used in China for paint and varnish manufacturing and propane dehydrogenation purposes.

Platinum consumption in 2015–2016, t



Source: Company data

Platinum consumption by industry

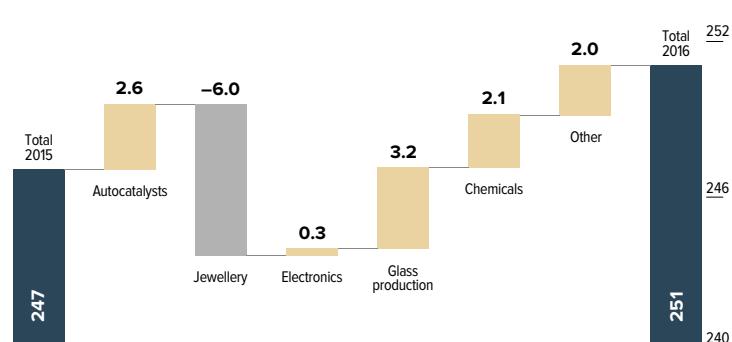


251 t

	t	%
Exhaust gas treatment systems	114.6	45.6
Jewellery	75.9	30.2
Chemical catalysts	19.7	7.8
Glass production	8.2	3.3
Electronics	7.4	3.0
Other applications	25.3	10.1

Source: Company data

Changes in platinum consumption by application area, t



Source: Company data

The glass industry needs platinum to produce glass fibre and optical glass used in the LCDs of the majority of electronic products. The demand for the primary metal in this industry continued recovering after the decline of 2012–2013.

The electronics industry saw a modest growth in primary platinum consumption triggered by the increase in the platinum-based hard drive production due to the expansion of remote data storage capacities.

Platinum is also widely used as an investment instrument. Physical investments may vary from coins and smaller bars to investments in ETFs that accumulate large amounts of platinum in the form of standard-sized bars. 2016 brought considerable retail demand for platinum bars in Japan (13 t) driven by low JPY prices for the metal and a discount to gold. Investments in platinum ETFs for the full year remained flat.

PRODUCTION

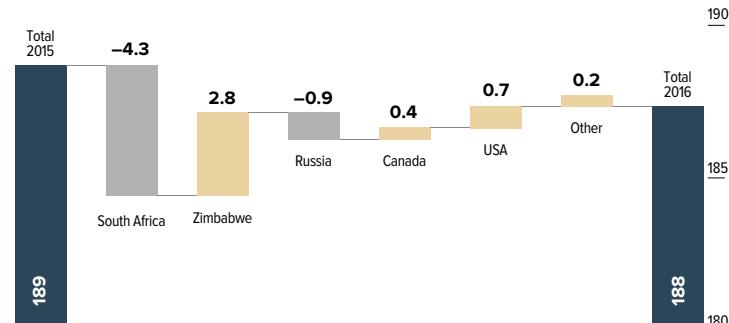
In 2016, global primary platinum output decreased by 1t, or 1%, compared to 2015.

In South Africa, the output of refined platinum declined due to the maintenance at one of Anglo American Platinum's smelters and the scheduled closure of unprofitable shafts at Lonmin. This reduction was partially offset by the launch of new projects and higher output by Northam.

Russia recorded lower output, primarily as a result of a drop in Russian Platinum production volumes.

Zimbabwean production grew thanks to restored operations at Zimplats. There was also a slight improvement in the US production numbers.

Primary platinum production in 2015–2016, t



Source: Company data

The main sources of recycled platinum are used exhaust gas catalysts and jewellery scrap. Recycled output in 2016 increased by 4 t chiefly due to higher jewellery scrap volumes. Collection of autocatalyst scrap remained flat, as low platinum prices put pressure on recycling volumes, but growing prices of scrap steel and higher recycling volumes of European diesel cars with a high platinum content in the catalysts have offset this negative trend.

The sources of previously accumulated platinum stockpiles include trading companies, financial institutions, and surplus inventories of consumers, while the movement of these inventories is non-transparent.

Platinum is used in production of glass fibre and optical glass used in the LCDs of the majority of electronic products.

