



MINERAL RESOURCES

South Africa is richly endowed with mineral resources. Mining remains an important contributor to the country's economic growth, with an average of 50% of the country's export earnings being derived from mining, while the sector is also a leading contributor to the country's coffers through taxation.

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In 2009, following the appointment of a new administration, the Department of Minerals and Energy was divided into two separate departments: mineral resources and energy.

The Department of Mineral Resources aims to formulate and implement policy to ensure optimum use of the country's mineral resources.

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

- the Witwatersrand Basin yields some 94% of South Africa's gold output and contains considerable resources of uranium, silver, pyrite and osmiridium
- the Bushveld Complex is known for its platinum-group metals (PGMs) (with associated copper, nickel and cobalt mineralisation), chromium and vanadium-bearing titanium iron-ore formations as well as large deposits of industrial minerals, including fluorspar and andalusite
- the Transvaal Supergroup contains enormous resources of manganese and iron ore
- the Karoo Basin extends through Mpumalanga, KwaZulu-Natal, 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.

Policy

The Mineral and Petroleum Resources Development Act (MPRDA), 2002 has opened doors for the substantial and meaningful participation of black people in the exploration and exploitation of mineral resources. The MPRDA, 2002 enshrines equal access to mineral resources, irrespective of race, gender and creed.

In terms of the Act, new-order rights may be registered, transferred and traded, while existing operators are guaranteed security of tenure. Mining rights are valid for a maximum of 30 years and renewable for another 30 years, while prospecting rights are valid for up to five years and renewable for another three.

The former Department of Minerals and Energy had received more than 18 000 applications for prospecting, exploration and mining since 2004, resulting in the development of many new projects.

The introduction of the Mining Charter in South Africa was aimed at transforming the mining industry to redress historical imbalances engendered by apartheid so that the industry is consistent with the changes in South Africa's overall transformation of its social, political and economic landscape.

Small-scale mining

The Department of Mineral Resources recognises the potential of small-scale mining as a tool to reduce poverty and create employment, especially in the rural areas.

Although alluvial diamond mining, as well as inland salt mining also plays a significant role in the small-scale mining sector, the bulk of the demand for small-scale mining ventures is associated with industrial commodities, such as slate, sand, clay, sandstone, dolerite and granites for the production of infrastructural development products such as tiles, clay and cement bricks, aggregates and dimension stone for cladding.

By November 2008, about 38 small-scale mining projects were fully operational.

Reserves

South Africa's reserves of the following commodities are the highest in the world:

- manganese
- chromium
- PGMs
- gold
- vanadium
- alumino-silicates.

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Gold

South Africa's gold production decreased by 7,2% from 272,1 t in 2006 to 252,6 t in 2007, largely as a result of the mining of lower-grade ore, made economic by higher rand gold prices, as well as new safety procedures. Gold's total sales revenue increased by 1,6% to R38 billion, due to a 19,7% rise in the average Rand price for the year, despite lower sales volumes.

Silver

South Africa's silver-mine production in 2007, at 69,8 t, was 19,7% lower than the 2006 figure of 86,9 t. Silver was produced as a by-product of the gold, lead-zinc, copper and PGM mines. Local sales value decreased from R11,0 million to R10,9 million due to the higher price, despite lower sales volumes. The export sales value decreased from R239,6 million to R224,1 million.

Coal

In 2007, South African mines produced 247,7 million tons (Mt) of coal. Of this, 182,8 Mt were sold locally for R19,7 billion, and 67,7 Mt realised R24,4 billion on export markets.

Platinum-group metals

South African PGM production dropped by 1,7%, to 304 t in 2007 from 309,3 t in 2006. Production of platinum and palladium decreased by 5,3% to 160,9 t and by 3% to 83,6 t respectively, while the production of rhodium rose by 7,2% to 21,1 t. PGM export sales revenue increased by 23,1% to R66 billion, due to a higher average rand basket price for 2007, despite lower sales volumes.

The sixth African Mining Partnership (AMP) Meeting was held in February 2009, during which the objective of becoming an official institutionalised affiliate of the African Union (AU) was achieved. The AMP will be merged with the AU Conference of Ministers Responsible for Mineral-Resources Development and will be the only AU ministerial organ responsible for mineral-resources development and management in Africa.



In May 2009, a rare 7,3-carat blue diamond, discovered in South Africa, sold for more than \$8,4 million, the highest price ever for a gem of its kind, according to auctioneers, Sotheby's.



Non-ferrous minerals

In 2007, sales in this sector totalled R19 billion, representing 8,5% of total mineral sales. Local sales made up 40,8% of total non-ferrous mineral sales.

Ferrous minerals

South Africa is an important source of ferrous minerals, being 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 significant supplier of manganese alloys, ferrosilicon and silicon metal.

Industrial minerals

This sector comprises a wide variety of generally non-metallic minerals, with local sales accounting for some 88% of total revenue from industrial minerals in 2007. Local sales increased by R900 million from R6,9 billion to R7,8 billion in 2007.

The greatest contributor to the local sales value was sand and aggregate (43%), with limestone and lime (21,8%) being the second-biggest contributor. Fluorspar (28,7%), andalusite (26,4%), vermiculite (18,3%) and granite (14,9%) were significant contributors to the value of exports.

Processed minerals

Ferro-alloys and aluminum are the greatest revenue earners in this sector, contributing 78% of the R54,76 billion sales in 2007.

In rand terms, processed mineral sales were 21% greater than in 2006. Exports yielded 76% of the total sales of processed minerals.

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Other minerals

This sector is dominated by diamonds, with support from hydrocarbon fuel, uranium oxide and silver.

Mine health and safety

The levels of death, ill health and injuries at mines remain a serious concern for the Department of Mineral Resources. The industry's stakeholders had, in 2008, managed to record a 24% improvement in fatalities due to mine accidents when compared to the previous year, 2007, when 220 miners lost their lives.

The department introduced the Mine Health and Safety Amendment Act, 2008, which aims to enhance the State's ability to address the mine-health and -safety challenge of high injuries, ill health and deaths.

The amendment introduces more strict sanctions for non-compliance with health and safety standards by individuals and corporate bodies as well as prosecution.

The Act establishes the Mine Health and Safety Inspectorate as a juristic person. This amendment is significant as it provides a platform upon which the critical question of capacity to effectively enforce health and safety regulatory requirements can be addressed.

A 507-carat white diamond was discovered at the Cullinan Mine outside Pretoria in September 2009.

The diamond is considered to be among the top-20 largest high-quality rough diamonds ever found worldwide, and ranks alongside other illustrious diamonds recovered at the mine.

