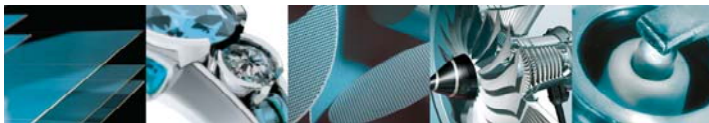




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# Platinum 2006

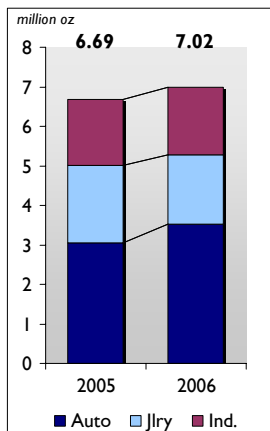
## Interim Review



14th November 2006

I will firstly cover platinum supply and demand, the outlook for platinum and our price forecast for the next six months. In the second half of the presentation I'll cover palladium in the same way.

# Platinum Demand Rises Above 7 million oz



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- Total demand to rise 5% to 7.02 million oz
- Autocatalyst demand climbs, driven by diesel growth
- Strong industrial demand supported by electrical, petroleum and chemical sectors
- A fourth successive drop in global jewellery markets

Looking first at the highlights for platinum, we see that:

Platinum demand is increasing to reach a record high in 2006

Strong growth from the autocatalyst sector, the dark blue bar in the graph

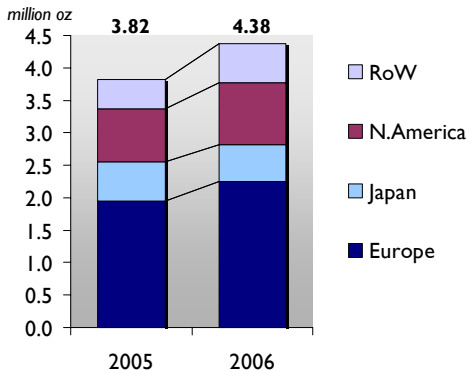
Also robust industrial demand, particularly from the electronics and chemicals sectors.

This increase in demand has balanced to an extent by a fall in consumption from jewellery manufacturers, the fourth successive annual reduction we have seen.

Total demand is thus up 5% to just over 7 million ounces.

# Platinum Demand: Autocatalyst

## Up 15% to 4.38 million oz



Looking at the autocatalyst market in more detail, we see that there has been growth in Europe, North America and the Rest of the World, which includes China and Korea. Only in Japan have we seen a reduction in demand. Overall, the market is growing strongly, up 15% to a 4.38 million ounces in 2006 in terms of gross demand.

# Platinum Demand: Autocatalyst

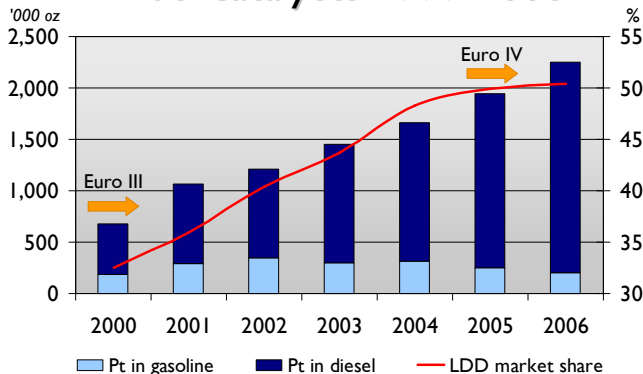
## Europe up 15 % to 2.25 million oz



- Euro IV regulations introduced
- Diesel market share still rising
- More diesel particulate filters

As in 2005, Europe is leading the way in 2006 with demand up 15% to 2.25 million ounces. The market share for diesel cars, which still uses predominantly platinum catalysts, now exceeds 50%. Euro IV regulations have seen higher loadings in oxidation catalysts and also from platinum used in particulate filters to reduce the sooty emissions from diesel exhausts. Particulate filters have become a desirable option for environmentally conscious car buyers even where fitment is not strictly necessary to meet emissions legislation. Some manufacturers do fit them as standard across the diesel.

# European Demand for Platinum in Autocatalysts 1999-2006



The red line on this graph shows the dramatic increase in diesel market share, from around 32% in 2000 to more than 50% this year. The impact on platinum consumption is very clear, with platinum used in gasoline catalysts becoming a relatively insignificant number.

# Platinum Demand: Autocatalyst

- North America: up 16% to 950,000 oz
- Japan: down 6% to 565,000 oz
- China + RoW: up 37% to 615,000 oz

Outside Europe, the story is somewhat different:

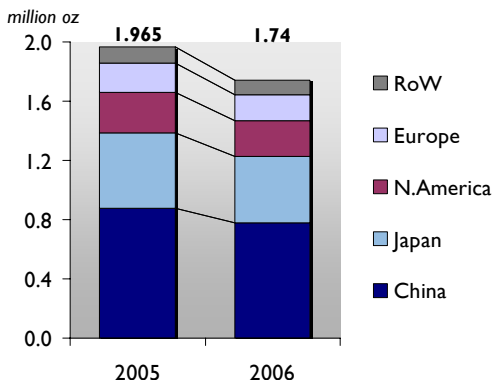
In North America, platinum demand is up as a significant number of larger diesel passenger vehicles – typically larger pick up trucks – will require catalysts to meet 2007 emission legislation. There will also be a significant contribution from the heavy duty diesel sector, where platinum catalysts are being used in conjunction with over engine management strategies to meet emission limits.

In contrast, Japanese demand will decline as the switching from platinum to palladium for gasoline catalysts is the dominant trend.

In China and the Rest of the World, demand has risen strongly due to the combination of fast growing light vehicle production and tightening emission standards.

# Platinum Demand: Jewellery

Down 11.5% to 1.74 million oz



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Turning to jewellery, as in 2005 we expect the growth in autocatalyst demand to be balanced to an extent by the fall in demand from platinum jewellery manufacturers.

The rising price of platinum, particularly in the first half of the year, and exceptional price volatility, have dampened demand everywhere. We predict that overall demand will be down 11.5% to 1.74 million ounces, back to a level last seen in 1994. However, given the significant retail price increases that have been applied, particularly in China, demand has been fairly resilient. This is due in no small part to the Bridal sector, where platinum remains the metal of choice in most key markets.

# Jewellery Demand: China

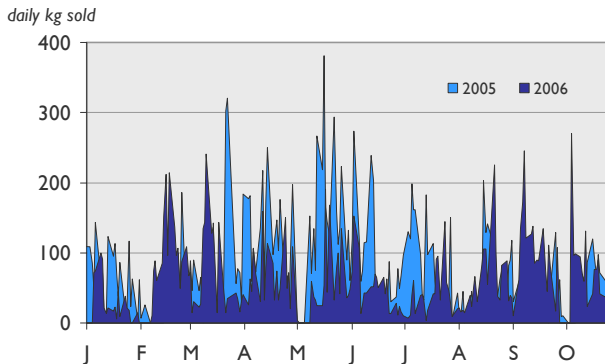
Down 11% to 780,000 oz

- High prices lessen attractiveness to manufacturers
  - Low stock positions continue throughout the value chain
  - Continued recycling of old jewellery and stock
  - Palladium offers a lower retail cost alternative with cheaper financing
- But price dips stimulate upturn on buying
- Consumer interest remains strong

Looking in more detail at China, we predict new metal demand will fall to 11% to 780,000 ounces in 2006. High and volatile prices have made platinum less attractive to manufacturers and retailers, who try to keep low stocks, hold back from purchasing new metal and increase the recycling of old stock. The high price also encourages customers to trade in old jewellery.

Platinum naturally suffers from competition from other, less costly metals such as palladium, which is also cheaper to finance for manufacturers. However, consumer research interest in platinum remains strong in China and the Bridal market has been good in an auspicious year for weddings.

# Purchases on the Shanghai Gold Exchange (2005-2006)



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Looking at sales of platinum on the Shanghai Gold Exchange, it's possible to see from the graph the lower sales particularly in May, June & July compared to 2005. We have seen some recovery in Q3 as the price fell back, and as always there is pattern of buying into any appreciable price dip.

# Jewellery Demand: Other Regions

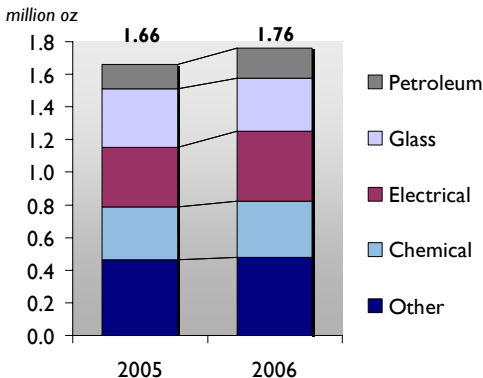
## Rising and volatile Pt price affects demand

- Japan: down 12% to 450,000 oz
- North America: down 13% to 240,000 oz
- Europe: down 10% to 175,000 oz

In other regions the high price of platinum has had a noticeable impact, with sales down in Japan, America and Europe. In all these regions, demand from the top end of the market has been resilient with bridal jewellery doing well, but sales of lighter, less expensive pieces have been eroded by carat gold in China, by palladium.

# Platinum Demand: Industrial

Up 6% to 1.76 million oz



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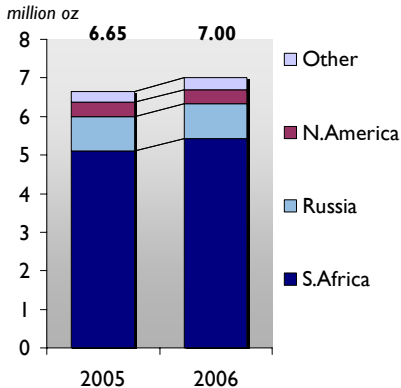
Industrial demand should grow in 2006 to become second largest application, up to 6% to 1.76 million ounces.

Highlights have been consumption from the electronics sector, in particular for the coating of hard disks.

Demand from the chemical sector has been buoyant, whereas purchases by the glass industry has eased with fewer LCD glass furnaces built this year.

# Platinum Supply

Up 5% to 7.0 million oz



Turning to the supply side, platinum supplies are expected to increase by 5% in 2006 to 7 million ounces. Most of the growth has come from South Africa.

# Platinum Supply: South Africa

Up 6% to 5.43 million oz

- Improved rate of expansion in South Africa
- 6% growth from Anglo Platinum
- New mines opened on Eastern Bushveld

In general terms expansion in South Africa has proceeded more smoothly this year than last, with several established operations raising output and new mines coming on stream.

Anglo Platinum's output is expected to increase 6% to 2.73 million ounces, with increased output at Amandelbulty & BRPM Augmented by 120,000 ounces of platinum released from their pipeline after the Polokwane smelter shutdown in 2005.

Everest South, owned by Aquarius, and Two Rivers, owned jointly by Impala and African Rainbow Minerals, will both produce significant quantities of platinum for the first time.

# Platinum Supply: Other Regions

Net change +35,000 oz

- Russia: up 0.5% to 895,000 oz
- North America: no change at 365,000 oz
- Zimbabwe: up 10% to 170,000 oz

There will be little change to platinum supply from the rest of the world. Russian shipments continue to reflect primary production by Norilsk Nickel and alluvial producers, with little or no metal sold from state stocks.

North American supplies will be steady at 365,000 ounces, with lower production of by-product metal from Canadian nickel operations but slightly higher output elsewhere.

Production in Zimbabwe should rise by 10% led by expansion on the Mimosa property.

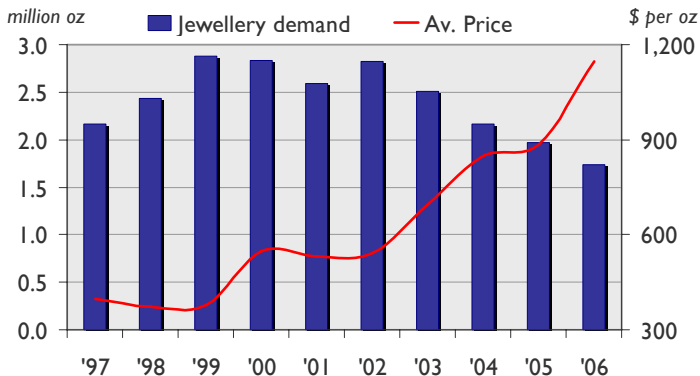
# Platinum Supply and Demand

'000 oz	2005	2006	%
<b>Demand</b>	<b>6,690</b>	<b>7,020</b>	<b>+4.9</b>
<b>Supply</b>	<b>6,650</b>	<b>7,000</b>	<b>+5.3</b>
<b>Movements in stocks</b>	<b>(40)</b>	<b>(20)</b>	

Overall, then, we see the platinum market with a small deficit of 20,000 ounces. This is the eighth annual deficit in a row, although the size of the deficit has been much reduced in the last three years.

# Platinum: Demand Outlook

Jewellery: price dependent



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Turning to the outlook for platinum demand, jewellery and autocatalysts will remain key. As we can see from the graph shown, there has been an unmistakable trend for declining jewellery demand as the price has risen. Although the top end of the market remains resilient, it is likely that the overall trend will continue unless there is a sustained fall in price and a marked reduction in volatility. This would stimulate demand in China in particular, where impact of high, volatile prices is most keenly felt.

# Platinum: Demand Outlook

## Autocatalyst: diesel driven

- Rising sales of light duty diesel in Europe
- Growing use of catalysts on diesel trucks in North America
- Rest of World production of all vehicles continues to rise
- Substitution by palladium occurring

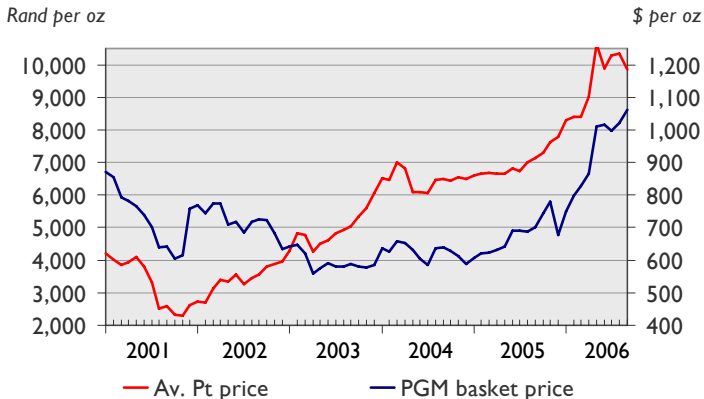
The prospects for platinum consumption in autocatalysts sector remain strong with increasing use in Light and Heavy Duty Diesel vehicles expected to continue.

Demand is expected to rise in particular outside Europe and North America as vehicle production and emissions control standards increase.

We expect efforts to substitute platinum with palladium in autocatalysts to continue, offsetting some of the gains from the diesel sector, although a significant proportion of that substitution has already taken place.

# Platinum: Supply Outlook

## Strong growth in Rand basket price



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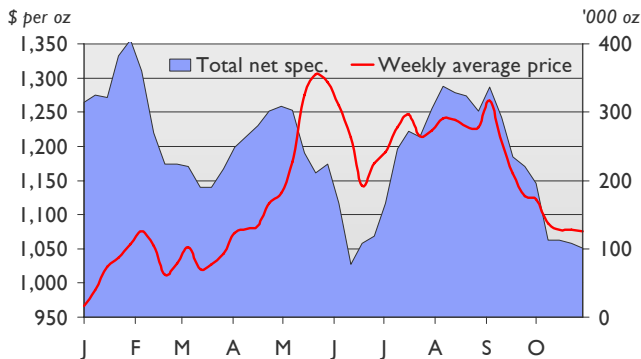
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On the supply side, we can see that Rand basket price has increased significantly. Although miners plan expansions over the long term, this increase has undoubtedly made the investment climate for new mines on the Eastern Bushveld more favourable, which will help supply keep pace with rising demand.

In Summary, we expect the platinum market to be close to balance in 2007m with platinum supply and demand both increasing. This will be the fourth successive year which this has happened.

# NYMEX Positions vs Platinum Price

## Jan–Oct 2006



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Although the balanced market underpins the platinum price, we continue to look to investment finds and price movements in other commodities such as Gold and Oil to have the defining influence on the platinum price.

Speculative positions on NYMEX have had led to short term price movements but perhaps without any clear trend in the first nine months of 2006m as we see from this chart.

# Forecast Platinum Price for the Next 6 Months



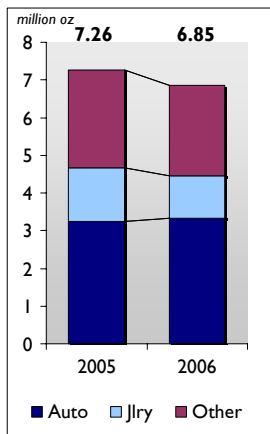
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Turning to our forecast for the next six months, as in May this year our forecast has been overtaken to an extent by events since the platinum price has exceeded our forecast upper limit on several days following rumours of an exchange traded fund in platinum.

However, we believe this vindicates our view stated in the Interim Review that interest from the investment market could support a platinum price at \$1200 ounce level in the short from. If the level of fund interest was to decrease, we see support from the jewellery sector and other industries preventing the price from falling below \$980 ounce over the same period.

## Palladium Demand Contracts

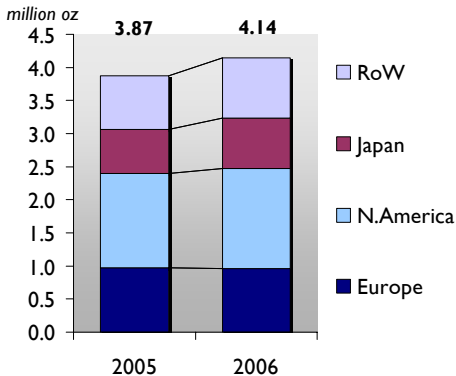


- Total demand to shrink 6% to 6.85 million oz
- Growth in autocatalyst purchases
- Strengthening electronics demand
- Decline in jewellery demand in China

I'd like now to turn to palladium where we see total demand falling by 6% to 6.85 million ounces. Demand from the autocatalyst sector will increase and use in electronics will continue to recover. In contrast, there will be a fall in new metal demand from the Chinese jewellery industry, resulting in a fall in total jewellery demand.

# Palladium Demand: Autocatalyst

## Up 7% to 4.14 million oz



Palladium purchases for autocatalyst production will rise by 7% to 4.41 million ounces in gross terms. As you can see from the graph, demand will increase in most regions, due to increasing production and substitution of platinum by palladium in gasoline catalysts.

# Autocatalyst Demand for Palladium

- Europe: down 0.5% to 965,000 oz
  - Market share of diesel vehicles grows again
- North America: up 5% to 1.505 million oz
  - Continuing substitution of palladium for platinum
- Japan: up 15% to 765,000 oz
  - Increased substitution of palladium for platinum
- China + RoW: up 12% to 905,000 oz
  - Strong growth in production, esp. in Asia

Looking in more detail at each region:

Demand in Europe will actually fall slightly as the diesel car increases market share and the consumption of palladium in three way gasoline catalyts falls.

Elsewhere, the substitution of platinum by palladium in gasoline catalyts has seen consumption rise.

Palladium is now used in diesel catalyst formations, although the total amount of metal purchased for this application is still quite small.

The impact of continuing growth un vehicle production and the tightening of emissions legislation is seen most clearly in China and ROW, where palladium consumption is approaching that in Europe.

# Palladium Demand: Jewellery

Down 22% to 1.12 million oz

- China: down 28% to 860,000 oz
  - Full pipeline, significant recycling
- North America: demand doubles to 40,000 oz



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In the jewellery market we are predicting a significant fall of 22% in demand to 1.12 million ounces. Much of this fall is in China, where we see demand down 28% at 860,000 ounces. Outside China, where demand has historically been at much more lower levels, we see some growth.

# Palladium Demand: Jewellery

## Drop in Chinese demand

- Low metal financing costs
- Good consumer demand in secondary and tertiary cities
- BUT recycling of Pd950 is happening
- AND pipeline stocks are full

In China, low metal financing costs and low retail prices in comparison to platinum make palladium attractive to manufacturer and consumer respectively.

Outside the major cities, palladium sells well to consumers who can't afford platinum.

However, our demand figure reflects new metal purchases by manufacturing jewellers and not retail demand, which is very difficult to measure in a market like China.

In 2004 and 2005 we saw substantial filling of the jewellery supply pipeline from manufacturer to retailer. This pipeline is now full, reducing demand for new metal. Additionally, much of the initial inventory was in Pd 950 alloy.

Consumers have since shown a clear preference for the purer Pd 990 alloy, resulting in a substantial recycling of Pd 950 stock. We expect recycling to be less important in 2007, with future demand more closely reflecting consumer purchases.

# Palladium Demand: Other

## Down 7.5% to 2.395 million oz

- Electronics demand up 9% to 1.055 million oz
- Dental demand flat at 815,000 oz
- Sharp decline in physical investment products in North America

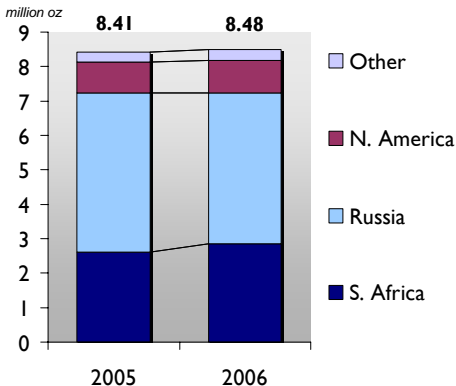
Looking at other applications, electronics demand will exceed 1 million ounce more, although it is still a long way from the 2 million ounce seen as recently as 2000. The rate of substitution by base metals in MLCCs has slowed considerably and palladium has found favour in platinum and connectors where gold has become less cost effective.

We expect total demand for palladium in dental application to be flat.

Other significant change of note is in retail investment in coins and bars. This was particularly strong in 2005 at 400,000 ounces but is expected to decline to only 120,000 ounces this year with fewer new coins issued and competition from other PM investment products.

# Palladium Supply

Up 1% to 8.48 million oz



On the supply side we are expecting a small increase of 1% to 8.48 million ounces in 2006. An increase in South African supplies will more than offset a slight drop in Russian exports.

# Palladium Supply: Russia

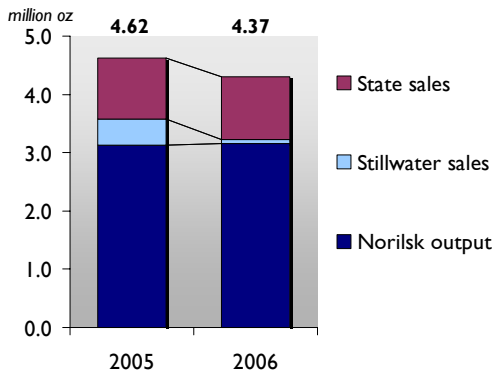
## Down 5.5% to 4.37 million oz

- Norilsk output roughly 3.15 million oz
- Stillwater sells final 63,000 oz of Norilsk stock
- Total annual supply depends heavily on last quarter shipments from Gokhran

In terms of Russian supply, we expect a slight fall in supply to 4.37 million ounces. Norilsk Nickel output is expected to be around 3.15 million ounces, with Stillwater selling the last 63,000 ounces of Norilsk metal received on their acquisition in the first quarter.

Total annual supply depends heavily of shipment from Russian state stocks in the last quarter.

## Palladium Supply: Russia



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As yet, Gokhran has not received a 2006 quota, we do expect this to happen before the end of the year. It's likely that sales from this quota will extend into 2007, following the pattern seen a year ago.

It's worth noting that even if this quota is not granted, the palladium market will still be in surplus and the stock not shipped will continue to overhang the market.

## Palladium Supply: Other Regions

- South Africa: up 9.5% to 2.85 million oz
  - Faster expansion of platinum mining in 2006
  
- North America: up 5.5% to 955,000 oz
  - Recovery in performance at NAPd

Outside Russia, the expansion of platinum mining in South Africa will increase the output of other metals including palladium, which will increase in 2006 by 9.5% to 2.85 million ounces. Output from North America will also increase, up by 5.5% to 955,000 ounces led by a recovery in performance from North American Palladium.

# Palladium Supply and Demand

'000 oz	2005	2006	%
<b>Demand</b>	7,260	6,850	-6
<b>Supply</b>	8,410	8,480	+1
<b>Movements in stocks</b>	1,150	1,630	

Looking then at the supply/demand balance, we see that the fall in demand and slight increase in supply will keep the market in substantial surplus in 2006. We believe the inferred movement in stocks has been absorbed by investment funds, supporting the metal price for much of 2006.

# Palladium: Demand Outlook

## Autocatalyst

- Continued drive to switch from platinum to palladium in three-way catalysts
- First significant use of palladium in diesel exhaust aftertreatment
- Growth in global light duty vehicle production

Turning to our outlook, like platinum, palladium demand will depend heavily on autocatalyst and jewellery markets. The current price differential between platinum and palladium will see continuing substitution of platinum by palladium in gasoline catalysts.

Palladium demand will also rise in diesel exhaust aftertreatment, although platinum will remain the dominant metal in this application.

The continuing growth in light vehicle production and tightening emission legislation will also contribute to rising palladium demand from the autocatalyst sector.

# Palladium: Demand Outlook

## Jewellery

- China could return to growth in 2007
  - Trend more representative of retail demand
  - Recycling levels likely to drop
  - Increasing marketing effort
  - Sales on Shanghai Gold Exchange unlikely

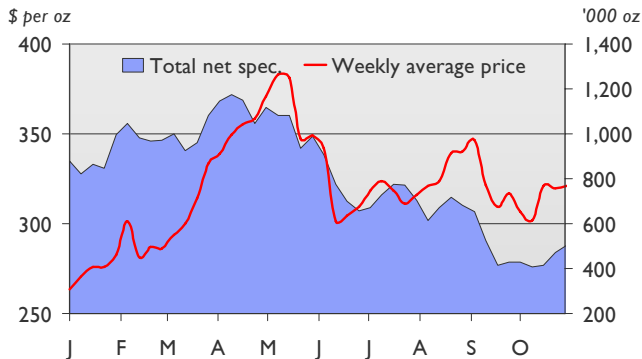
In jewellery, we believe 2007 could see a return to growth as demand is likely to be a much closer reflection of retail sales as recycling diminishes.

The marketing of palladium in China is being carried out on a more organised basis, but it's too early to say what the outcome of the current campaign focussed on Beijing and Shanghai will be.

The sale of palladium on the Shanghai Gold Exchange would be beneficial to the growth of jewellery demand, but we see no prospect of that at the moment. Overall, we anticipate palladium will remain in surplus in 2007, but the size of that surplus is likely to diminish.

# NYMEX Positions vs Palladium Price

## Jan–Oct 2006



In contrast to platinum, large positions were built up on NYMEX in the early part of the year, reaching a peak of 1.2 million ounces before back to 450,000 ounces by October. Investment in the OTC market seems to have been very significant, with large amounts of metal sold on the London fix.

# Forecast Palladium Price for the Next 6 Months



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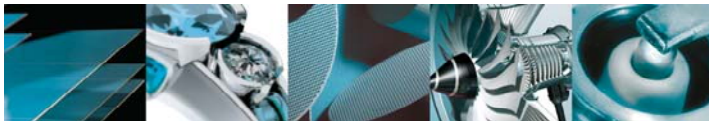
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Our price forecast for the next six months is \$260-380 ounce. Looking forward, we do not believe that the fundamentals of palladium are as strong as those for platinum. However, there are positive trends in both autocatalyst and jewellery sectors that may encourage further fund investment, which could see the price as high as \$380 ounces. However, if investment support evaporates we could see the price fall, although we believe palladium is unlikely to trade below \$260 ounces in the next six months.



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# Platinum 2006 Interim Review



14th November 2006

That concludes our formal presentation. We would be happy to answer questions. There is a copy of the Interim for you to collect on your way out, and the presentation will appear on [www.platinum.matthey.com](http://www.platinum.matthey.com).