PLATINUM SA
THE STATE OF THE PGMs SECTOR

FACTS AND FIGURES

THE STATE OF THE PGMs SECTOR

Introduction

Six primary precious metals make up the basket of platinum group metals (PGMs) in South Africa. The metals – platinum, palladium, rhodium, gold, iridium and ruthenium – occur together in PGM-bearing ore, together with chrome, nickel and copper and other minor metals, which are defined as by-products.

Platinum, palladium and rhodium are the three primary metals of significant economic value. Due to their unique physical and chemical properties, they are essential components in many industrial applications including the automotive industry due to their excellent catalytic properties, as well as in computer hard disks, mobile phones, glass and fuel cells, among others.

PGMs are also used in many medical applications, including anti-cancer drugs, cardiac treatment, implants and dental applications.

The durability, quality, and aesthetic appeal of platinum and, to a lesser extent, palladium has significant application in luxury goods and jewellery manufacture. China accounts for 50% of the world's platinum jewellery market.

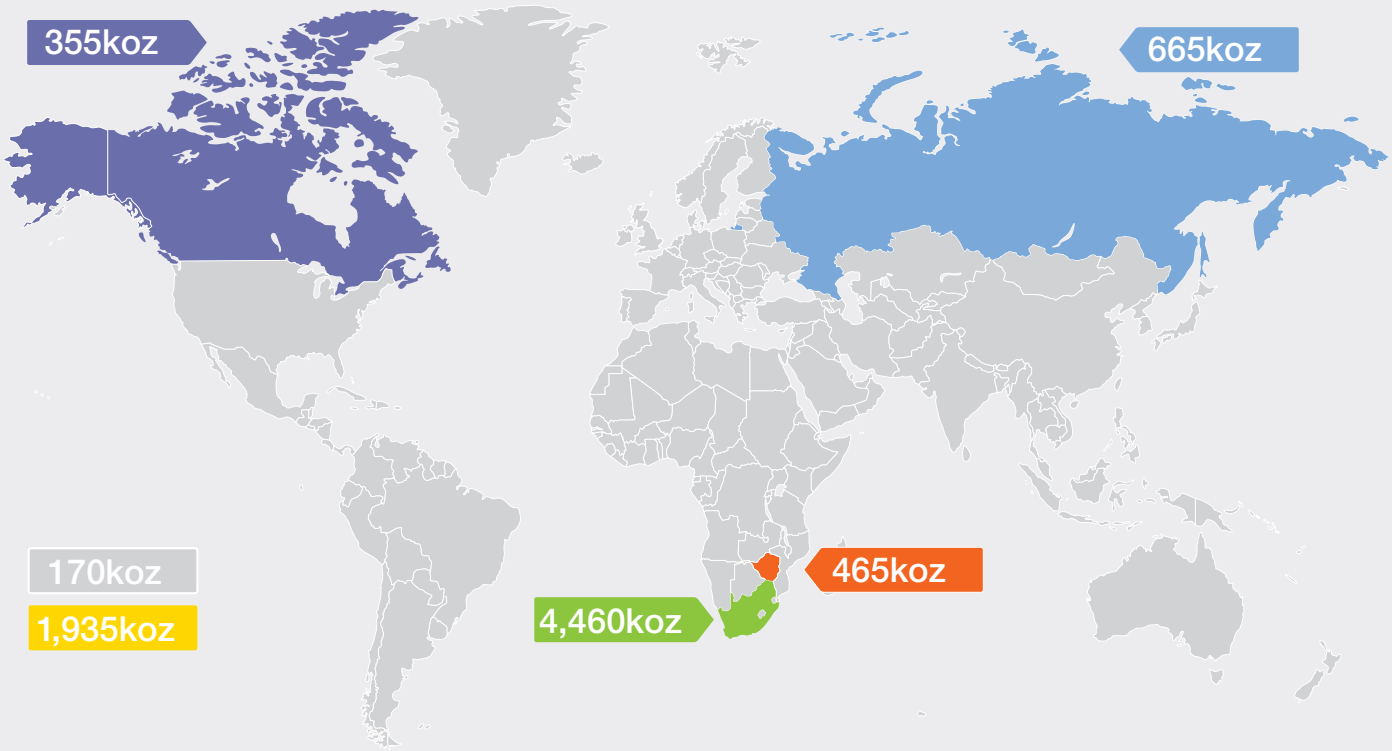
Investment, in the form of coins, bars and electronically traded funds (ETFs), is another significant source of demand for PGMs.

PGMs mining in South Africa

Geologist Hans Merensky's work from 1924 resulted in the discovery of what became known as the Bushveld Igneous Complex. The complex is over 400 kilometers in diameter and is divided into four different limbs: the northern, southern, eastern, and western limbs.

This complex hosts approximately 80% of the world's known PGM-bearing ore.

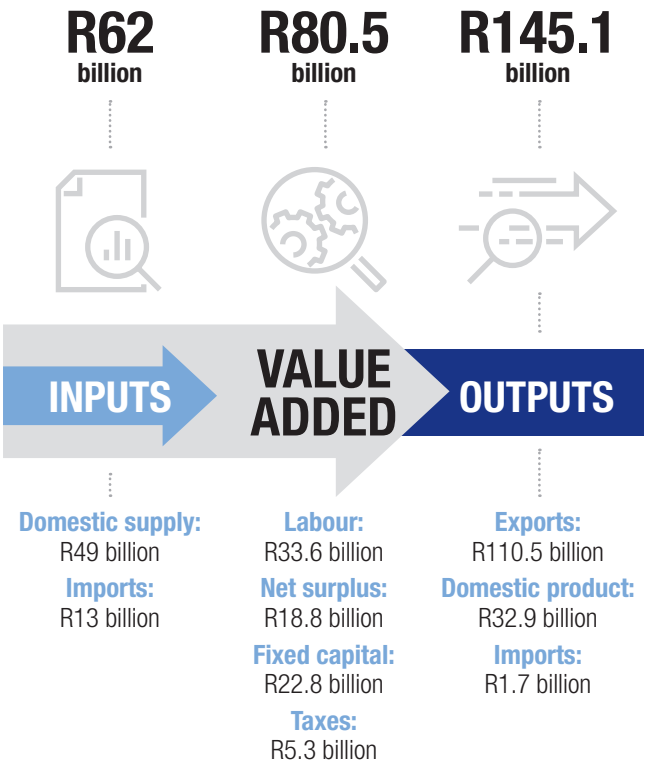
GLOBAL PGMs PRODUCTION (2018)



(Source: World Platinum Investment Council)

PGMs' CONTRIBUTION TO SOUTH AFRICA

PGMs SECTOR COMPONENTS: 2018



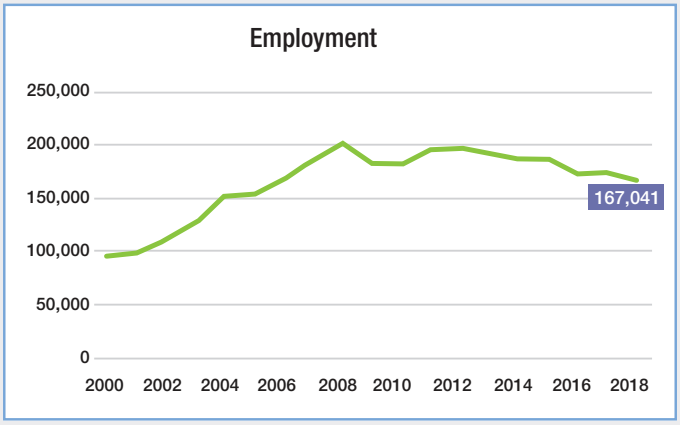
Sources: Statistics SA, SA Reserve Bank, Minerals Council South Africa

- Of mining's 7.2% (direct) and additional 10.1% (indirect) contribution to South Africa's GDP in 2018, PGMs accounted for 1.65% and a further 0.8% respectively, to the South African economy.
- Almost 80% (or R49 billion) of the R62 billion of inputs of goods and services from outside suppliers into the sector were sourced locally.
- Employee earnings amounted to R33.6 billion.
- R22.8 billion in working capital was used to sustain operations.
- Dividends paid to shareholders amounted to R1.47 billion.
- R5.3 billion was paid in taxes and royalties. This amount is lower than previous years as many of South Africa's PGMs producers were in a loss-making position.
- Of the R142.3 billion of outputs, 23% was used in SA for manufacturing and investment purposes. The largest industrial demand for PGMs is in catalytic convertors. The South African catalytic converter industry has a capacity of 23.7 million units per annum and employs 5,000 direct employees and 30,000 indirect jobs. The industry is export focused. In 2018, the SA catalytic converter industry produced and exported 9.03 million units (40% capacity utilisation), earning R18.9 billion in export earnings. At full capacity the South African catalytic converter industry commands 19% of the global autocatalytic converter market.
- Other local industrial uses include PGMs' use in chemical, glass, petroleum and electronics. These consume and beneficiate 22% of local platinum output.
- Jewellery production is currently very limited in South Africa.

R5.3 billion
was paid in taxes and royalties

Employment benefits of PGMs mining in South Africa

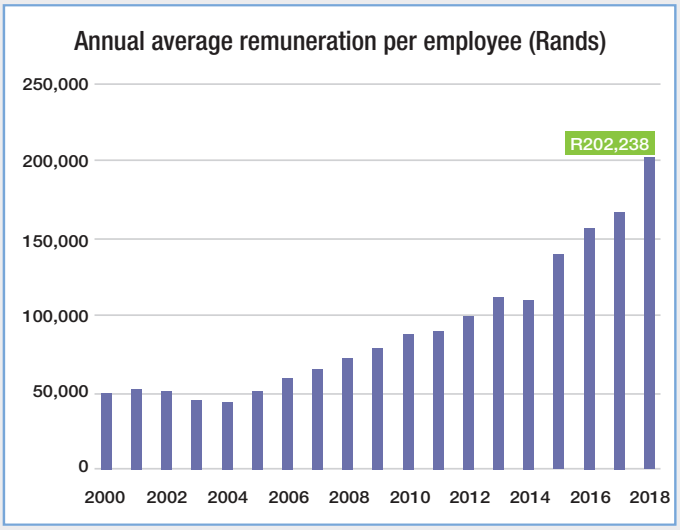
The PGMs mining industry makes an important contribution to the lives of South Africans by providing jobs and benefits, education and training, by investing in social development projects and infrastructure and to the South African fiscus through its contribution to export earnings, taxes and royalties. In 2018, the industry employed 167,041 people, or 37% of all mining employees. Employment in the sector has decreased by about 34,000 since its peak in 2008.



In terms of indirect employment created by the industry, it is estimated that for every job, at least two are created in supporting sectors, meaning the industry supports a further 334,082 jobs, each with between four to 10 dependants.

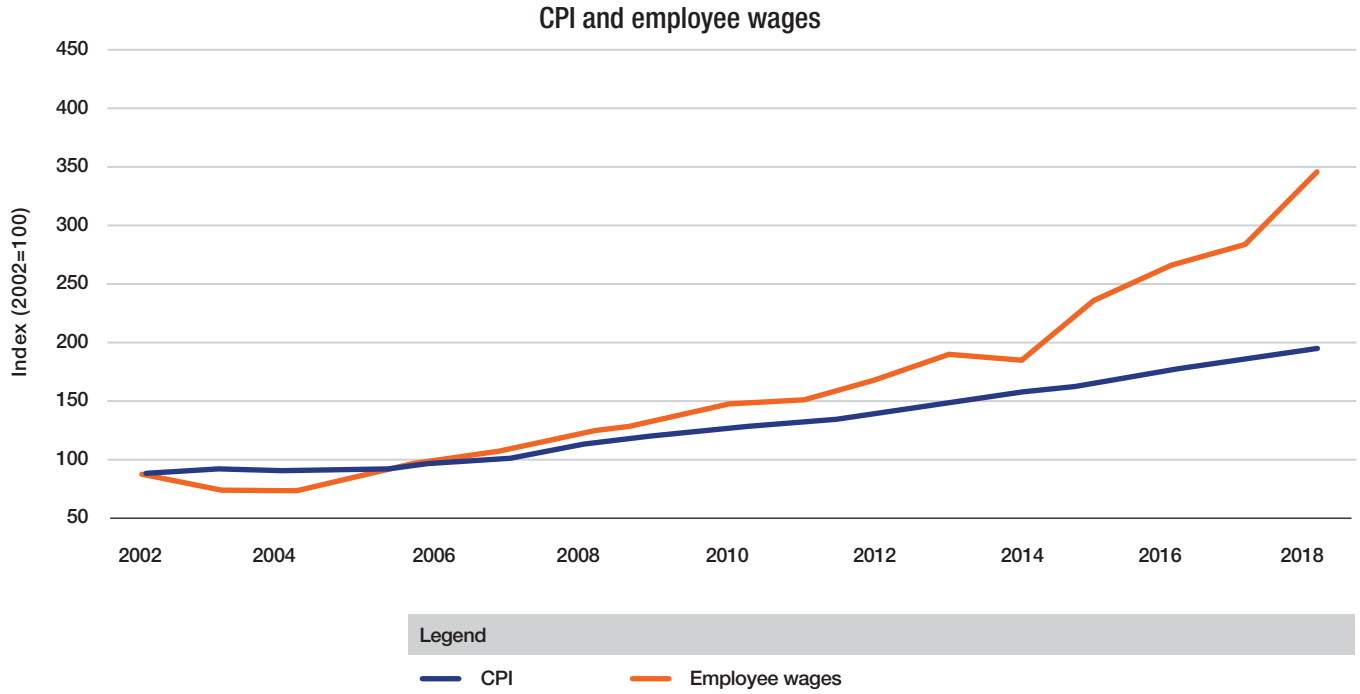
Employee earnings

In 2018, 41% of a PGMs mine's expenditure was on wages and salaries. Between 2008 and 2018, average annual remuneration has increased by approximately 176% in nominal terms on average, annual wage increases have been five percentage points higher than CPI since 2008.



The graph above shows how actual average annual earnings have increased since 2000. They have increased in nominal terms by 313%. In that period inflation has amounted to 167%. The difference represents real increases in earnings.

SINCE 2008, AVERAGE WAGES HAVE INCREASED IN REAL TERMS BY 5% A YEAR.

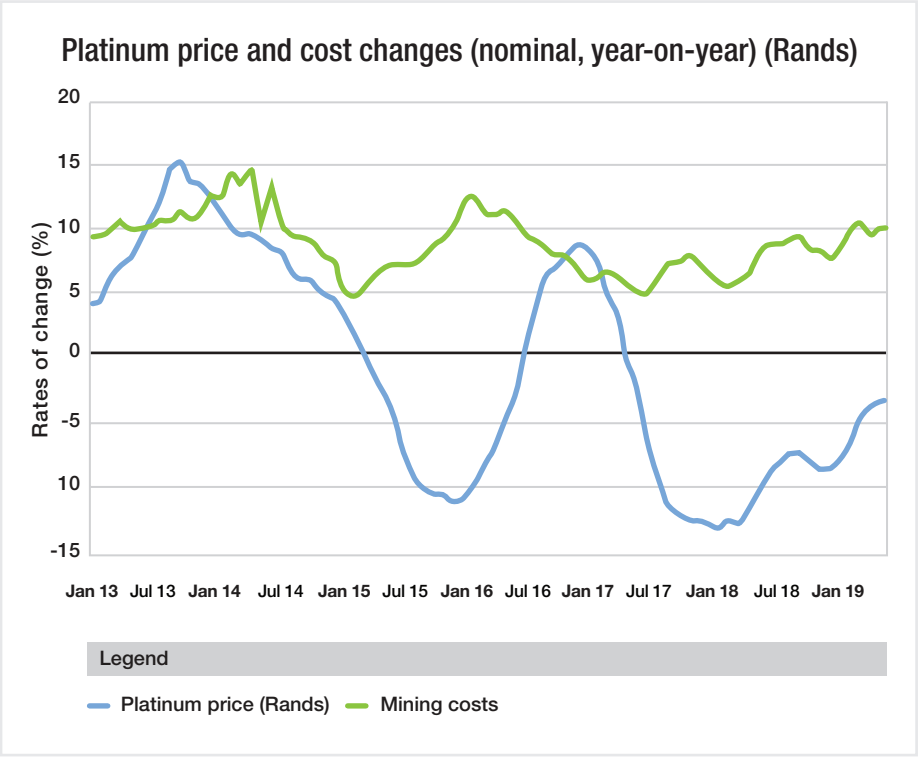


Minimum basic wages paid by the sector compare favourably to basic minimum wages in most non-mining industries.

PGMs industry: R11,000	**Metals and engineering:** R7,840	**Motor industry:** R5,396
Road and freight logistics: R5,816	**Structural engineering:** R6,537	**Farm workers:** R3,169

PGMs' basic wages are higher than those in the other industrial sectors. It should also be noted that allowances and variable pay (like bonuses) in the mining industry are significantly higher than any other sectors.

COST ISSUES



176%
increase in average wages over 10 years

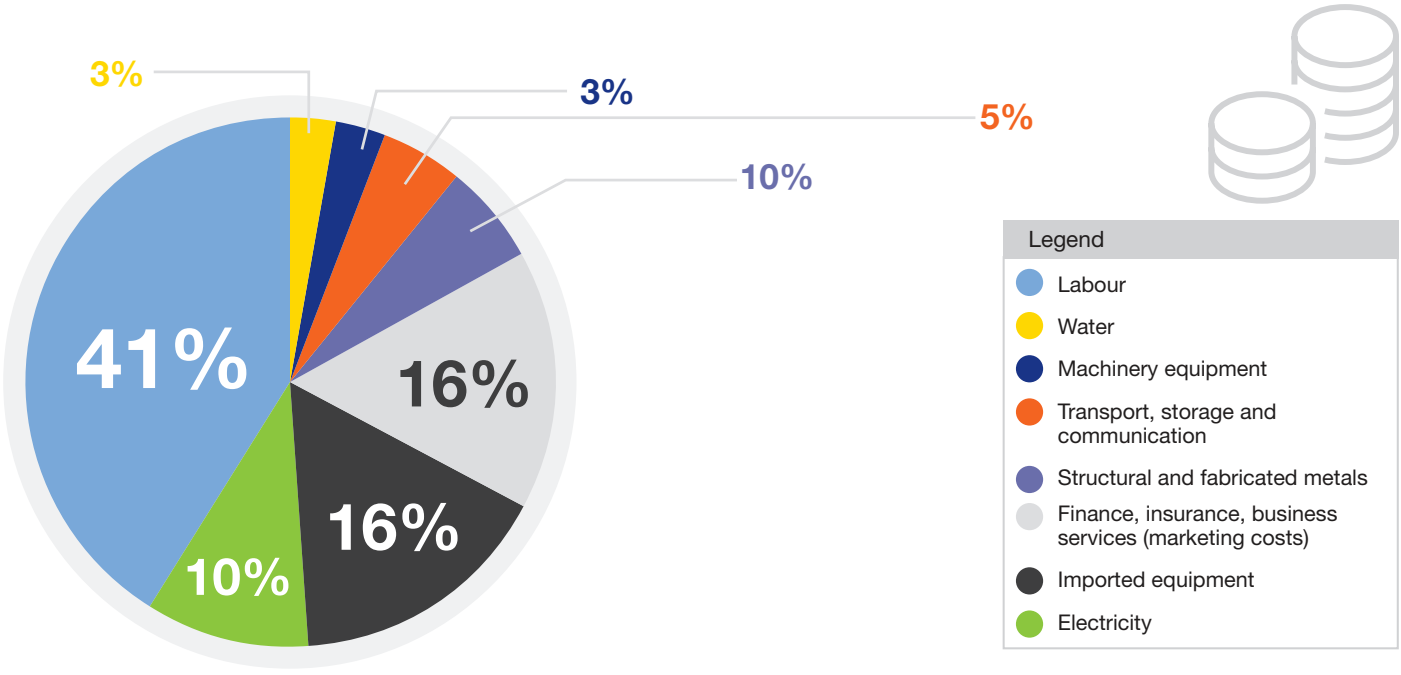
13%
Power and water costs

523%
Electricity tarrifs increase in ten years

This graph shows how cost increases have exceeded platinum price increases and decreases almost consistently, and often by huge margins, over the last six years.

The most prominent factors at work have been power and employment costs. Employment costs accounted for 41% of total costs. Power and water costs account for 13% of intermediate input costs in the sector. Electricity tariffs have increased by 523% for the mining sector in the ten years to 2018, and the tariff increases set this year promise another 29.4% in power increases over the next three years.

PGMs cost split (total cost of production)



THE ECONOMICS OF PGMs

The PGMs mining industry has had a challenging few years. The platinum price has been volatile in dollar terms though trending downwards in the poor international financial environment since the 2008 crisis. The platinum price is highly unstable in dollar terms and the fluctuation value of the rand exchange rate adds further uncertainty. Combined, these factors negatively affect long-term planning for investment and production.

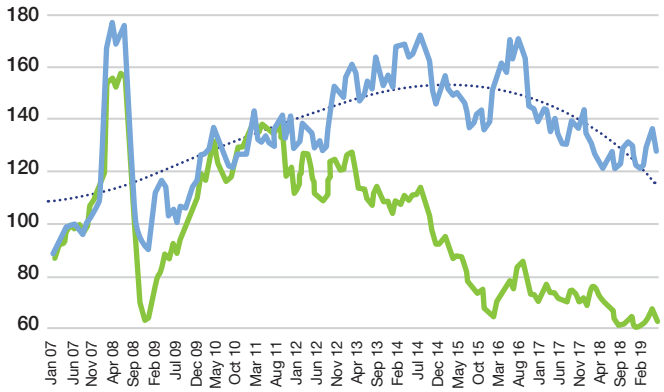
PGMs mining is a price-taking industry, the price of the metals is set by the market. Producers cannot pass on increased costs to the market. In South Africa, domestic cost pressures exceed platinum price improvements.

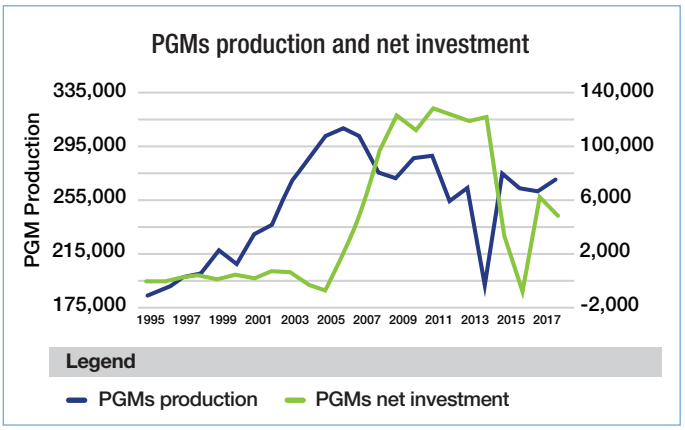
In 2018, gross demand for platinum declined and the market moved further into surplus. Prices fell to below $800 at year end. Mining platinum at this price is not viable for most operations in South Africa.

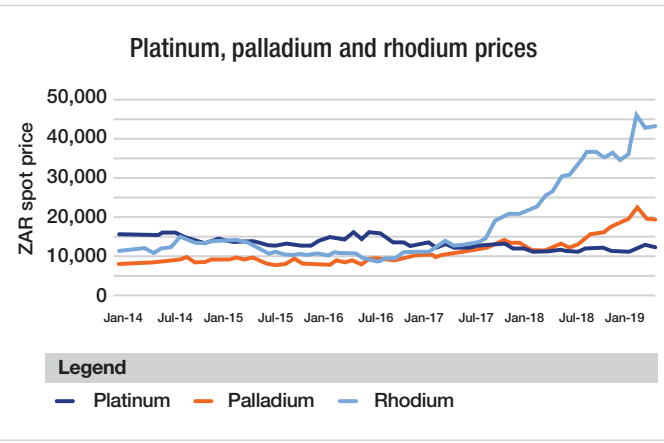
The platinum price has improved in the first half of 2019, as the surplus reduced due to an increase in investment demand, though it remains very far from its peak. A new platinum coin and bar is being strongly considered by The South African Reserve Bank and Treasury which, it is hoped, will increase demand.

Palladium, on the other hand, has increased in price by 80% in the past 12 months to a record high of $1,600 an ounce, because of strong demand. The price of rhodium has also improved. Together, these increases have kept PGMs mining in South Africa afloat.

(Source: World Platinum Investment Council and Minerals Council South Africa)

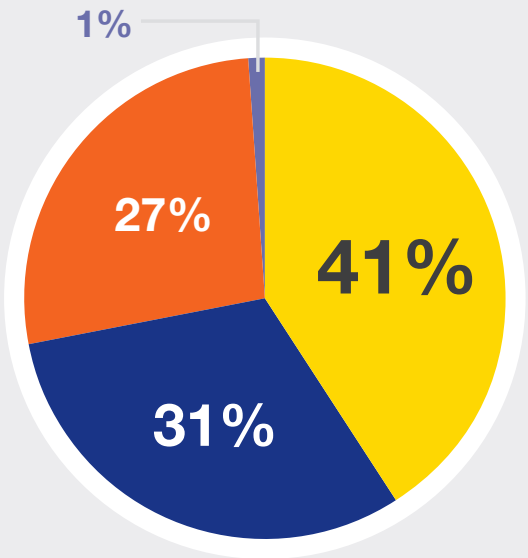


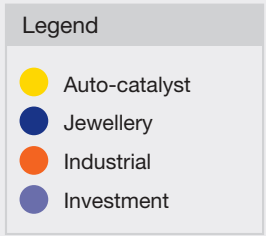




Production and investment levels have been volatile following market trends and domestic cost pressures.

Gross PGMs demand in 2018





Total gross demand

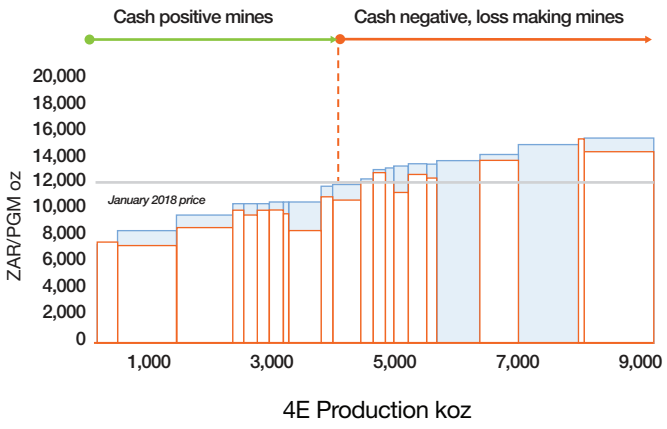
7.4Moz

(Source: World Platinum Investment Council Platinum Quarterly Report 2019)

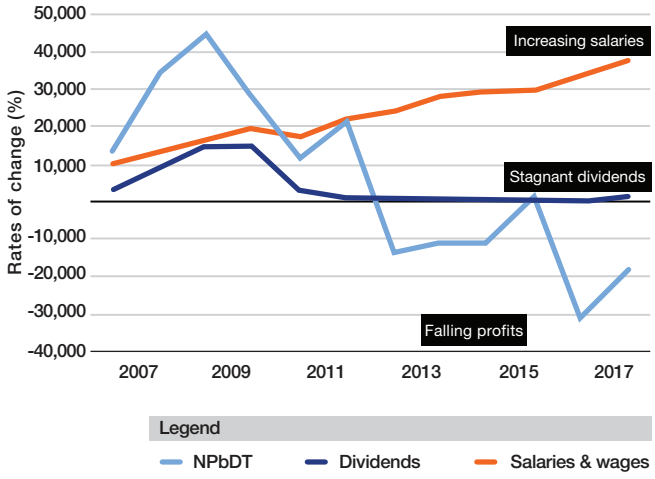
THE CHALLENGES AHEAD:

- On an aggregated basis, total industry production costs measured in tonnes milled will increase by 29.6% between 1 April 2019 and 1 April 2021.
- The recent rise in the PGMs basket price due to increases in palladium and rhodium prices has only recently restored profitability to the industry. But after years of underinvestment in sustaining and growth capital, significant capital investment is needed to create a sustainable industry and secure jobs.
- Platinum demand has weakened due to the growth in recycling of catalytic convertors and lower automotive, jewellery and industrial demand.
- Finally, labour strife has badly affected the sustainability of operations. The 2014 strike was a major contributor to the jobs losses that followed, and further prolonged strike action will exacerbate this trend in a sector that is already under pressure.

Financial crisis in the PGMs sector



Profitability, dividends, salaries and wages



At the end of 2018, more than 65% of PGMs operations, representing 52% of PGMs production, were marginal or loss-making at then prevailing PGMs prices. 2019 has seen an improvement due to the sharp increases in palladium and rhodium prices. However, the industry cannot afford to raise permanently its cost structure through high wage increases, based on the hope of continuing rises in PGMs commodity prices which, history shows, are extremely volatile.

** NPbDT stands for net profit before depreciation and tax and is a measure of a company's overall financial performance*

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if you need more information.