

Platinum 2000

The Johnson Matthey annual survey, "Platinum 2000", which reports the supply and demand of the platinum group metals, was published in May. During 1999, total demand for platinum rose by 4 per cent to 5.6 million oz, with record jewellery manufacture taking 2.88 million oz. Although Japan was still the largest jewellery manufacturer, Chinese platinum jewellery fabrication rose by 53 per cent to 950,000 oz.

A decreased demand for platinum by autocatalyst manufacturers of 11 per cent, to 1.61 million oz, was mainly due to further replacement of platinum catalysts by palladium-based systems, resulting from the impact of LEV emissions legislation in North America. However, there was a 10 per cent rise in industrial demand to 1.355 million oz, mainly due to the growing use of platinum in computer hard disks and a higher demand for platinum process catalysts by the chemical industry.

Platinum demand for fuel cells was still at a low level, but there is an increasing chance that it will rise significantly over the coming years. At present, platinum is used mainly in phosphoric acid fuel cells but this technology is rapidly being overtaken by the proton exchange membrane (PEM) fuel cell. Several major auto makers have displayed PEM fuel cell concept vehicles. In the glass industry, platinum demand fell by 20,000 oz to 200,000 oz, however, there was significant recovery in the production of liquid crystal display (LCD) glass used in television and computer screens.

Supplies of platinum fell by 10 per cent to 4.87 million oz, the lowest level since 1994. Russian supplies were greatly reduced by a change in Russian legislation which prevented Norilsk Nickel from exporting platinum. Most of the 540,000 oz of platinum sold by Russia in 1999 are thought to come from central govern-

ment stocks. The supply deficit of 730,000 oz was partly compensated by a 6 per cent increase in sales from South Africa to 3.9 million oz, which included output from new mines developed by Amplats and Kroondal Platinum, and by the sale of 215,000 oz of platinum from the U.S. National Defense Stockpile.

Palladium demand reached a record high of 9.37 million oz with demand for autocatalysts rising by 20 per cent to 5.88 million oz. This growth mainly occurred in North America and Europe as car manufacturers used higher palladium loadings on catalysts to meet increasingly strict clean air legislation. Record car and light truck sales in the U.S.A. also boosted this demand. However, demand for palladium in precious metal dental alloys fell almost 10 per cent to 1.11 million oz and the electronic sector was 5 per cent lower at 1.97 million oz. Palladium supply stood at 8.06 million oz.

Sales of rhodium to the auto industry reached 502,000 oz, due to higher vehicle production, tighter emissions legislation and greater use of rhodium in some regions to minimise palladium increases. The automotive industry has become an important sector for iridium, taking 34,000 oz, used in autocatalysts and spark plugs. Demand for ruthenium reached 395,000 oz mainly due to the electronics industry, which accounts for around half of all ruthenium consumption.

A special section in "Platinum 2000" describes platinum mining in South Africa, the history, locations, and current mining and processing techniques. Readers of *Platinum Metals Review* wishing to receive a copy of "Platinum 2000" should contact: Johnson Matthey PLC, 40-42 Hatton Garden, London EC1N 8EE; E-mail: mailbox@matthey.com; Fax: +44 (0)20-7269-8389; or Internet: <http://www.platinum.matthey.com>.