OTHER PLATINUM GROUP METALS

Net rhodium demand is forecast to fall to 548,000 oz this year, largely due to a decline in usage by the automotive industry. Rhodium supplies are set to rise to 719,000 oz. The weak global economy will drive net ruthenium demand down to 583,000 oz and depress iridium demand to 79,000 oz.

RHODIUM

The rhodium market is set to be in substantial oversupply – by 171,000 oz – this year. Net demand is expected to decline by 122,000 oz to 548,000 oz as metal purchases for use in catalytic converters fall heavily. Rhodium supplies are set to rise by 24,000 oz to 719,000 oz despite a decline in underlying production in South Africa.

Autocatalyst

Gross rhodium purchases by the global automotive sector are forecast to decline by 19.2 per cent to 618,000 oz largely due to an expected 16.1 per cent drop in global light duty vehicle production.

The troubles in the global economy have had a severe effect on the automotive industry. In North America, light duty production volumes are expected to fall by a steep 30.9 per cent. Many vehicles in this region have relatively high rhodium loadings and this will hit rhodium demand. However, despite numerous scrappage schemes, there will also be lower vehicle output in Europe, Japan and the Rest of the World region, further damaging rhodium demand. Demand will rise only in China, where government subsidies have supported the economy.

Rhodium Supply and Demand
'000 oz

	2008	2009
Supply		
South Africa	574	620
Russia	85	65
North America	18	12
Others	18	22
Total Supply	**695**	**719**
Demand		
Autocatalyst: gross	765	618
recovery	(224)	(181)
Chemical	68	66
Electrical	3	3
Glass	34	21
Other	24	21
Total Demand	**670**	**548**
Movements in Stocks	**25**	**171**

JM

Rhodium demand has been further reduced by continuing thrifting of this metal from three-way catalysts. Prior to this year, rhodium prices had been at an elevated level for some time and the auto makers and catalyst manufacturers have devoted significant resources to minimising rhodium usage without worsening catalytic performance. As a result, new, lower-rhodium loaded catalytic converters are being steadily introduced into the market. In 2009, this thrifting, together with the impact of a decrease in average vehicle size, will outweigh the effects of tightening legislation, depressing gross rhodium demand by more than the fall in vehicle production.

Less rhodium will be recovered from spent autocatalysts this year – 181,000 oz – than in 2008. The high rhodium price drove autocatalyst recovery to record levels during 2008, depleting stocks of old spent catalysts, as generous profits were available throughout the recycling industry. With fewer vehicles sold in North America, Europe and Japan this year, there has also been a decline in the number of newly-available spent catalysts. Recycling rates therefore fell heavily in early 2009 although they have since recovered somewhat.

Other Demand

The glass industry is set to purchase a net 21,000 oz of rhodium this year, 13,000 oz less than in 2008 as less new capacity is installed. While the Chinese construction market remains robust, exports of fibre glass to other markets have fallen and there has been little production capacity installed in China this year. A temporary dip in demand for LCD glass for flat screen television sets also caused a hiatus in the construction of new production facilities. However, demand has been supported by the fall in the price of rhodium. Glass manufacturers typically have a range of platinum-rhodium alloys they can use in their processes. Addition of extra rhodium increases the durability of these alloys and a low metal price has encouraged the use of higher-rhodium alloys at a number of sites.

Chemical sector demand for rhodium is expected to decline by only 2,000 oz to 66,000 oz in 2009. Demand for rhodium from the nitric acid industry will fall, in line with platinum demand, as producers use metal from mothballed burners to meet their needs for top-up charges. In the process catalyst sector, there has again been construction of new capacity for acetic acid production and for the oxo-alcohol process and demand will be at similar levels to 2008.

Electrical and other industrial demand for rhodium is set to fall from 27,000 oz in 2008 to 24,000 oz this year.

Supplies

Supplies of rhodium are set to grow by 24,000 oz to 719,000 oz in 2009. Although underlying production of metal in South Africa is expected to be flat, changes in pipeline stocks will boost supplies from that country by 46,000 oz to 620,000 oz. Rhodium supplies from Russia and North America are expected to fall to a combined 77,000 oz but sales of metal from Zimbabwe and elsewhere are set to rise to 22,000 oz.

RUTHENIUM & IRIDIUM

Net demand for ruthenium is forecast to fall to 583,000 oz this year due to a decline in purchases by the electronics and chemical industries. Iridium demand will be hit by slow sales to the electronics and spark plug sectors and will drop by 23,000 oz to 79,000 oz this year. Underlying production of ruthenium and iridium should fall, in line with other platinum group metal production in South Africa, but both markets will be adequately supplied.

Demand

Net ruthenium demand is expected to decline by 82,000 oz to 583,000 oz this year.

Ruthenium demand for use in chip resistors and other circuitry components is expected to fall by 26,000 oz to 285,000 oz this year. A slowdown in sales of electronic devices has hit production volumes, while miniaturisation of chip resistors has further depressed metal requirements.

In the hard disk sector, perpendicular magnetic recording (PMR) has captured a growing share of the market. This has risen from 85 per cent at the start of 2009 and will approach a 100 per cent penetration level by the end of the year. With PC sales likely to be unchanged from 2008, the number of hard disks containing ruthenium will rise.

Nonetheless, purchases of new metal are likely to contract to 88,000 oz this year. The industry built up large stocks of ruthenium as PMR technology was adopted. With production volumes falling dramatically in early 2009, many hard disk makers were able to meet all of their ruthenium requirements using recycled metal. The second half of the year has, though, seen a gradual improvement in demand for consumer electronics which should drive a rise in hard disk production and in ruthenium purchasing.

Ruthenium Demand by Application
'000 oz

	2008	2009
Chemical	139	89
Electrochemical	61	57
Electrical	410	373
Other	55	64
Total Demand	**665**	**583**

JM

Demand for ruthenium from the chemical sector is likely to shrink by 50,000 oz to 89,000 oz this year. Low capacity utilisation at many production facilities has allowed the industry to extend catalyst lifetimes and reduce purchases of top-up metal. With fewer new plants being constructed too, ruthenium demand will decrease. By comparison, demand from the electrochemical sector will fall only marginally to 57,000 oz. Other industrial demand for ruthenium will increase to 64,000 oz.

Iridium demand will also fall this year, decreasing by 23,000 oz to 79,000 oz due to difficult conditions in the electronics and automotive industries.

Iridium crucibles are used in the production of high-grade metal oxide single crystals. Demand for these has fallen this year and iridium demand from the electronics sector will therefore fall by half to 7,000 oz.

Iridium Demand by Application
'000 oz

	2008	2009
Chemical	21	21
Electrochemical	25	23
Electrical	15	7
Other	41	28
Total Demand	**102**	**79**

JM

Demand for iridium for use in spark plugs will shrink from 25,000 oz to 16,000 oz. Iridium spark plugs are used primarily in new vehicles rather than for retrofit and the contraction in the global automotive market this year will slash demand.

Elsewhere, legislation and environmental concerns continue to drive a move from mercury-based technology for the chlor-alkali process towards iridium/ruthenium-based membrane cell technology. This will support electrochemical iridium demand at 23,000 oz this year. Chemical sector demand, largely for acetic acid production, will remain flat at 21,000 oz.

Supplies

Underlying refined production of ruthenium and iridium should fall in 2009 due to the range of challenges faced by the South African mining industry. However, with demand weak for both metals, each market should remain adequately supplied this year.