# Unpacking the PGM supply conundrum

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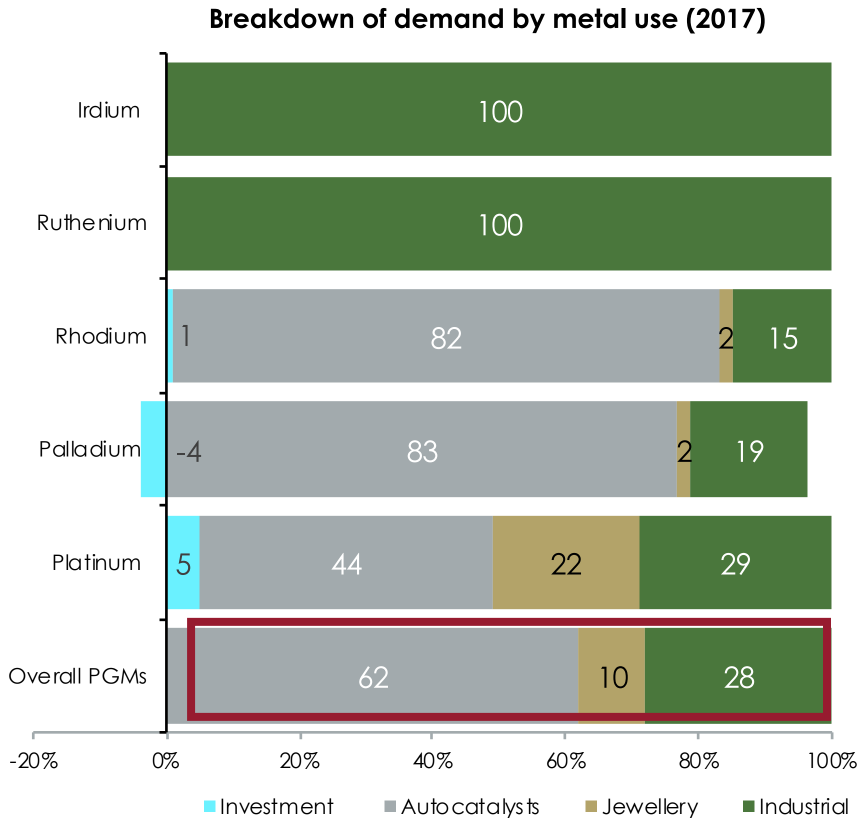
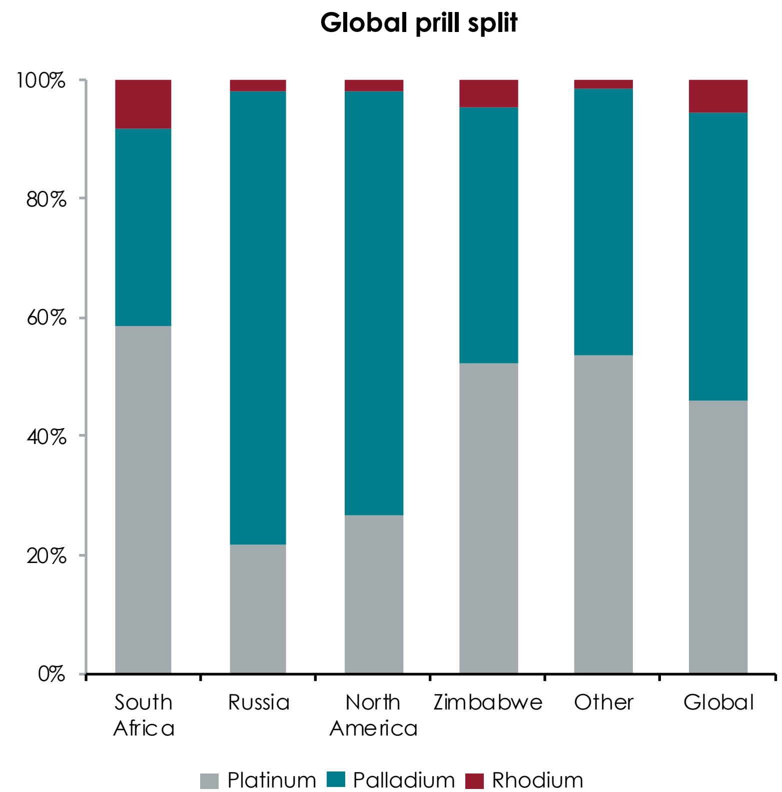
# Understanding our PGM strategy

# The PGMs are produced as a basket



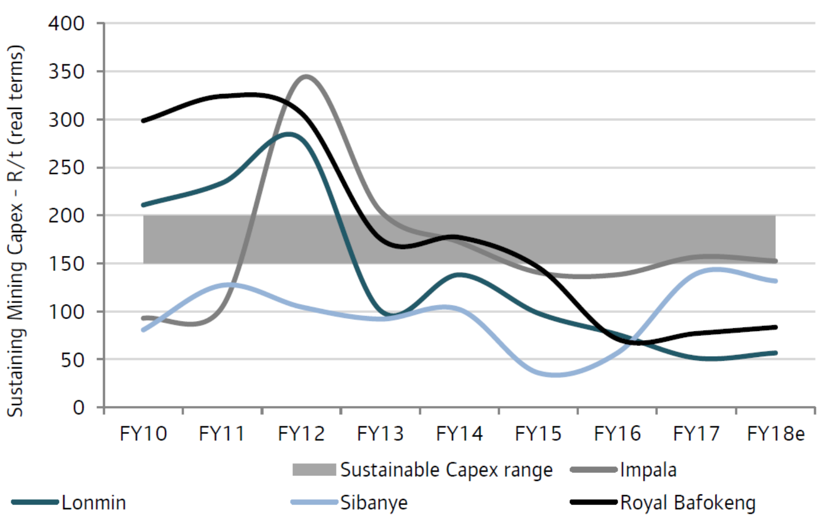

*Sources include: Johnson Matthey, SFA Oxford, WPIC, company information*

**Individual PGMs should not be looked at in isolation**

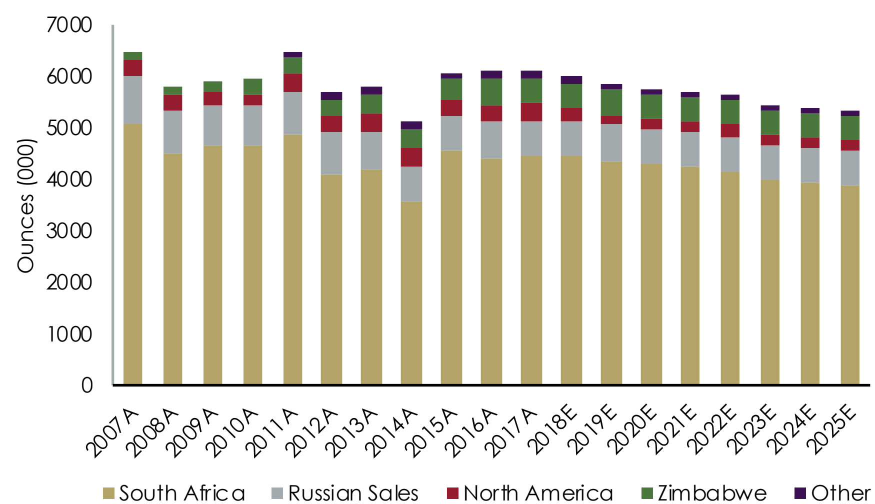
# Platinum – primary supply

- Capital underinvestment by South African PGM producers (c.70% of global primary platinum supply) since global financial crisis
  - Insufficient to replace current production levels
- Without incentive-driven price growth, new supply coming on-stream seems unlikely or delayed
  - SA primary production expected to decline by 13% by 2025 (-1.5% CAGR)
  - SA platinum production peaked in 2006 at 5.3moz versus 3.9moz forecast in 2025E
- No new production expected from the Western Limb without a real basket price escalation exceeding 20-25%
  - The Western Limb currently represents more than 70% of South African supply

**South African capital expenditure**




**Primary platinum supply**

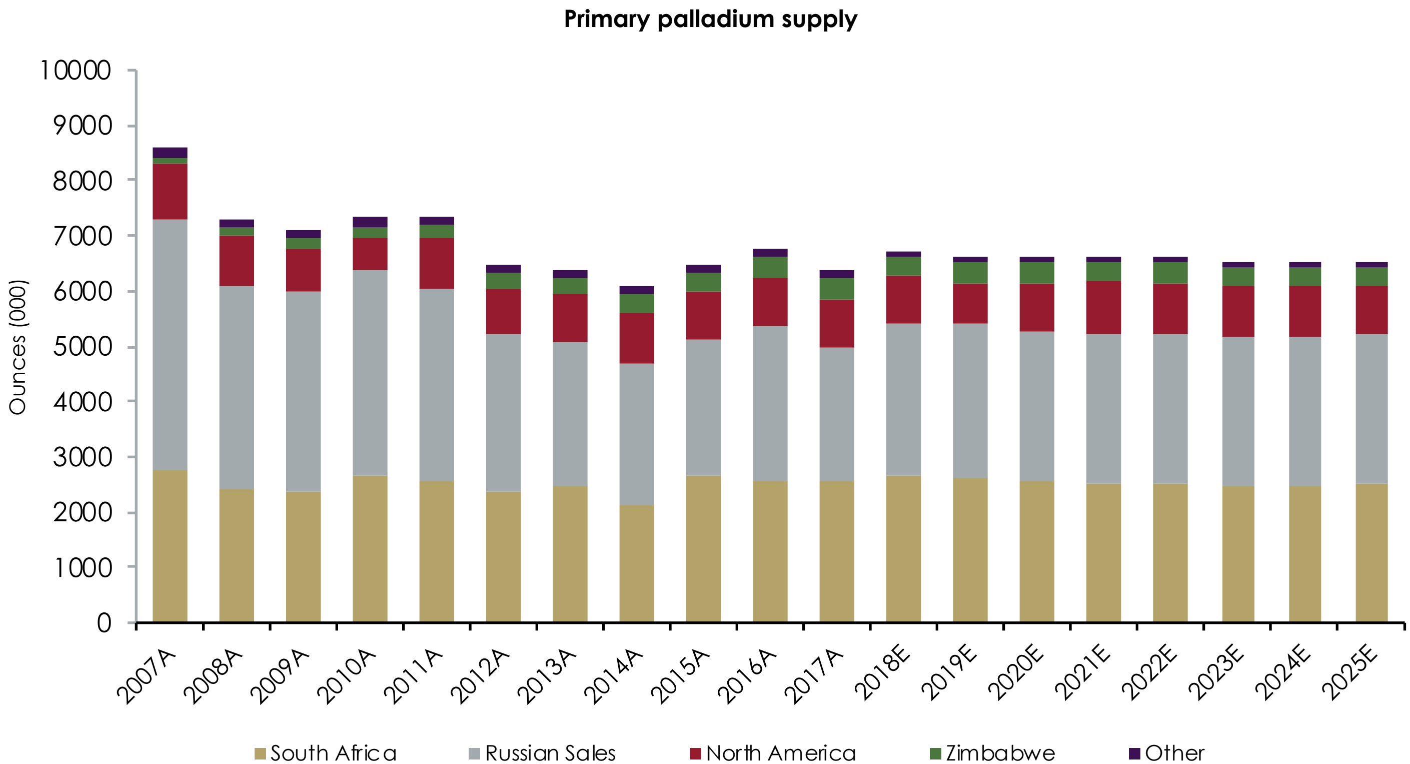



*Sources: SBG Securities and Johnson Matthey, SFA Oxford, company estimates*

**Supply declines driven by low basket prices**

# Palladium – primary supply

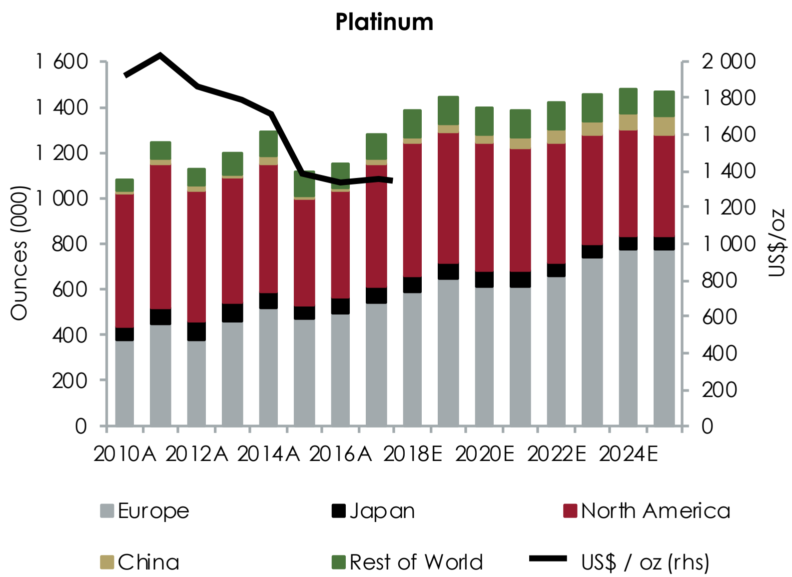
- Supply expected to remain broadly flat over forecast period on the back of a decline in South African production
  - Primary palladium production increasing by 0.5% CAGR, with total production increasing at 2.0% CAGR
- Russian and North American supply expected to remain relatively stable

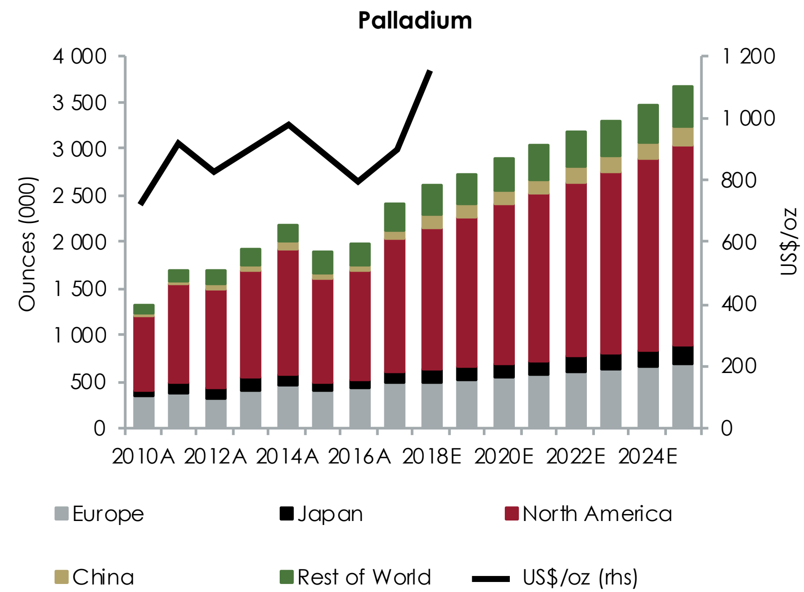



*Source: Johnson Matthey, SFA Oxford, WPIC, company estimates*

**Palladium supply constant, driven primarily by regions where basket prices are not platinum dependent**

# PGM recycling – secondary supply



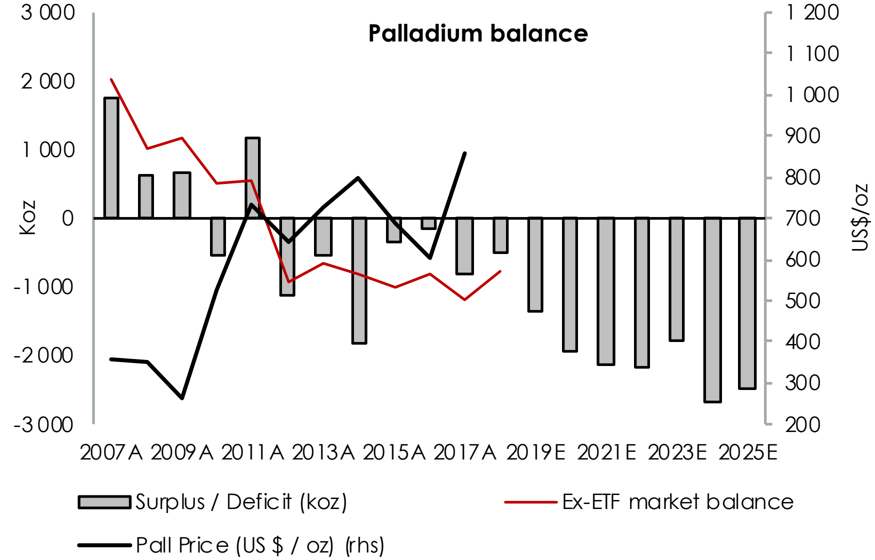

- Recycling is not the silver bullet!
  - Recycling of autocats largely driven by steel prices and not the US$ PGM basket
- Technical issues and loadings beginning to impact recycling throughput and forecast growth rates

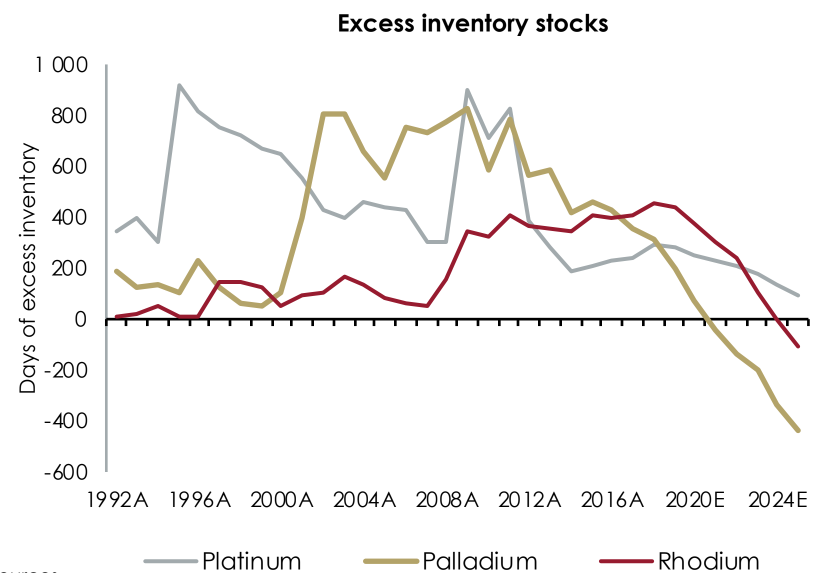
*Source: Johnson Matthey, SFA Oxford, WPIC, company estimates*

**A supply source driven by factors other than PGM prices**

# Palladium: The most precious of the PGMs?

- We are structurally bullish with palladium set for sustained record deficits
  - Palladium excess inventories already closing in on normalised levels
  - Gasoline expected to maintain a majority market share through to 2025
  - Relatively flat long term producer supply CAGR lags a net-demand CAGR of 3.0%
  - Long-term substitution is anticipated to provide more balance to the overall PGM basket
    - excess Palladium inventories forecast to reduce to nil at current rates by 2021E
    - Substitution will become a necessity to stabilise and balance markets and price differentials



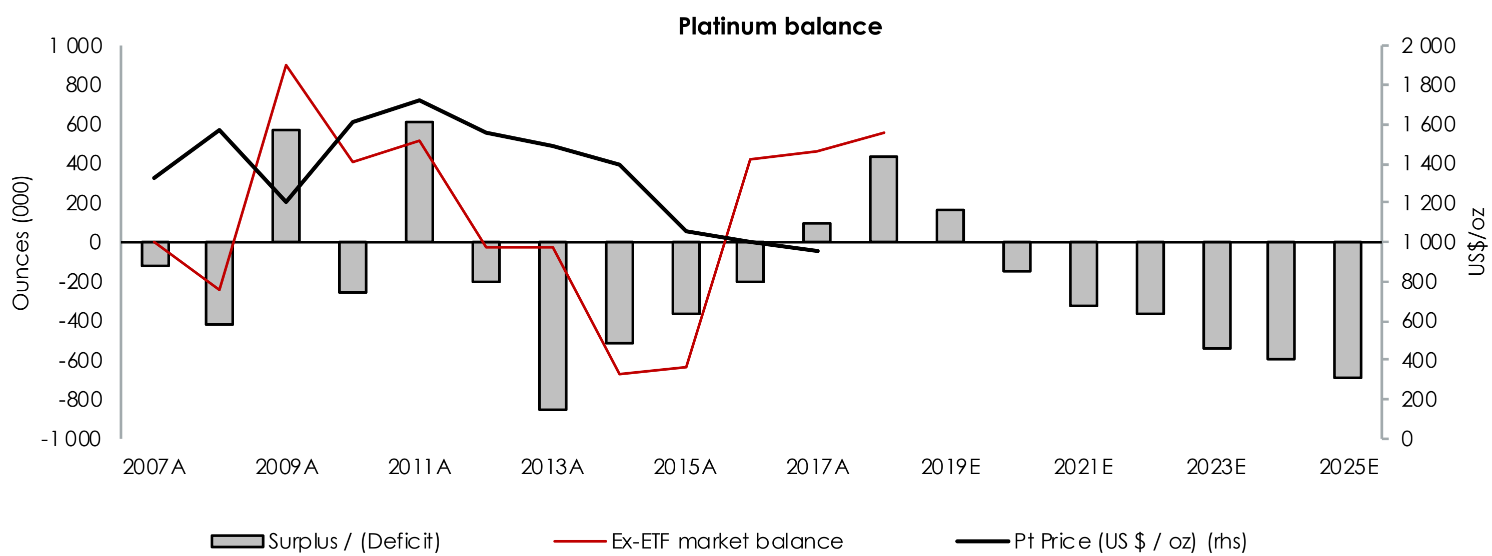




Source: Internal demand and supply model based on WPIC information, broker consensus and other sources

# Platinum: Supply driven deficits on the horizon

- Despite current aversion to diesel ICE and EV penetration, platinum's fundamentals remain constructive
  - Limited primary and secondary supply growth anticipated globally
  - Significant producer underinvestment in growth and sustaining capital since the GFC to result in long term South Africa primary producer supply instability
  - Demand remains well supported, even in diesel markets
  - Potential substitution away from Pd to Pt likely to introduce more market balance

- Platinum likely to remain in marginal surplus for the remainder of this decade, thereafter reverting to increasing deficits as primary production from SA contracts

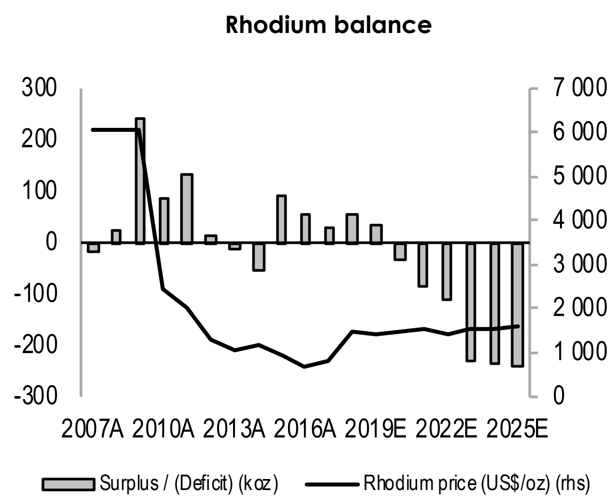



Source: Internal demand and supply model based on WPIC information, broker consensus and other sources

**Despite declining diesel market share and EV concerns, we remain fundamentally bullish**

# Rhodium: The forgotten PGM

- Rhodium has outperformed the other primary PGMs YTD on the back of renewed market interest and demand stability
  - Rhodium has largely been in fundamental balance for most of this decade
  - Material deficits anticipated post 2020, driven by loadings stability and reduced primary production from SA
- Rhodium remains critical to reaching real world driving NoX emissions thresholds
  - Upside potential to rhodium loadings in autocats in an effort to reduce NoX
- Rhodium needs to be carefully managed - OEMs have long memories and are loathe to see a repeat of Rhodium's historic price volatility
- Rhodium's remains critical to the SA PGM basket (4E) and instilling price sustainability




*Source: Internal demand and supply model based on WPIC information, broker consensus and other sources*

**Rhodium set for significant deficits post 2020**

# Forming a unique, globally-diversified PGM business

*Delivering on our PGM strategy*

# PGM strategic rationale

- Analysis of PGM industry fundamentals confirmed robust outlook
- SA PGM industry financially distressed due to low platinum prices since the GFC, labour disruptions and escalating costs (labour, utilities)
- Depressed sector valuations
- Opportunity to build a significant PGM business at a low point in the price cycle
- SA PGM mining operationally similar to gold mining
- Stillwater acquisition provided exposure to a tier 1 asset in the portfolio and provides the company a unique PGM geographical and PGM commodity mix
- Opportunity to leverage Sibanye-Stillwater's regional operating model and hard-rock, tabular, labour-intensive mining competency to realise value


**Four step strategy envisaged**

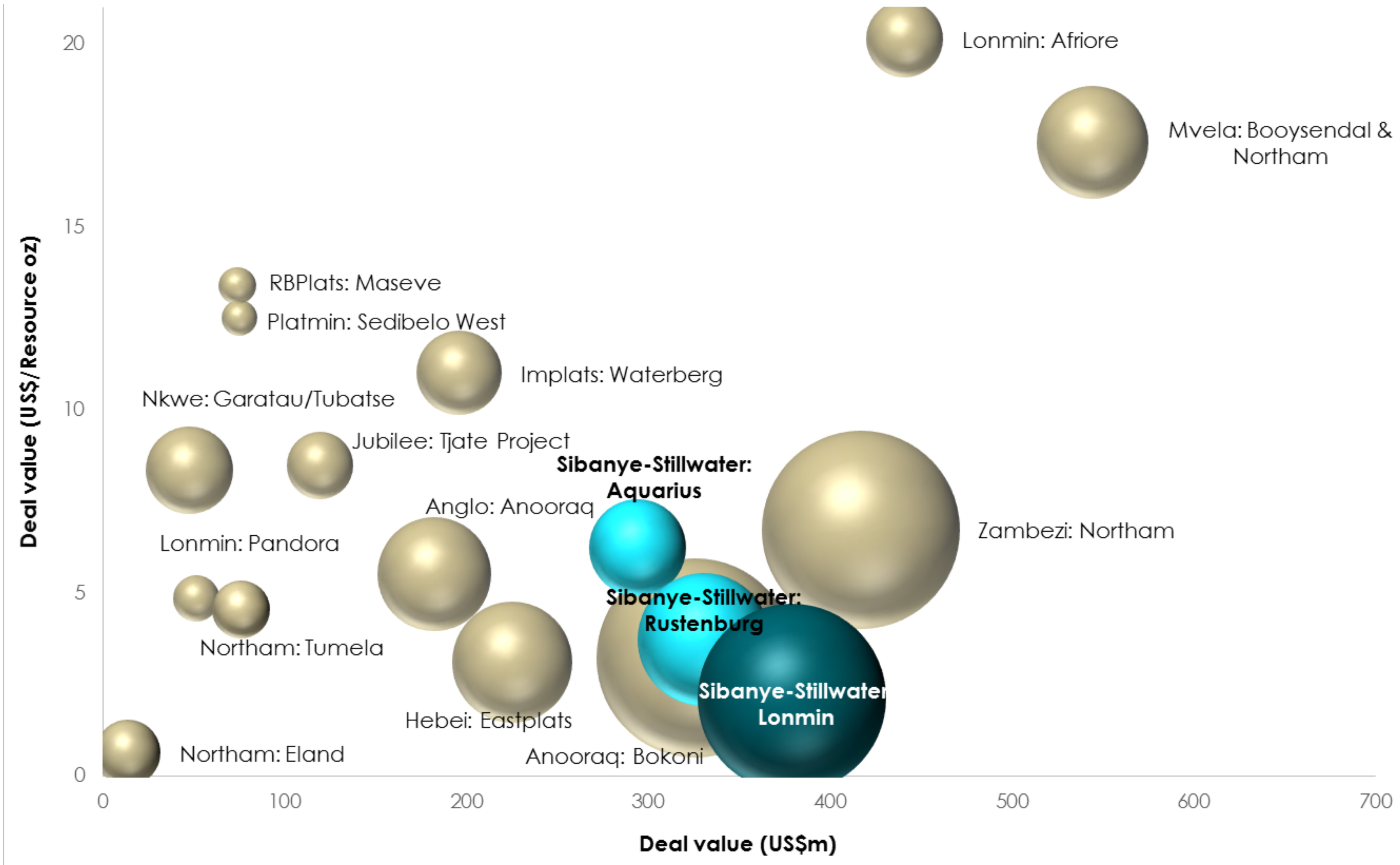
# Implementing a value accretive PGM strategy

| | |
|---|---|
| **AQUARIUS** → | • First entry into the SA PGM sector – April 2016<br>• Lean, well run company<br>• Operational performance has increased to further record levels since acquisition |
| **RUSTENBURG** → | • Effective November 2016<br>• Smart transaction structure aligned with expectations of platinum market outlook<br>• Significant synergies with Aquarius and gold central services<br>• Realised synergies of ~R1bn in 14 months, well ahead of previous target of R800m over a 3-4 year period |
| **STILLWATER** → | • Tier one, US PGM producer acquired in May 2017<br>• High-grade, low-cost assets with Blitz, a world-class growth project<br>• Provides geographic, commodity and currency diversification<br>• 78% palladium content provides upside to robust palladium market |
| **LONMIN** → | • Attractive acquisition price at low point in platinum price cycle<br>• Significant potential synergies exist with our SA PGM assets<br>• Aligns with Sibanye-Stillwater's mine-to-market strategy in SA and adds commercially attractive smelting and refining<br>• Sizeable resources provide long-term optionality |

**Executing clearly communicated four step strategy to create a unique PGM business**

# SA PGM acquisitions

**Historic SA PGM transactions**



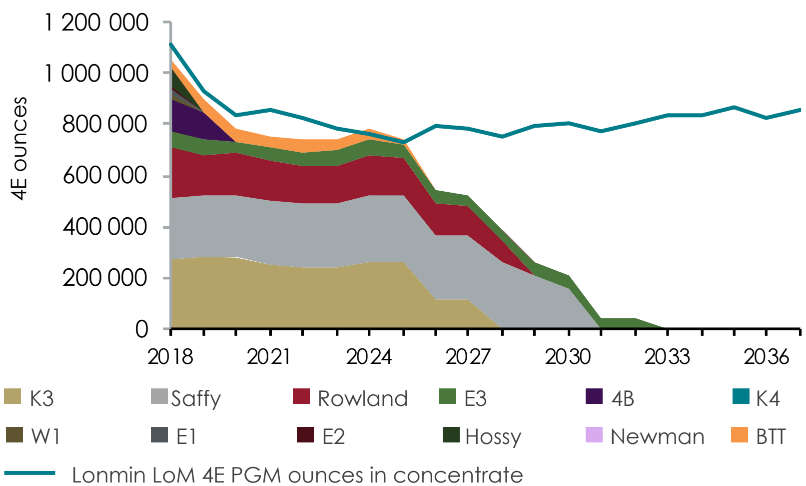

*Source: Various companies' disclosures*
*Note: Bubble size represents PGM Resources*

**Acquiring sizeable resources at historically low prices**

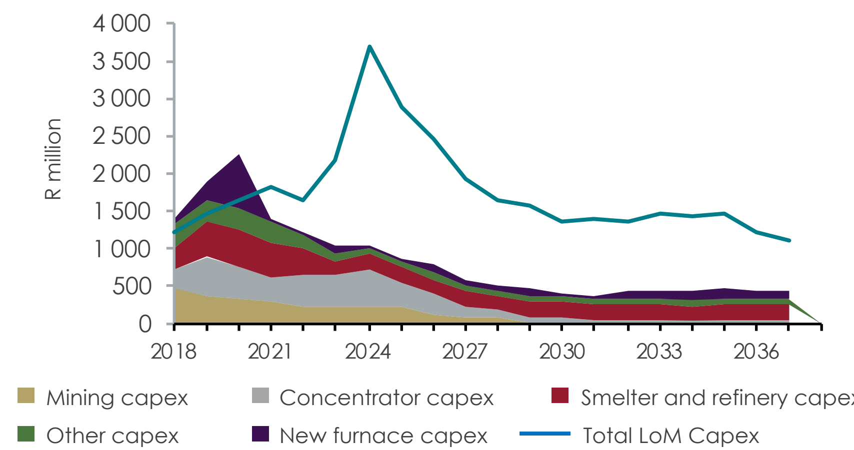
# Revised Lonmin operational plan[1]

- Lonmin's mining plan revised after detailed due diligence
- Planning for current economic and market conditions
  - 'lower for longer' plan
- Conservative plan not contingent upon project capital expenditure thereby ensuring affordability
- First generation shafts to be put on care and maintenance as per Lonmin plan
- Flexibility to delay project capital investment
  - optionality to significantly extend operating life in a higher PGM price environment

**Revised plan - adjusted 4E PGM ounces in concentrate**

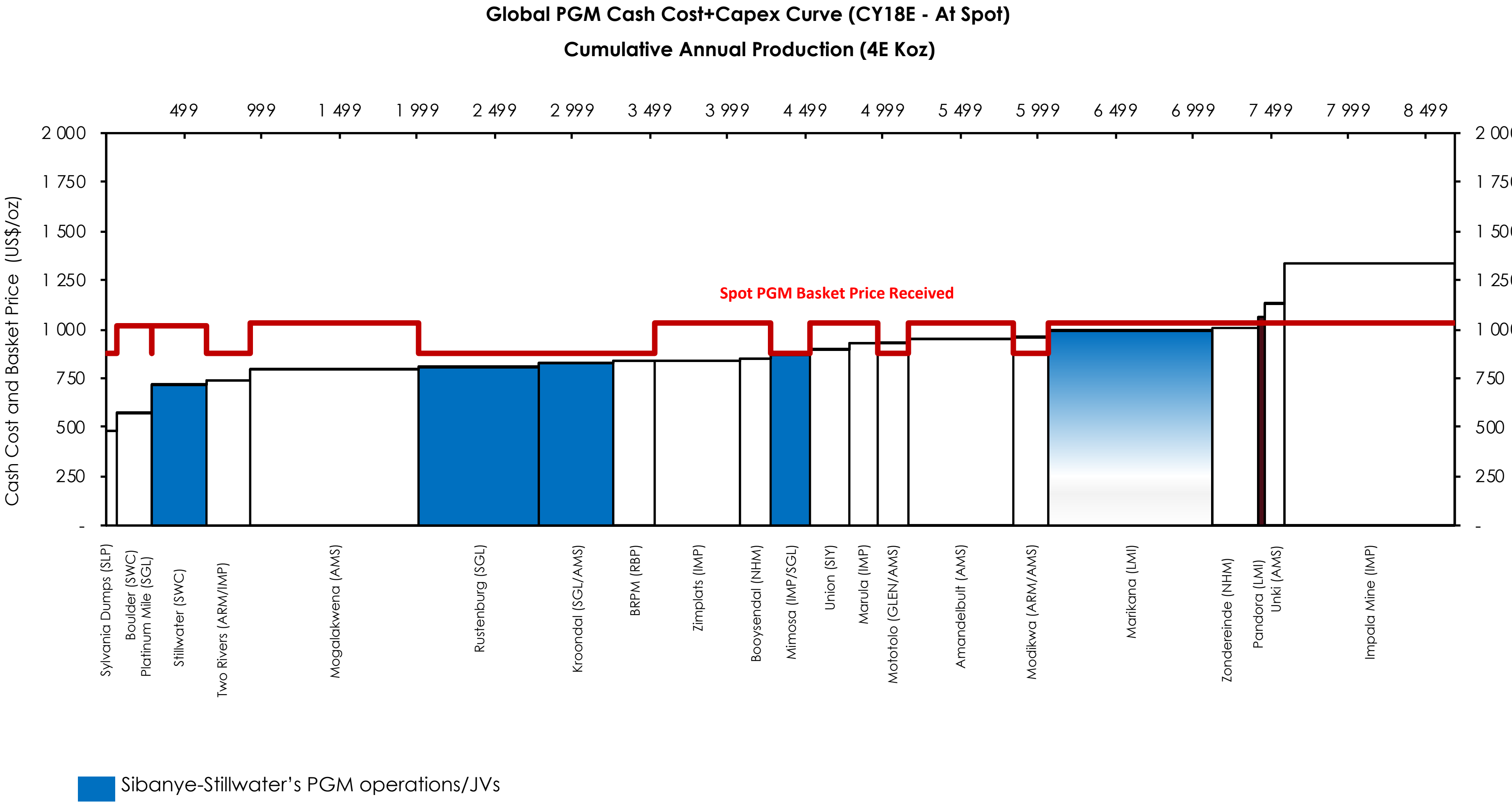



**Revised capital by category compared to Lonmin plan (real terms)**




[1] *Source: Lonmin's company information and due diligence performed by Sibanye-Stillwater*

# Moving down the PGM cost curve




*Source: Nedbank research*
**Prices at 14 October 2018:* Platinum: US$840/oz; Palladium: US$1,070/oz; Rhodium: US$2,500/oz and Exchange rate of R/US$14.40

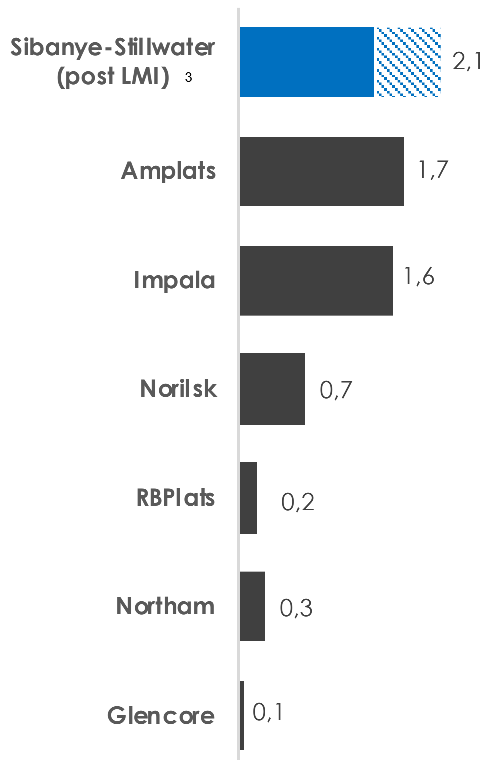
**World class, low cost US PGM mines with the SA PGM operations well placed on the cost curve**

# Becoming a leading precious metals company

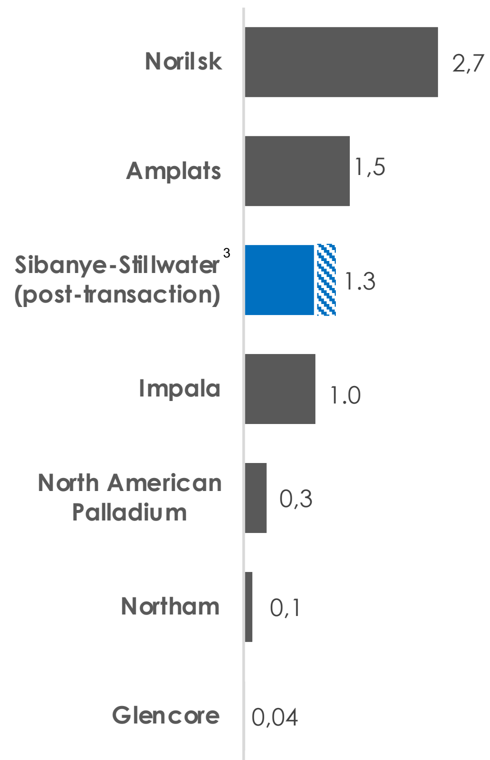
Sibanye-Stillwater global PGM ranking

Sibanye-Stillwater global gold ranking

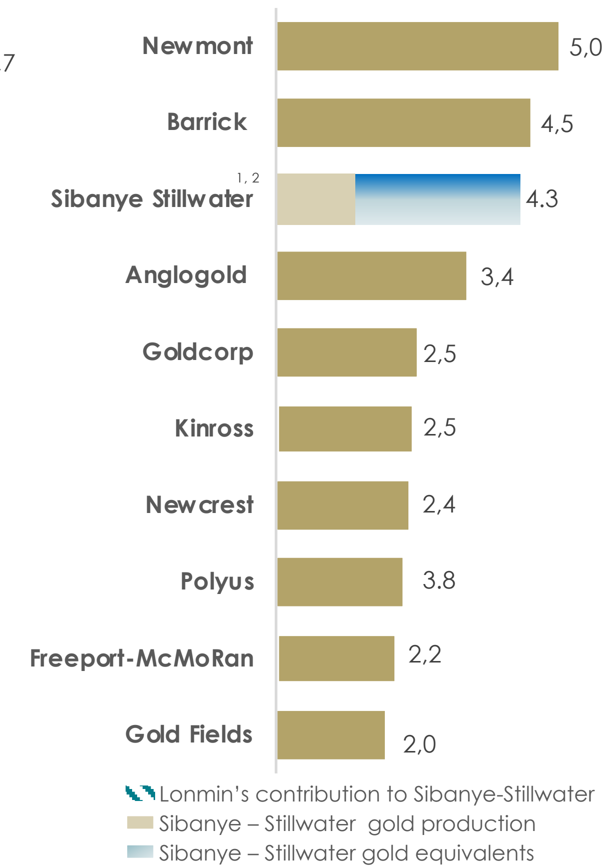
**2018E platinum production (Moz)**




**2018E palladium production (Moz)**




**2018E gold and gold equivalents production (Moz)**



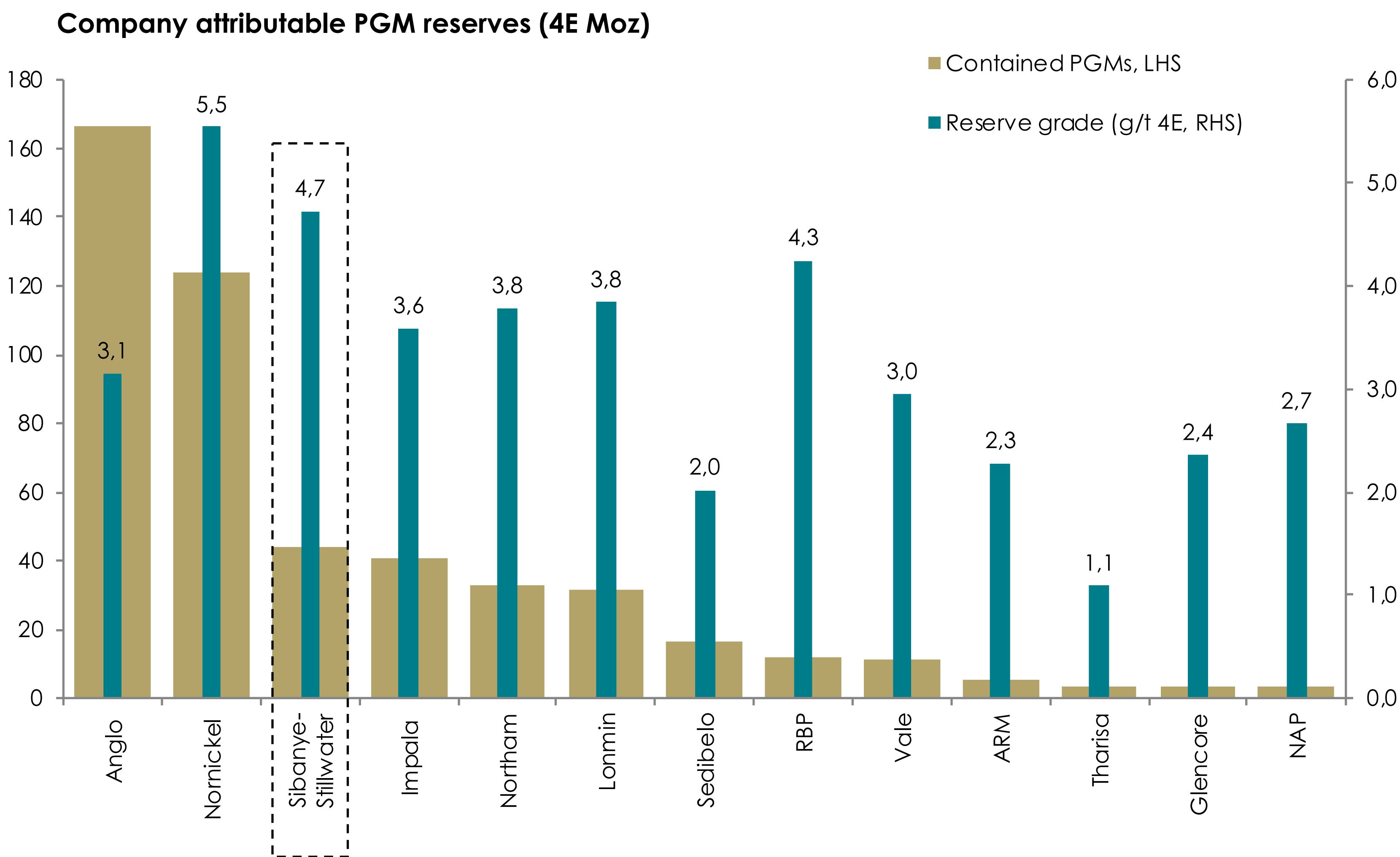

*Source: Company filings, Wood Mackenzie*

*Notes:*

1. *Sibanye –Stillwater gold equivalents included completed on a 4E PGM basis*
2. *Gold equivalent ounces calculated as PGM basket price in the period (USD1,007/oz) / average gold price (USD1,286/oz) in the period multiplied by PGM production (4E) and using the Sibanye – Stillwater H1 2018 prill split*
3. *Sibanye – Stillwater annualised production estimates, calculated on a mine-to-market basis*

**Positioned globally as a leading precious metals producer**

# International PGM Reserve comparison




*Source: SFA Oxford, company reports*

**Reserve grade and scale is world-class**

# Conclusion

# Conclusion

- Built sizeable, diversified PGM business at low point in cycle
- Realisation of synergies in SA and growth in US positions Group perfectly for higher price environment and for sustainability through cycle lows
- Closure of Lonmin acquisition will complete SA PGM strategy – logical value opportunity
- Fundamental PGM outlook positive – under various scenarios, deficits for platinum and palladium likely
- Current market value doesn't reflect fundamental value

# A unique value proposition

A leading precious metal company

**Largest** producer of **South African gold**

**Top 3 GLOBAL PRODUCER** of platinum and palladium

**Stillwater – only sizeable primary producer of Palladium**

**Leading** GLOBAL **PGM recycler**


**Delivery of superior value to all stakeholders drives strategy**

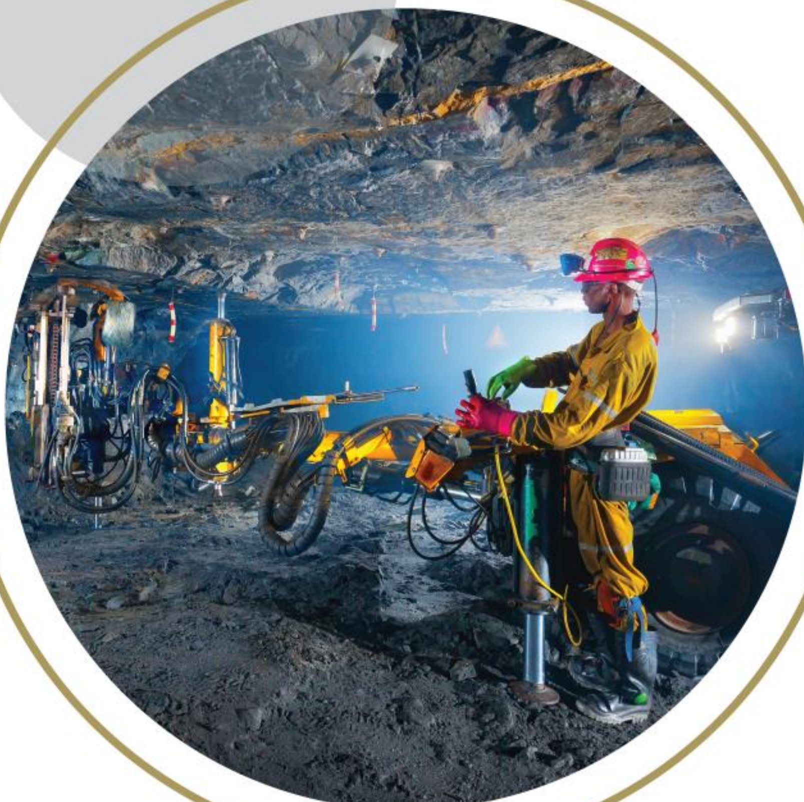
**Operational excellence** and innovative growth to create sustainability

Gold mine life **>15 years** PGM mine life **> 30 years**

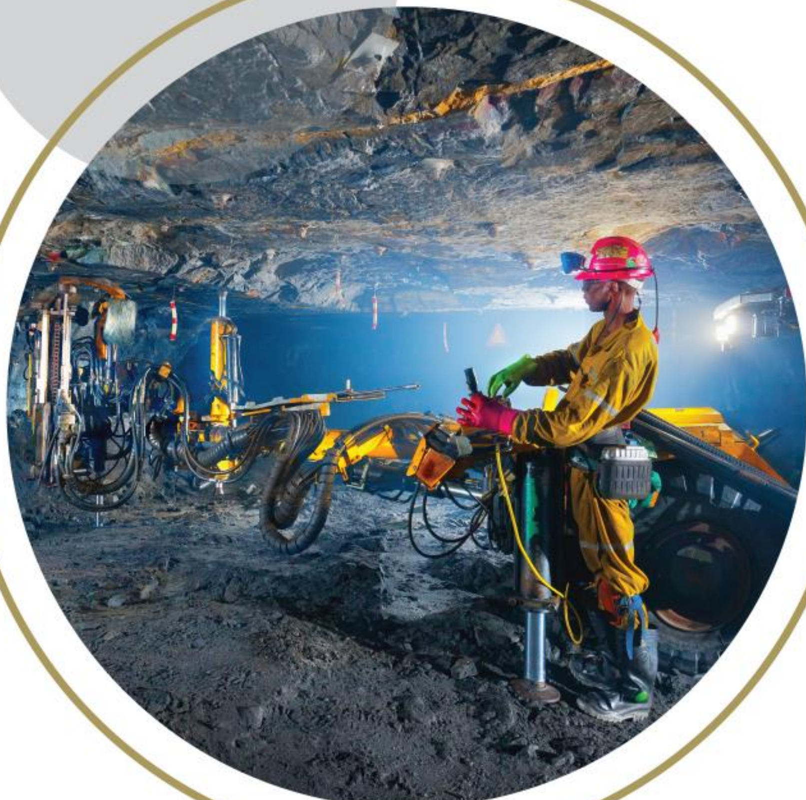
**Proudly South African while competing on a global stage**

The **PURPOSE** of our mining is to **IMPROVE LIVES**

*Source: Company information*



Questions?



# Appendix

# Material synergies with Lonmin operations

## Pre-tax synergies of approx. R1.5bn annually by 2021[1]

### Quantified synergies [2]

- Overhead costs (R730m annually by 2021)
  - corporate office rationalisation (closing London office and delisting)
  - regional shared services
  - operational (mining) services
  - once-off R80m cost required to achieve these synergies
- Processing synergies
  - differential cost benefits of R780m by 2021 and an average of approximately R550 annually from 2021
  - Capex of approximately R1bn required for purchase of a new furnace

### Incremental synergy potential [3]

- Ability to mine through existing mine boundaries
- Optimal use of surface infrastructure
- Optimising mining mix
- Prioritisation of projects and new growth capital
- Capital reorganisation in line with new consolidated regional plan

*Notes:*
1. *For further information in relation to expected synergies, please refer to page 17 and pages 58 to 60 of the offer announcement, dated 14 December 2017, available at https//sibanyestillwarer.com/investors/transactions/lonmin/documents*
2. *For overhead synergies, total savings anticipated when fully implemented in FY21; varies per toll agreement production throughput for processing synergies with average calculated between 2021 and 2032*
3. *Synergies which are unquantifiable at this point in time*

**Realisation of synergies will ensure operational viability**

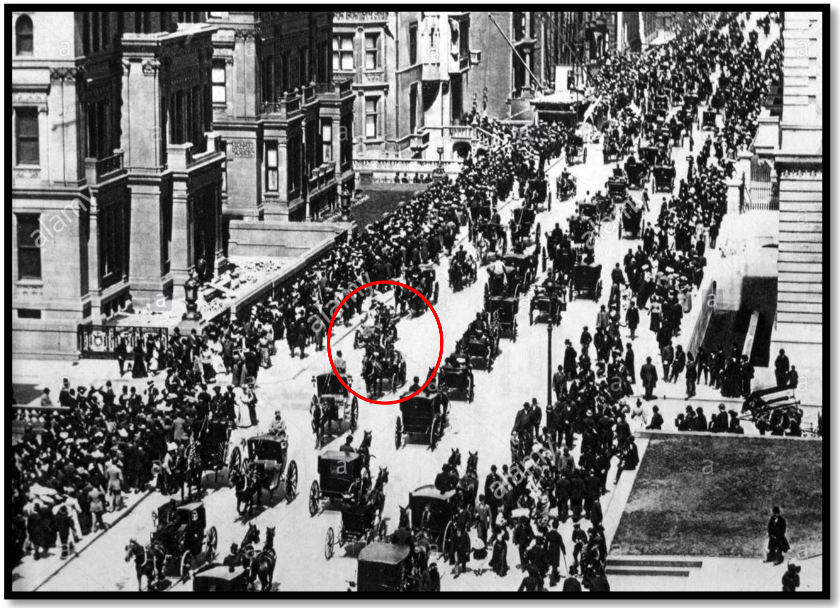
# Indicative milestones to closing Lonmin deal

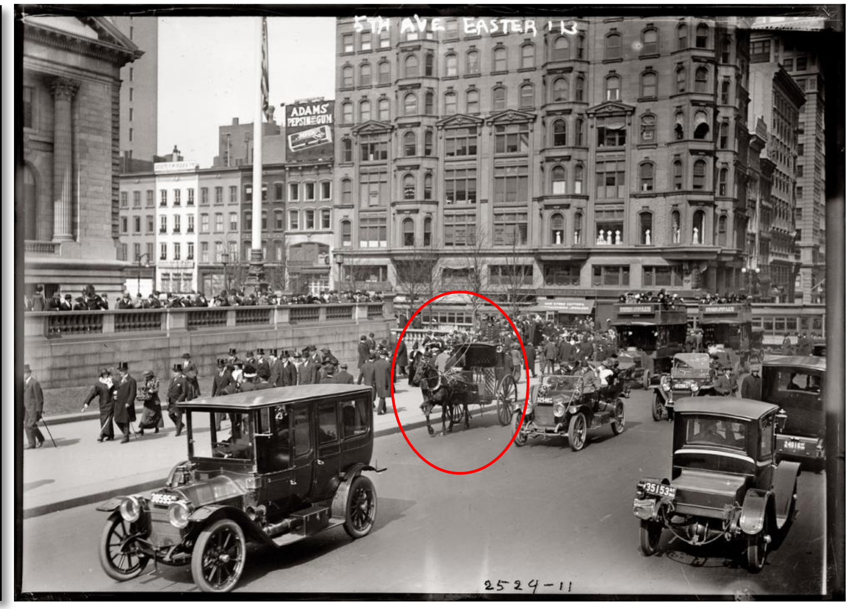
- Announcement of transaction – 14 December 2017 ✓
- SA Reserve Bank approval obtained – May 2018 ✓
- Competition commission submissions – SA and UK authorities ✓
- UK competition commission approval received ✓
- SA Competition Tribunal ruling expected
- Circulars expected to be released to shareholders
- Lonmin shareholder approval and court meeting
- Sibanye-Stillwater shareholder approval
- Court approval of the scheme

**Steady transaction closure progress**

# Change is inevitable

**Fifth Avenue, New York in 1900 versus 1913**



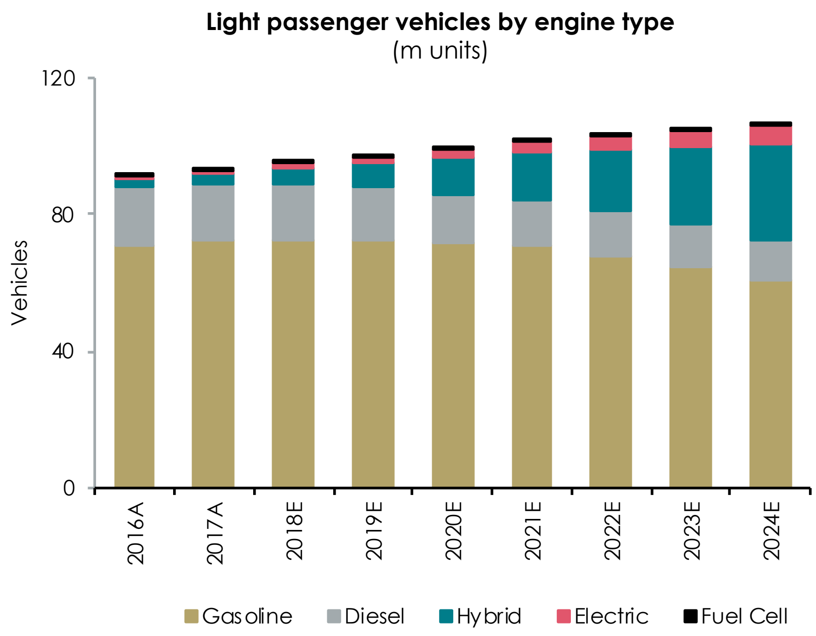


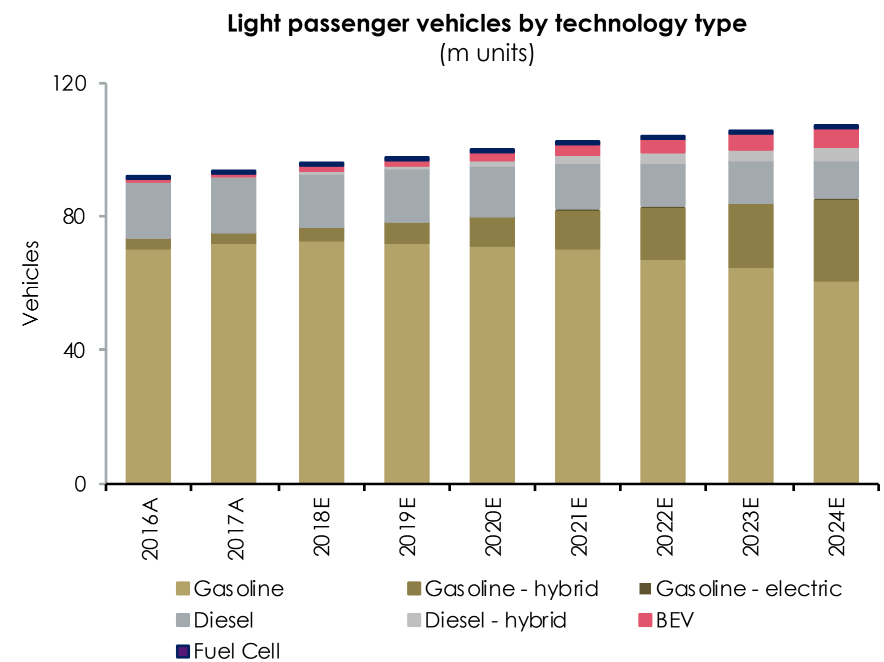

*Source: Pinterest*

**Change is inevitable, industry positioning, understanding and development is key**

# The market will remain disrupted

- The market remains conflicted regarding the PGM outlook
  - Proactive marketing continues to sway the public's perception and opinion regarding diesel, ICE and BEVs
  - Inherent belief that PGM supply will always be available to meet demand
- Limited recognition of the role of hybrids and fuel cells EV penetration
  - Not all EV's are equal!
- The internal combustion engine (ICE) remains key to the autos outlook
  - Diesel is crucial to meeting long term global $CO_2$ emissions



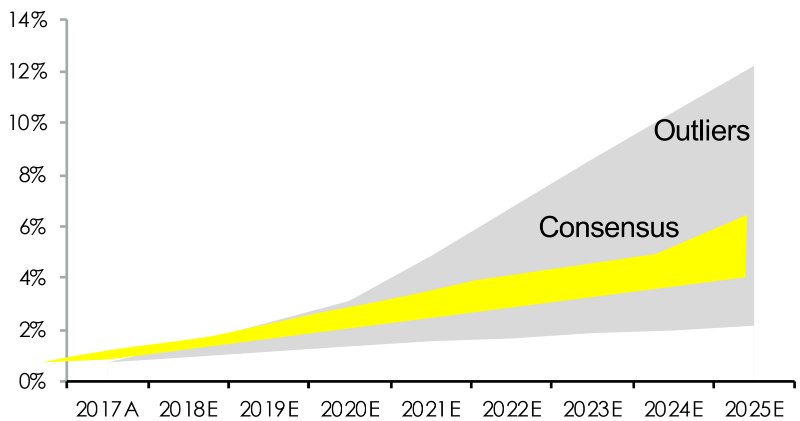

*Sources include: Company forecasts*

**Not all EV's are equal, with hybrid technology forecast to be a mainstay technology**

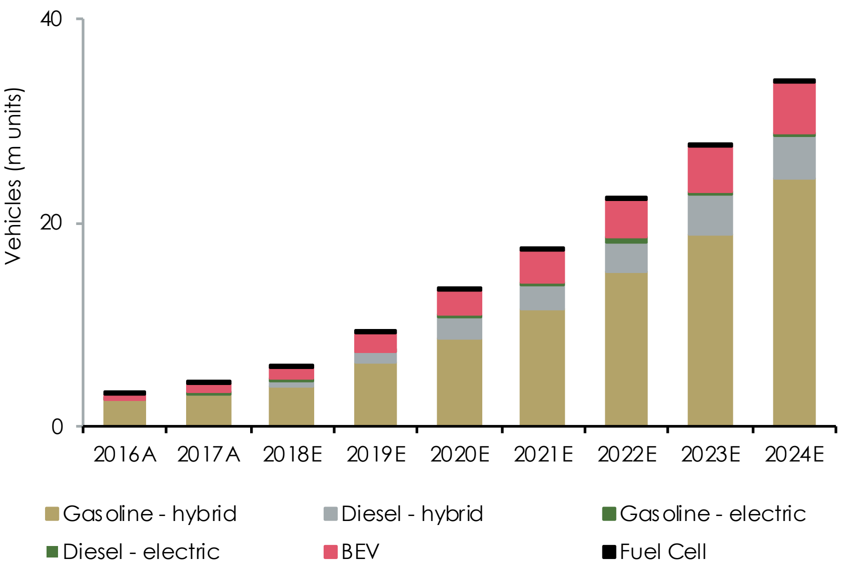
# The outlook for BEVs is euphoric

- The outlook for battery electric vehicle (BEVs) is over hyped
  - The assumptions underpinning EV penetration are likely to be refined as the challenges associated with a BEV roll-out strategy become clearer
  - A "*group think*" view is developing underpinned by strong marketing campaigns
- The spread of BEV forecasts is wide, on both the up and downside
  - Outlier BEV penetration estimates range from 2% to 11% by 2025E
  - Consensus BEV penetration estimates range from 4% to 6% by 2025E, mirroring our current model estimates

**Outlier broker BEV penetration range**
(% of global car park)




**Light vehicles, new technologies**




*Sources include: Johnson Matthey, company forecasts*

**Our BEV forecasts are well within current market forecast ranges**