RECYCLING

- **Total recycling of pgm from auto, jewellery and electrical scrap will rise by 5% in 2013, to reach 4.82 million ounces – a record high.**
- **Recovery of pgm from spent autocatalysts will increase by 12%, due to rising scrappage rates, higher loadings, and some destocking by collectors.**
- **Recycling of palladium from electronic scrap will be flat, as higher collection rates are offset by lower average pgm grades.**
- **The reprocessing of old platinum jewellery will drop sharply, reflecting lower recycling rates in both China and Japan.**

AUTOCATALYST

The recovery of pgm from scrapped autocatalysts is forecast to attain record levels in 2013. Last year, some collectors built stocks of scrapped catalysts, but this year inventories have been drawn down. In addition, there has been continued improvement in recycling efficiencies, coupled with a steady increase in the average pgm content on catalysts collected.

The fastest growth rates will be seen in platinum, due to rising quantities of diesel catalyst scrap being collected in Europe; global platinum recoveries will be up 13% to 1.28 million ounces, more than 40% of this year's gross demand for platinum in autocatalysts. Recycling of palladium will climb 11% to 1.86 million ounces, while that of rhodium will be 12% higher, at 281,000 oz.

Catalysts salvaged from vehicles first registered in North America continue to provide the largest share of recovered pgm – over 55% of the total in 2013. US collection rates have picked up this year, in line with the continuing rebound in new vehicle sales, while the pgm content of recovered catalysts is rising, as later models are scrapped. Many of the vehicles being retired now were manufactured in the late 1990s and early 2000s, when palladium loadings were particularly high.

European-registered vehicles provide the second largest source of autocatalyst scrap, accounting for around a quarter of total pgm recoveries. Weak car sales continue to depress vehicle scrappage rates in this region, but the quantity of pgm refined will nevertheless increase, due to improvements in recycling efficiencies and the processing of some stockpiled catalysts. European platinum recoveries will grow much faster than those of palladium and rhodium, due to the rising number of diesel catalysts being processed.

The recovery of pgm from Chinese vehicles currently accounts for less than 3% of the world total, but is increasing rapidly, boosted by new auto scrap regulations which took effect in May 2013. As a predominantly gasoline vehicle market this source of recycled pgm will be rich in palladium.

JEWELLERY

The recycling of platinum by the Chinese jewellery trade is likely to decline by 17% in 2013, to 500,000 oz, representing around 27% of gross jewellery demand in this region. Falls in the local platinum price, particularly during the second and third quarters, have reduced the value of old jewellery, reducing the incentive for consumers to exchange their platinum items for new designs. In addition, manufacturers have shown less inclination to use secondary materials, which are made of platinum alloys of varying composition, due to the difficulty in achieving the requisite purity levels for new jewellery.

Recovery of palladium from Chinese jewellery scrap is forecast to drop by 6% this year, to 165,000 oz. However, the use of recycled metal as a proportion of gross demand is set to rise from 73% in 2012 to an unprecedented 89%, bringing net demand down to a meagre 20,000 oz. Retailers and manufacturers continue to recycle large quantities of unsold stock, while higher palladium prices have encouraged some consumers to return old palladium jewellery items.

Recycling of platinum jewellery in Japan is set to decline by 7% to 265,000 oz in 2013, despite a significant rise in local platinum prices. The gold price is an important driver of jewellery recycling in Japan, and a decline in the yen price has impacted scrappage rates for all jewellery metals. In addition, media attention has moved away from precious metals to focus on the buoyant stock market, resulting in fewer jewellery pieces being returned by consumers.

Recycling
'000 oz

	Platinum		Palladium		Rhodium	
	2012	2013	2012	2013	2012	2013
Autocatalyst	(1,130)	(1,275)	(1,670)	(1,860)	(252)	(281)
Electrical	(20)	(25)	(430)	(420)	0	0
Jewellery	(890)	(775)	(190)	(180)	0	0
Total	**(2,040)**	**(2,075)**	**(2,290)**	**(2,460)**	**(252)**	**(281)**