



ING Natural Resources Conference October 2005

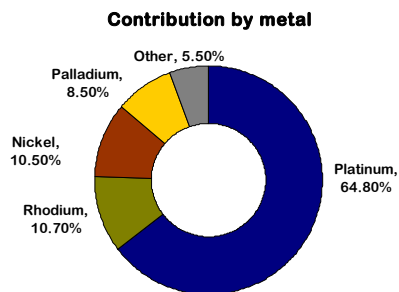


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Introducing Implats



Implats is in the business of
mining, refining and
marketing platinum group
metals and associated base
metals



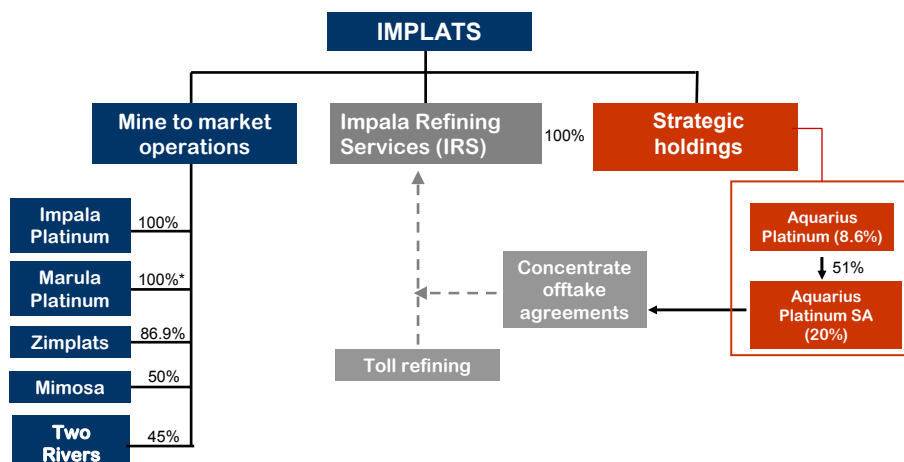
Key statistics



Implats

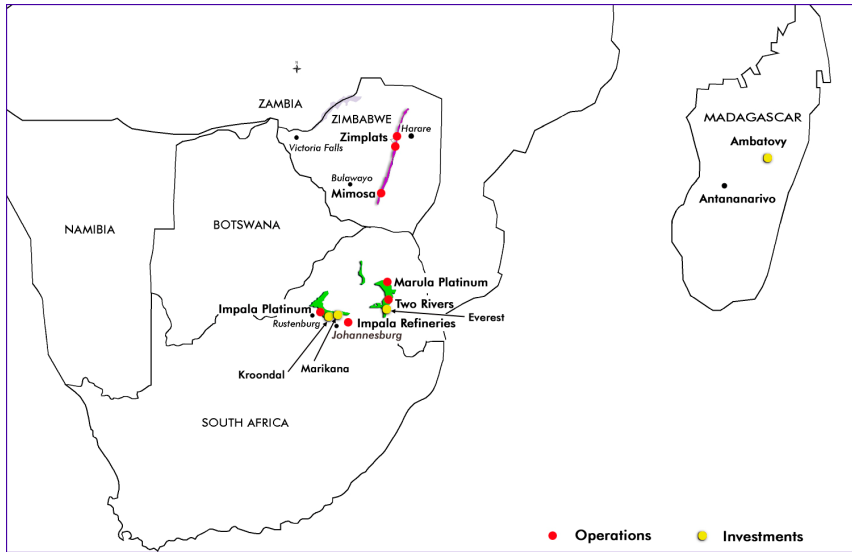
- Has operations located on two prime PGM deposits
 - the Bushveld Complex in South Africa (Impala Platinum, Marula Platinum and Two Rivers Platinum)
 - the Great Dyke in Zimbabwe (Zimplats and Mimosa)
- Impala Refining Services – toll-refining and third party processing
- Strategic interests in Aquarius Platinum and Ambatovy

Group structure



* 20% to be allocated to BEE ownership

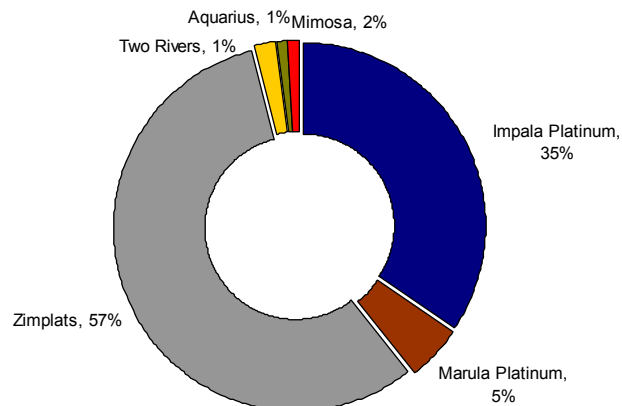
Location of operations and interests



Platinum reserves and resources (attributable)



- 215.1 Moz attributable reserves and resources at as 30 June 2005

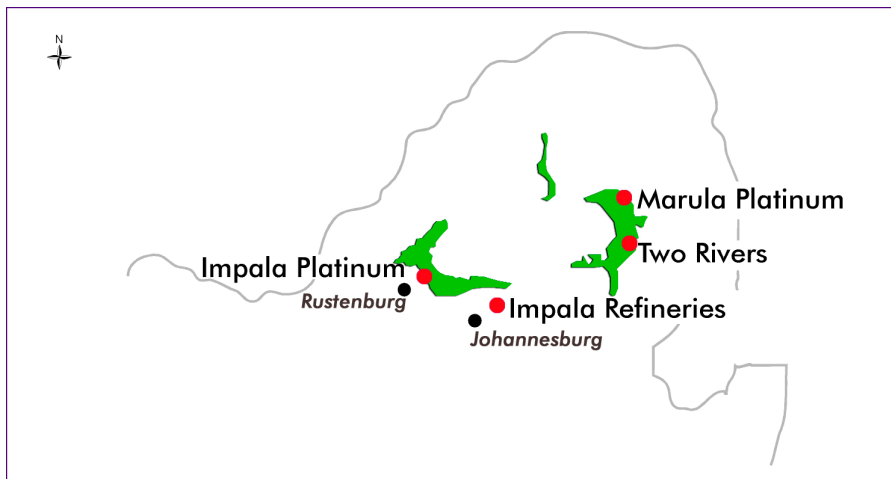




Operations

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Location – South African mine-to-market operations



Impala Platinum



Implats' flagship operating unit comprises

- Mining operations on the Impala lease area on the western limb of the Bushveld Complex
 - 13 shafts and five declines
 - Two shafts under development
- Mineral Processes
 - Concentrating and smelting plants
- Refineries
 - Base metal refinery and precious metal refinery

Impala Platinum



- 30-year life-of-mine at 1.1Moz Pt annually

	FY2005
Tonnes milled (000t)	15,778
Refined Pt production (000oz)	1,115
Cost per Pt oz refined (R/oz)	4,251
No of employees (000)	26.9
Capex (Rm)	1,693

Impala – focus on costs through technology



- Roll-out of drill jigs
- 20% Merensky panels in FY05
60% Merensky panels in FY06
100% Merensky panels in FY07
- Potential for 5-10% improvement in overall mining efficiencies

New shaft developments at Impala



Capex of R6.6 billion approved by board

- 20 shaft
 - production to begin in January 2009
 - full production in May 2011
- 16 shaft
 - production to begin in August 2011
 - full production in September 2014
- At full production, these shafts will together produce 355,000 oz platinum pa



Marula Platinum



- Change to owner-mining in Dec 2004/Jan 2005
- Further development expenditure of R830 million approved for conversion to conventional mining
- Currently in ramp-up phase
 - Steady state production of 140,000 oz platinum in 2009
- Life-of-mine of 17 years

	FY2005
Tonnes milled (000t)	766
Platinum production in concentrate (oz)	29,800
Capex (Rm)	118

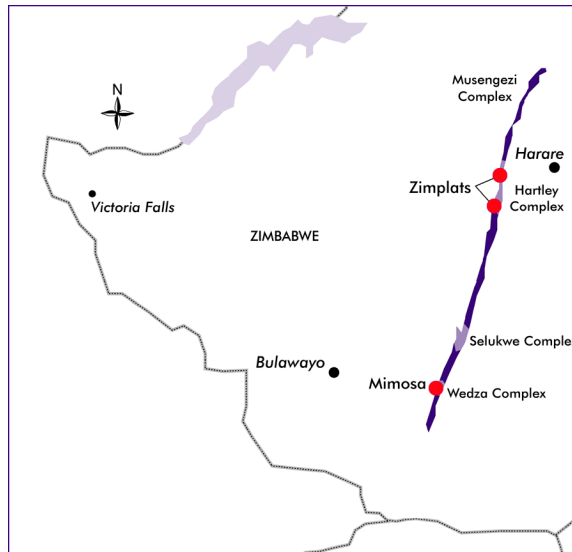
Two Rivers Platinum



- Project go-ahead given in FY2005
- Planned capital expenditure of R1.2 billion
- Project plan includes
 - Mining of 2.2 mt ore pa
 - Production of 120,000 oz platinum pa
 - Full production scheduled for 2008/09
 - Life-of-mine of 20 years



Location – Zimbabwean mine-to-market operations



Zimplats



- Underground expansion approved (US\$46 million)
- Feasibility study for further expansion to 145,000 Pt oz

	FY2005
tonnes milled (000t)	2,058
platinum production in matte (oz)	86,800
cost per Pt oz in matte (R/oz)	6,249

Mimosa



- Expansion to 80,000 Pt oz approved

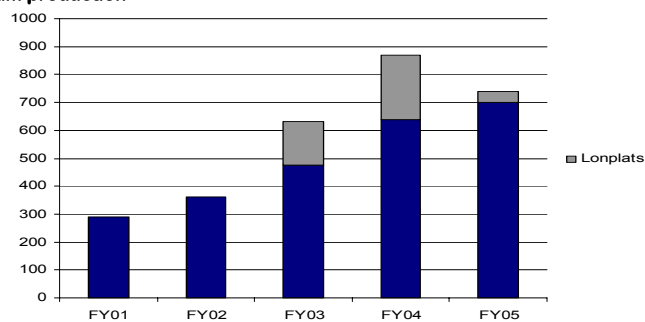
	FY2005
tonnes milled (000t)	1,424
platinum in concentrate (oz)	66,700
cost per Pt oz in concentrate (R/oz)	5,472

Impala Refining Services



- Undertakes processing of third party material
- toll-refining activities and concentrate purchases
- One of the world's largest refiners of spent autocatalysts
- Headline production of 733,000 oz of platinum in FY2005

IRS platinum production



Ambatovy nickel project



- US\$2.25 billion joint venture with Dynatec and Sumitomo Corporation



37.5% – experts in processing of laterite nickel deposits



37.5% – 30 years' experience in nickel refining; infrastructural synergies

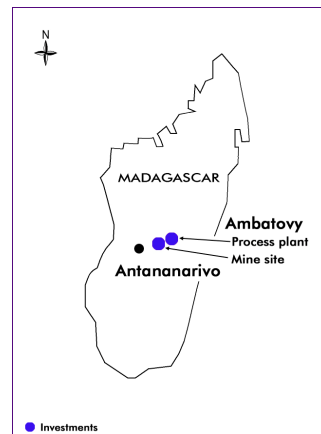


25% – guaranteed annual offtake of 30,000 t nickel for 15 years

Ambatovy nickel project



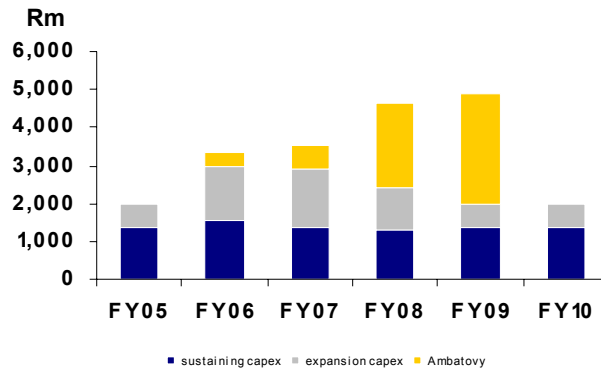
- Planned production of 60,000 tpa nickel and 5,600 tpa cobalt
- Detailed feasibility study being undertaken – decision by June 2006
- If given go-ahead – first production expected in 2009
- Estimated life of project of 27 years
- IRR of 15-20%



Group capex



- Significant capital expenditure planned



Driver of future demand

Role of PGMs in exhaust gas after-treatment



- ▶ Platinum used for oxidation of hydrocarbons and carbon monoxide in both gasoline and diesel engines
- ▶ Palladium preferred metal for high temperature conversion of hydrocarbons
- ▶ Rhodium is unique in its ability in converting NO_x to Nitrogen
- ▶ PGMs are unique in their durability in these hostile environments

Drivers of demand



- ▶ Regional emission legislation
- ▶ Rest of world vehicle sales

Platinum

- ▶ Diesel emission control catalysts
- ▶ Further growth in European diesel car sales

Palladium

- ▶ Substitution of platinum in gasoline engines

Rhodium

- ▶ NO_x control in gasoline engines

Emission legislation

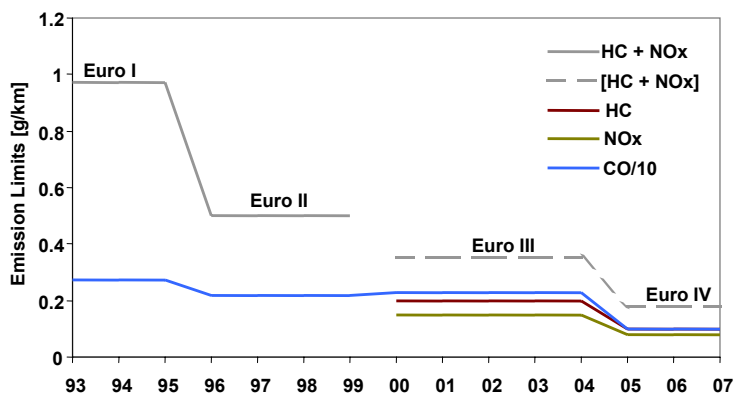


- ▶ Continuous tightening of existing standards worldwide
- ▶ Adoption of standards in other countries
- ▶ Spread of legislation to off-road and marine

Stricter legislation



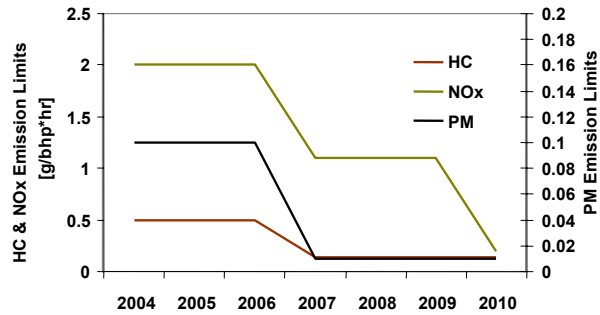
EU light-duty gasoline emission limits



US heavy duty emission standards



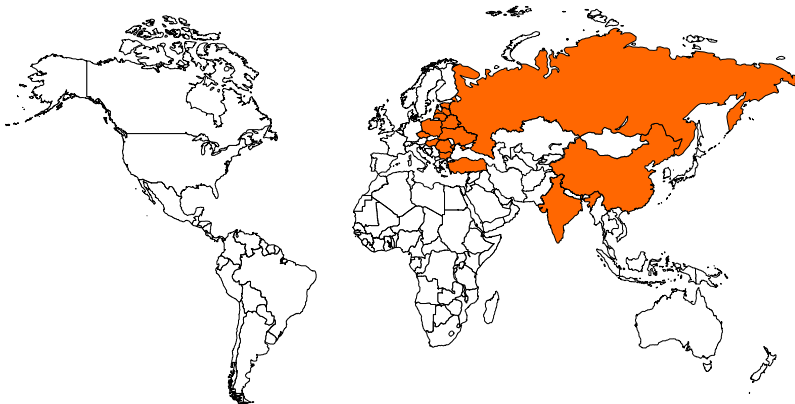
- Standards for NOx are phased in
- After treatment needed from 2010



Growth in vehicle sales



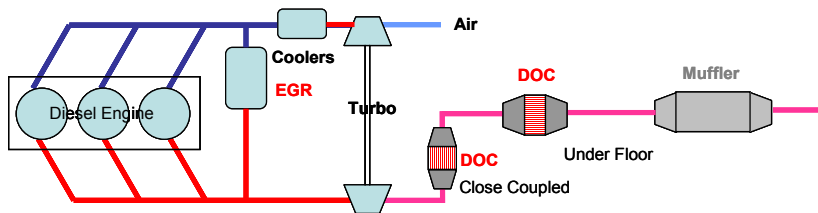
- ▶ Rest of world vehicle sales set to grow strongly



Platinum Current diesel emission control catalysts



- ▶ Requires use of oxidation catalyst to convert hydrocarbons and carbon monoxide
- ▶ Optional use of particulate filters to eliminate soot



Future diesel emission control catalysts



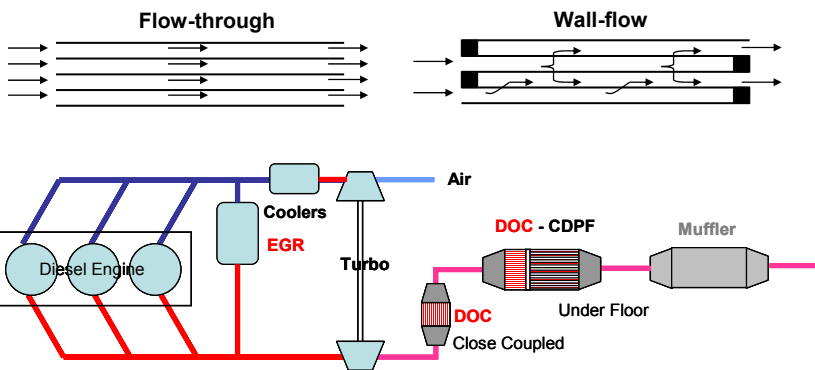
New emission standards require after-treatment for reduction of

- ▶ Particulate matter
- ▶ NO_x emissions

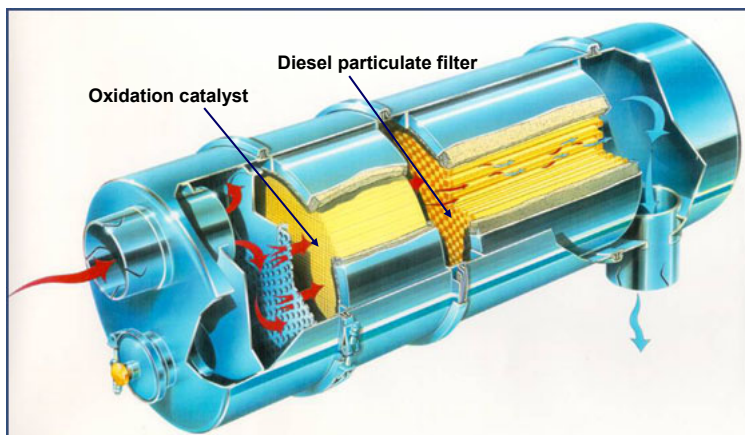
Particulate matter



- Diesel particulate filters are devices used to trap soot particulates and oxidize them



Diesel particulate filter technology



NOx Emissions

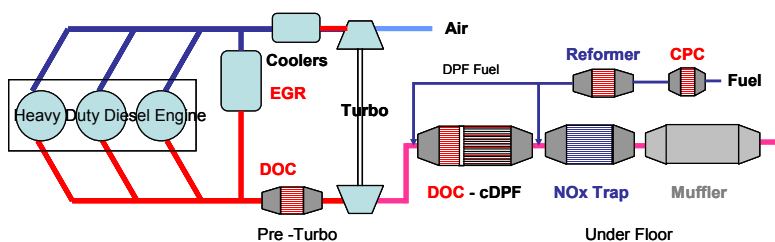


- ▶ NOx traps (absorbers)
- ▶ Selective catalytic reduction (SCR)

NOx traps



- ▶ Absorbs NO_2 during storage mode and subsequently reduces it to nitrogen



NOx traps



Pros

- ▶ Compliance with Environmental Protection Agency (EPA) – tamper proof

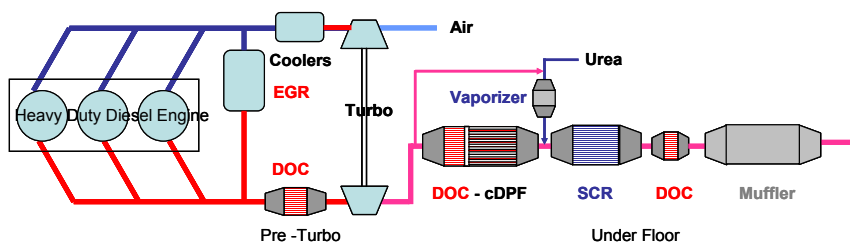
Cons

- ▶ Durability
- ▶ Tolerance to sulphur contamination

Selective catalytic reduction (SCR)



- ▶ Proven method used since 1980 in stationary applications
- ▶ System uses urea to reduce NOx to nitrogen



Selective catalytic reduction (SCR)



Pros

- ▶ Can meet ultra-low NO_x limit
- ▶ Allows improved fuel economy

Cons

- ▶ EPA has no clear regulatory control over urea compliance in USA
- ▶ Lack of urea infrastructure

Selective catalytic reduction (SCR)



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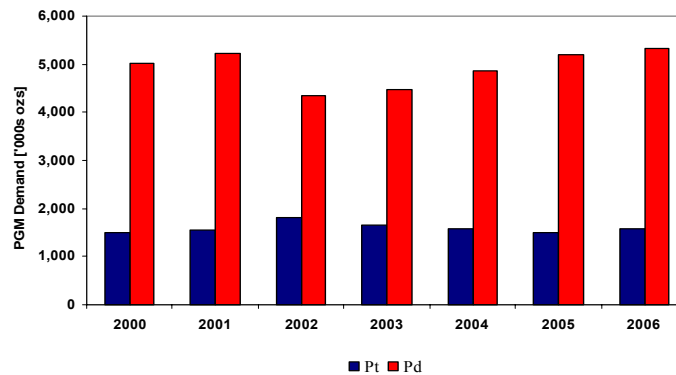


Palladium



Substitution of platinum in gasoline engines

- ▶ Palladium is being used to substitute for platinum due to its lower cost



Rhodium



NOx control in gasoline engines

- ▶ Rhodium is the only metal which selectively reduces NOx to nitrogen

Implications for PGMs



Platinum

- ▶ Increased diesel vehicle sales and the use of catalysed particulate filters could result in demand approaching 5 million ounces by the end of the decade

Palladium

- ▶ Aided by strong Asian vehicle sales, demand set to exceed its previous peak of 5.5 million ounces

Rhodium

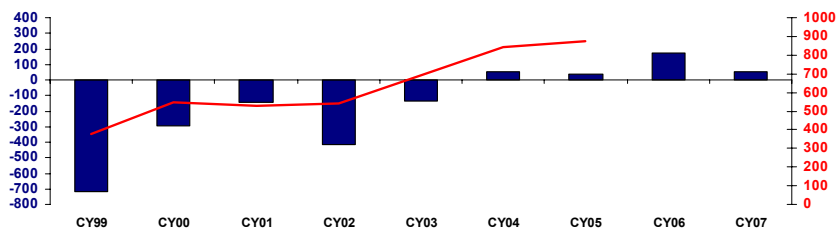
- ▶ Increased loadings in response to stricter legislation is forecast to result in demand reaching 900,000 ounces by 2010

Great platinum market fundamentals



surplus/deficit
000oz

price
\$/oz



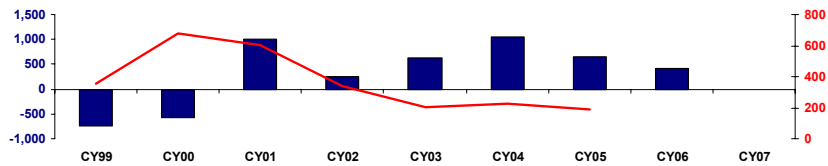
growth fuelled by strong automotive diesel demand

Palladium surplus continues



surplus/deficit
000oz

price
\$/oz



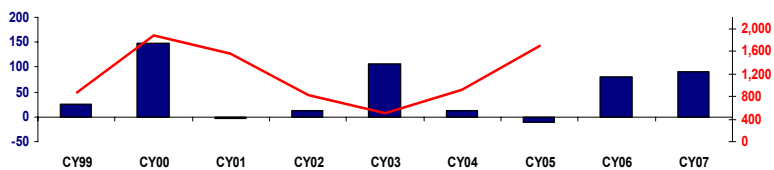
above-ground stocks cap price

Highly volatile rhodium market



surplus/deficit
000oz

price
\$/oz



tightening NOx legislation driving demand



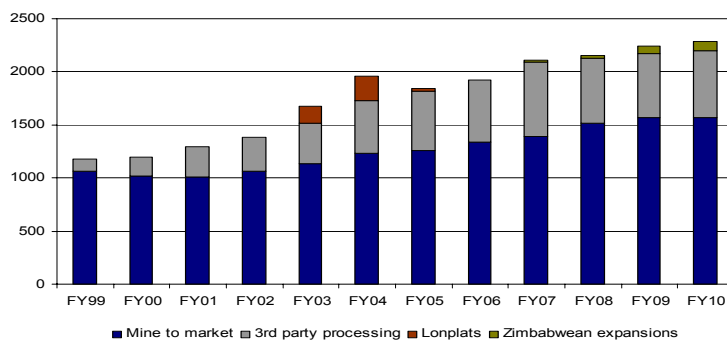
Conclusion

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Prospects for Implats



- Sound PGM market fundamentals
- Consistent growth in production – 2.3Moz Pt targeted for FY2010
- Continuing to deliver a competitive cost advantage and superior shareholder returns





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