



Platinum

Autocatalyst

Demand for platinum from the autocatalyst sector is forecast to increase by 20 per cent in 2003 to 3.18 million oz. Purchases of platinum by the North American auto industry will rise significantly because less metal has been sourced from inventories compared with 2002. In Europe, growth in diesel car sales continues to be the primary driver of increasing platinum demand. The retrofitting of catalysts and particulate filters to heavy-duty diesel vehicles in Tokyo will boost Japanese platinum demand this year, whilst surging car sales in China will also increase platinum consumption.

Europe

Demand for platinum from auto makers in Europe is projected to climb by 9 per cent to 1.37 million oz this year. The growth in sales of diesel powered cars continues to drive rising autocatalyst demand for platinum in the region. Sales of diesels in January through to July increased by almost 4 per cent, at a time when the overall European car market was contracting. The market share of diesel powered cars is forecast to reach 43 per cent by the end of 2003, equivalent to well in excess of 6 million vehicles.

The approach of new Euro IV emissions standards is also causing greater use of pgm in the emissions systems of certain models. This is particularly true of the diesel sector – average platinum loadings on oxidation catalysts have increased and some larger passenger vehicles are also being fitted with platinum-coated diesel particulate filters in order to meet Euro IV standards. However, other particulate filter systems are available that do not utilise platinum – an alternative based on a fuel-borne cerium catalyst is in use.

The large price differential between platinum and palladium has led some European auto manufacturers to re-examine their use of pgm on gasoline cars. There was a degree of switching to greater use of platinum following the palladium price spike in 2000 and 2001, and this trend may be reversed. However, any reduction in platinum demand from switching will be outweighed by continuing growth in diesel car sales and further rises in average loadings as emissions legislation tightens. Industry forecasts suggest that diesels could account for more than half of all new car sales in Europe by 2006, and manufacturers continue to expand their ranges of diesel models.

Japan

Japanese car production is forecast to fall by 3.8 per cent in 2003 due to a drop in the number of vehicles produced for export. However, despite the predicted fall in Japanese auto production, platinum demand in 2003 is forecast to increase by 14 per cent to 490,000 oz, more than double the level of demand five years ago. A substantial proportion of the growth this year will be attributable to a Tokyo Government regulation that came into effect in October. This lowered particulate matter emission limits for heavy-duty diesel vehicles operating within the Tokyo metropolitan area. Vehicles that do not meet the new standards must be modified and in most cases this will involve the fitment of an oxidation catalyst or diesel particulate filter.

Voluntary NOx and particulate matter emissions standards for new heavy-duty diesel trucks and buses were also introduced nationwide in October but will not necessitate the fitment of after-treatment equipment to all vehicles. Tighter statutory limits, however, will follow in 2005 and are likely to result in the widespread use of exhaust after-treatment devices.

Japanese auto manufacturers' pgm purchasing strategies have not tended to be influenced by short-term price volatility. Most Japanese auto companies, therefore, remain significant users of platinum in autocatalysts fitted to gasoline vehicles for the domestic market and are unlikely to alter pgm ratios on current models.

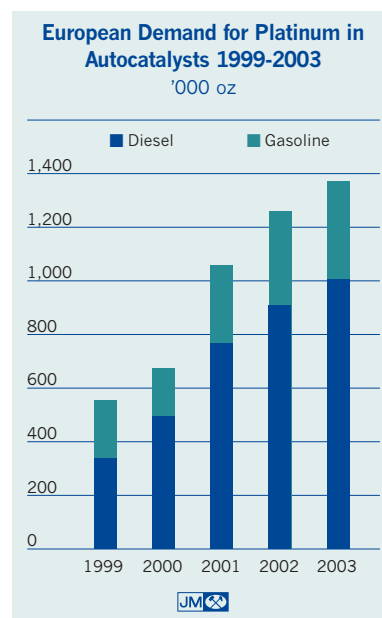
North America

Purchases of platinum by the US auto industry are forecast to increase by 54 per cent in 2003 to 880,000 oz. Although some US manufacturers have continued to run down platinum inventories, the scale of stock use has been much lower than in 2002. The result is that purchases of platinum will rise by 310,000 oz.

The effect of decisions taken in 2000 and 2001 to switch from palladium-rich to platinum-rich catalyst formulations on certain new vehicle models will continue to influence platinum demand in the USA this year. This reflects the long lead times that can occur between design and certification of an emissions system and the launch of the vehicle model it is fitted to.

In addition, an increasing number of heavy-duty diesel trucks, buses and construction vehicles in the USA are being retrofitted with oxidation catalysts and diesel particulate filters under a voluntary programme

	2002	2003
Europe	1,260	1,370
Japan	430	490
North America	570	880
Rest of the World	380	440
Total	2,640	3,180
Autocatalyst recovery	(570)	(650)





Platinum



Lambda or oxygen sensors, which contain platinum electrodes, are essential components of auto emissions control systems. By continuously monitoring the engine exhaust composition they enable catalytic converter efficiency to be maximised.

administered by the Environmental Protection Agency. This will also contribute to the increase in autocatalyst demand for platinum in 2003.

After slowing during the first four months of the year, when economic uncertainty and the Iraq conflict damaged consumer confidence, light vehicle sales in the USA have accelerated and are on course to reach 16.4 million for the year. Production, however, has fallen as inventories of unsold cars have been reduced and imports have claimed a larger share of the US market. Total light vehicle output in 2003 is forecast to slip by 2.6 per cent to 11.7 million units.

Given the differential between the platinum and palladium price, the use of platinum in autocatalysts is likely to be minimised on some new vehicle models launched over the next two to three years through switching to palladium-dominant catalysts. However, a high degree of caution remains amongst auto companies due to the past price volatility of palladium. Many will leave pgm ratios unchanged, regardless of short-term price movements, and will prefer to focus on thrifting overall pgm loadings further.

Rest of the World

Platinum demand in the Rest of the World is predicted to rise by 16 per cent in 2003 to 440,000 oz, driven by the continuing rapid growth of car sales in China and the introduction of more stringent emissions regulations.

The car market in China, although still relatively small, is growing at a tremendous rate: sales of passenger cars during the first eight months of 2003 soared by almost 90 per cent to 1.25 million. The

Chinese National Statistics Bureau forecasts that total car production for the full year could reach 1.8 million.

China is rapidly following the European model of emissions regulation. Euro II standards were introduced in Beijing at the start of 2003 and will be enforced nationwide from July 2004. Beijing is targeting a substantial improvement in air quality ahead of the 2008 Olympic Games in the city and Euro III emissions limits may apply from 2005.

Indian light vehicle production and sales are also on course for a strong year, with light vehicle output expected to near 1 million units in 2003.

Autocatalyst Recovery

The total volume of platinum recovered from scrapped autocatalysts is projected to grow to 650,000 oz in 2003, an increase of 14 per cent. Recovery will rise in all regions, due in part to the strength of the platinum price. As in 2002, however, the fastest growth will be seen in Europe where collection rates are improving from a relatively low level and a rising proportion of cars being scrapped are fitted with catalytic converters. The European End of Life Vehicle directive that comes into effect in 2005 has also stimulated the development of recycling infrastructure. The collection of catalytic converters from scrapped vehicles in regions such as Latin America and Asia is also increasing, although from very low initial rates.

Jewellery

Total demand for platinum used in jewellery fabrication is forecast to slip by 13 per cent to 2.45 million oz in 2003. Chinese purchases of platinum for jewellery fabrication will drop for the first time in more than a decade as manufacturers react to increases in the spot price. Japanese purchases will also drop sharply as yet more metal is recycled from inventories, notably from the liquidation of stock from companies that have gone out of business. This will greatly outweigh a small improvement in platinum demand in the US jewellery market.

Europe

European jewellery demand for platinum is predicted to grow modestly in 2003, rising by 3 per cent to 165,000 oz. The volume of platinum jewellery hallmarked in the UK jumped by almost a third over the first nine months of 2003, exceeding 60,000 oz.



Platinum

The volume of both domestic and imported jewellery submitted for certification climbed. The growth of the UK market is primarily a result of increasing penetration of the bridal market by platinum.

In contrast, German retail sales of platinum jewellery remain depressed by the weakness of the economy. In the current economic climate, retailers are better able to market white gold and non-precious metal jewellery to price-conscious consumers. Jewellery fabricators' demand for platinum is likely to fall by up to 10 per cent in 2003, with most major manufacturers targeting export sales in order to offset the tough conditions at home.

The Italian market is expected to be broadly flat in 2003, supported by the core bridal sector. Demand for platinum from the Swiss jewellery industry is expected to soften for the second year in succession in 2003, following exceptionally good sales in 2001. Fabrication of platinum jewellery other than watches is forecast to increase moderately but this will be offset by a drop in the number of platinum watchcases manufactured.

Japan

The Japanese jewellery industry as a whole continues to suffer from the uncertain economic outlook, with consumer spending on luxury items under pressure. Platinum purchases by jewellery fabricators are forecast to drop by 15 per cent in 2003 to 665,000 oz – half the level of demand four years ago.

Retail sales of platinum jewellery in Japan are set to fall again this year, and purchases of platinum by manufacturers have also been affected by an unexpected increase in the level of inventory being recycled. This is due, in part, to ongoing efforts by retailers and wholesalers to keep stock levels to a minimum. However, bankruptcies in the jewellery industry have been running at a high rate and the liquidation of the assets of bankrupt companies has contributed a substantial volume of secondary platinum to the jewellery supply chain in 2003.

At the retail end of the market, sales of jewellery of all precious metal types declined during the first half of the year. Sales of platinum fashion jewellery continued to face strong pressure from white gold, with the average price of platinum climbing from around ¥2,400 per gram in January to ¥2,600 in September. In the bridal and luxury sectors of the market platinum has fared better and the metal's share of wedding ring sales has actually increased, although overall sales of

platinum jewellery are still expected to fall year-on-year. It is noticeable, however, that white remains the preferred colour of precious metal jewellery for Japanese consumers – sales of yellow gold jewellery continue to be heavily cannibalised by white gold.

North America

Platinum demand from jewellery fabricators in North America is forecast to rise by 5 per cent in 2003 to reach 325,000 oz. Platinum's position in the bridal market continues to strengthen in the USA, underpinning demand, but meeting price points at the fashion end of the market remains challenging.

Consumer confidence in the USA has improved but remains fragile. Retailers, therefore, are cautious about prospects for the remainder of the year. Although demand for platinum benefited from a degree of stock replenishment during the second quarter of 2003, most jewellery stores and wholesalers continue to keep inventory levels to a minimum. The level of retail sales over the Christmas 2003 holiday period will have a strong influence on manufacturer demand for platinum in the first quarter of 2004.

Rest of the World

Purchases of platinum for jewellery fabrication in the Rest of the World region are forecast to fall by 18 per cent in 2003 to 1.295 million oz, due almost entirely to weaker demand from Chinese manufacturers. After a decade of rapid growth, Chinese purchases of platinum for jewellery fabrication are expected to drop to 1.2 million oz this year, down 19 per cent from the peak of 1.48 million oz in 2002.

Demand from Chinese jewellery fabricators was noticeably weak during the first half of the year, due to a combination of the rapidly rising and volatile platinum spot price, and the impact that the SARS outbreak had on retail sales. While the platinum spot price climbed retail prices remained static, and jewellery manufacturers and wholesalers saw profit margins decline sharply. A swift correction downwards in the spot price in early April resulted in margins recovering, and Chinese fabricators subsequently stepped up their purchasing ahead of the Labour Day holiday period. However, as the SARS crisis began to deepen, retail sales slumped and demand for metal from manufacturers lagged behind the levels seen in 2002. Much of the consumer spending, however, was only deferred for a short time and leading retailers

Platinum Demand: Jewellery '000 oz		
	2002	2003
Europe	160	165
Japan	780	665
North America	310	325
Rest of the World	1,570	1,295
Total	2,820	2,450





Platinum

Platinum Demand: Industrial '000 oz		
	2002	2003
Chemical	330	325
Electrical	380	395
Glass	255	245
Petroleum	130	130
Other	495	505
Total	1,590	1,600



reported good sales of platinum jewellery over the summer.

The advent of platinum trading on the Shanghai Gold Exchange (SGE) in mid-August was a positive development for the Chinese platinum jewellery trade. It marked a continuation of the liberalisation of the Chinese precious metals sector, and brought the taxation of platinum closer in line with that of gold. The volume of platinum traded through the SGE climbed during the first three weeks of September, and totalled almost 80,000 oz for the month as a whole, as fabricators stocked up ahead of the National Day holiday week in early October. Early indications suggest that retail sales of platinum jewellery were firm over the holiday period, despite higher retail prices – platinum jewellery remains tremendously popular with Chinese consumers.

Industrial

Industrial demand for platinum is expected to be broadly stable in 2003, the total edging up to 1.6 million oz. Little change is forecast for most of the chemical sector, reflecting the ongoing weakness of economic growth in much of continental Europe and the subdued level of activity in the USA during the first half of the year. A moderate fall is expected in Asian glass industry demand for platinum, whereas purchases in the electrical sector will grow due to an upturn in orders for thermocouples.

Consumption of platinum in the chemicals industry is forecast at 325,000 oz in 2003, slipping slightly compared to 2002. The largest catalyst application is for the production of silicones, and operating rates in much of the silicones industry have been stable. Although demand for silicones in China continues to rise rapidly, it is increasing from a low base. Demand for paraxylene has strengthened throughout the year to date but prices have not yet improved to the point at which investment in new capacity would be justified. Platinum consumption in this sector is primarily linked to new plant construction, as losses during catalyst operation are low.

Purchases of platinum catalyst gauze for nitric acid production are expected to fall moderately compared to 2002, producers having suffered high and volatile natural gas costs in the first half of the year. Little investment in new manufacturing capacity is expected during 2003.

Demand for platinum used in electrical applications is projected to improve by 4 per cent to 395,000 oz in 2003. Thermocouple demand for platinum is expected to increase on the back of rising steel output. In the hard disk sector, personal computer sales are recovering in North America and are growing strongly in China. Corporate spending on IT equipment globally is also improving. Platinum demand, however, will not expand at the same rate due to the current trend to use fewer disks per hard drive.

Consumption of platinum in the glass industry will soften in 2003, dropping to 245,000 oz. Whilst demand for liquid crystal display glass in Asia and fibreglass in China remains strong, less new capacity will be commissioned in 2003 compared with the previous year. Demand in Europe and North America is forecast to be largely stable.

With no substantial increases in reforming capacity due on stream in 2003, little change in demand for platinum-based catalysts is expected from the petroleum refining industry. Consumption of platinum in dental alloys is also forecast to be flat, whereas demand from other applications will rise due to the growing use of platinum-based biomedical products.

Investment

Net demand for platinum investment products is forecast to drop to 10,000 oz in 2003, down from 80,000 oz the previous year. Higher platinum prices have stimulated increased sales back to the market of large investment bars in Japan and have reduced sales of platinum coins by the US Mint.

Demand for the US Mint's platinum American Eagle bullion coins during the first nine months of 2003 totalled 15,850 oz, a fall of almost 30 per cent compared to 2002. The rising price of platinum appears to have deterred some investors, although sales of proof coins to collectors are expected to remain stable.

The sale of large investment bars back to dealers by Japanese investors has increased during 2003 to date in light of higher platinum prices.

The price strengthened from approximately ¥2,320 per gram at the start of the year to exceed ¥2,650 by the end of August, although a sharp appreciation of the yen in September pulled the local platinum price back to around ¥2,550. Overall, purchases for the year are forecast to be outweighed by sales back to the market, resulting in negative net demand of 20,000 oz.

Platinum Demand: Investment '000 oz		
	2002	2003
Coins and small bars		
Europe	0	0
Japan	5	5
North America	40	25
Rest of the World	0	0
	45	30
Large bars in Japan	35	(20)
Total	80	10

