



Mineral

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Resources

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South Africa is known for its abundance of mineral resources. It is estimated to have the world's fifth-largest mining sector in terms of gross domestic product value and its mining companies are key players in the global industry. South Africa holds the world's largest reported reserves of gold, platinum group metals, chrome ore and manganese ore, and the second-largest reserves of zirconium, vanadium and titanium.

The Department of Mineral Resources is tasked with promoting and regulating the country's minerals and mining for transformation, growth and development. Its ultimate goal is to ensure that all South Africans derive sustainable benefit from the country's mineral wealth.

Nearly 100% of South Africa's cement and building aggregates are made locally and 80% of the country's steel is manufactured locally from locally mined iron ore, chrome, manganese and coking coal; using furnaces that are 95% powered by electricity from coal-fired power stations (the 20% imported steel is speciality steel products.)

Mineral wealth

South Africa's mineral wealth is typically found in the following well-known geological formations and settings:

- the Witwatersrand Basin yields some 93% of South Africa's gold output and contains considerable uranium, silver, pyrite and osmiridium resources
- the Bushveld Complex is known for platinum group metals (with associated copper, nickel and cobalt mineralisation), chromium and vanadium-bearing titanium-iron ore formations and industrial minerals, including fluorspar and andalusite
- the Transvaal Supergroup contains enormous deposits of manganese and iron ore
- the Karoo Basin extends through Mpumalanga, KwaZulu-Natal, the Free State as well as Limpopo, hosting considerable bituminous coal and anthracite resources
- the Phalaborwa Igneous Complex hosts extensive deposits of copper, phosphate, titanium, vermiculite, feldspar and zirconium ores

- kimberlite pipes host diamonds that also occur in alluvial, fluvial and marine settings
- heavy mineral sands contain ilmenite, rutile and zircon
- significant deposits of lead-zinc ores associated with copper and silver are found in the Northern Cape near Aggeneys.

Small-scale mining

The Department of Mineral Resources' small-scale mining strategy provides a framework for creating a sustainable sector that is characterised by growth and development, and contributes to rural development, job creation and poverty alleviation through community-linked small, medium and micro-enterprise projects. Small-scale mining projects and government-supported initiatives will also be linked with financial institutions.

Reserves

South Africa has the world's largest resources of platinum group metals (87,7% of world total), manganese (80%), chromium (72,4%), gold (29,7%), alumino-silicates and accounts for over 40% of global production of ferrochromium, platinum group metals and vanadium.

The mining industry contributes 51,7% of world ferrochromium exports and 54% of alumino-silicates, and is one of the world's largest exporters of platinum group metals, gold and vanadium, and a significant exporter of manganese ore. Other important export commodities include ferromanganese and fluorspar.

Gold

According to Statistics South Africa, South Africa's annual gold production in 2012 was close to 220 tonnes, which is a level of gold production not seen since 1922.

South Africa's gold output fell 11,3% in volume terms in January 2012, while mine output dropped 2,5%.

South Africa as recently as two decades ago was the world's largest producer of gold by a huge margin. Only 40

MINERAL RESOURCES

years ago South Africa produced more than 1 000 tonnes of gold a year.

The almost 80% fall in South African gold production has led to it being overtaken by China, Australia and the United States of America. Russia is being seen as next to surpass it.

Coal

The South African coal mining industry is facing several challenges, the most significant being railway capacity constraints hindering the transportation of coal to the Richards Bay Coal Terminal, where it is shipped to the export market.

The terminal transported six-million tons of coal in 2012, which was less than its capacity of 91-million tons, resulting in South Africa losing vast amounts of potential export revenue.

Platinum-group metals

Platinum

South Africa lost at least 750 000 ounces of output in 2012 to strikes, shaft closures and government-ordered safety stoppages. Platinum sales by South African producers had fallen 16% to a 12-year low of 4,1 million ounces.

Palladium

Palladium is produced as a by-product of platinum in South Africa. Strike activity in 2012 contributed the major part of the platinum sector's first deficit in seven years.

Rhodium

Rhodium mine production fell in 2012 because of strife in South Africa. Lower mine production in South Africa because of labour unrest and fabrication demand led to rhodium shifting into a deficit in 2012.

Chromite

South Africa has a mature chrome value chain, the socio-economic impact of which includes approximately 200 000 jobs and approximately R42 billion in GDP a year. However,



the South African ferrochrome industry, the baseline for beneficiation in the chrome value chain, is under threat and its rapidly declining market share is putting jobs at risk. At the same time, exports of unbeneficiated South African chrome ore to China are rising. These exports, which are providing chrome ore feedstock to the South African ferrochrome industry's chief competitor, China, are creating jobs in China and reducing job creation opportunities in South Africa's ferrochrome industry.

Ferrous minerals

South Africa plays a significant role as a source of ferrous minerals. The country is the largest producer of chromium and vanadium ores and a leading supplier of their alloys. It is also a significant producer of iron and manganese ores, and a minor producer of ferrosilicon and silicon metal. Ferrous minerals are produced from some 32 mines and 23 ferroalloys smelters.

Over the last decade, increasing portions of the production of chrome, manganese and vanadium ore have been processed to value-added alloys in line with the drive for beneficiation, whereas the bulk of growth in iron ore production has been exported.

Copper

The copper industry has experienced substantial growth in 2012. Overall, the South African copper industry was doing well, owing to the general development of its downstream sector. The expansion of electricity infrastructure also played a role. The international copper spot price fell to an average of about R62 498 per metric ton in June 2012, from about R66 638 in May 2012, and about R69 564 in March 2012.

Iron ore

South Africa overtook India to become China's third-biggest iron ore supplier in 2012. South Africa provided 40,6 Mt over the year, up 12% compared to 2011.

MINERAL RESOURCES

Manganese

Kudumane Manganese Resources (KMR) launched its new mine just outside Hotazel in May 2012. The first open pit phase of the R1,5 billion manganese mine is tipped to produce 1,5 Mt of ore by the end of 2012. KMR is co-owned 50% each by black owned entities, Northern Cape Manganese Company and Dirleton Minerals and Energy and each in turn is owned 49% by the Hong Kong based Asia Minerals Ltd (AML).

The average grade of 37,5% manganese content and a manganese/iron ratio of 7,5 is considered by the company to be of standard fare.

Diamonds

The diamond industry continued to improve with an estimated 75% of cut diamonds destined for North America, Japan and Europe. The growth in these regions has driven up demand, together with a higher demand in China and India.

Leading producers by value are Botswana (27%), Russia (19%), Canada (18%) and South Africa (12%). South African diamond production decreased by 20% from 8,9 million carats in 2010 to seven million carats in 2011. The value of rough diamonds produced rose significantly by 26% to approximately R14,4 billion.

Industrial minerals

There are some 680 producers of industrial minerals in South Africa, of which almost half are in the sand and aggregate sector.

There are some 153 producers of clays (brick-making and special), 40 limestone and dolomite, 79 dimension stone, 28 salt and 20 silica producers. The bulk consumption of industrial minerals is realised in the domestic market, as most are low-priced commodities and sold in bulk, making their economic exploitation highly dependent on transport costs and distance to markets.