



ZIMBABWE

MINERAL DEVELOPMENT LANDSCAPE



Zimbabwe is a landlocked sub-Saharan country, bordering South Africa, Mozambique, Botswana and Zambia. Important economic activities include mining, industry, agriculture and services.

Mining is a significant foreign currency generator in the context of Zimbabwe's multi-currency system. It contributes around 13% of GDP and 68% of exports. The industry generated US\$ 1,4 billion in foreign currency in 2017 and US\$ 372,5 million for the first quarter of 2018 from the exploitation of coal, gold, platinum, copper, nickel, tin, diamonds, and numerous metallic and non-ferrous ores.

POLITICAL CLIMATE

The Zimbabwe African National Union-Patriotic Front (ZANU-PF), the party formerly led by the now-deposed Robert Mugabe, was declared the victor in the parliamentary and presidential polls in the July 2018 election despite EU Election Observer Mission concerns about uneven playing fields. The chief opposition, the Movement for Democratic Change (MDC), protested on the streets, claiming elections had been rigged and accused the Zimbabwe Electoral Commission (ZEC) of irregularities. Military intervention resulted in the deaths of three protesters. Although the MDC declared a dispute, the Supreme Court ruled in favour of the ZEC and the ZANU-PF.

INVESTMENT CLIMATE

Zimbabwe is still subject to US sanctions, with chronic currency shortages that stem from discontinuation of the Zimbabwean dollar as a result of hyperinflation. A multi-currency regime comprising the US dollar, the South African rand and the Botswana pula was introduced in 2008. The overall investment climate under the new president, Emmerson Mnangagwa, is one of optimism and reforms have been made to mining legislation, in order to attract investment and grow the sector.

Compared with other African countries, Zimbabwe's mining fiscal regime is very competitive from a tax perspective. Although general income tax rate is 25%, holders of a special mining lease are taxed at 15%, with an additional profits tax (ATP) based on the level of operational profitability. On approval of the finance minister, they may also be wholly or partly exempt from non-residents tax, non-residents tax on fees, non-residents tax on remittances and non-residents tax on royalties. Platinum group metals (PGM) miners pay royalties of 10% and large-scale gold-miners pay 5%; small-scale gold-miners, and producers of base metals, industrial metals and coal pay 1%.

Zimbabwean legislation also allows for deductions of all capital expenditure on exploration and development. Other mechanisms to attract investment in Zimbabwe include a duty rebate on goods imported for exploration and on goods imported by holders of a special mining lease, suspension of duty on goods imported for mine development and a deferment of value added tax on capital equipment imported for mining operations for 90 days.



REGULATORY FRAMEWORK OF THE MINING SECTOR

Mineral resources are vested in the President of the Republic of Zimbabwe. The sector is regulated by the Mines and Minerals Act, Chapter 21:05 which assigns responsibilities to mining companies to comply with general regulations and regulations governing explosives, general management and safety, health and sanitation and mineral processing. The act also stipulates licensing requirements for prospecting, exploration and mining.

A licence must be obtained for the right to search and work a particular resource. Licences include an ordinary prospecting license and a special prospecting licence for exploration activities. Title deeds applicable to mine development and mining are a mining claim, mining lease, special grant, and a special mining lease. In terms of surface rights, land open for prospecting is any state and communal land, private land reserved by the Government of Zimbabwe or the British South African Company, and land held by any person under enactment or agreement.

Historically, in the context of mineral resource nationalism and Zimbabwe's beneficiation project, mining companies must comply with the Indigenisation and Economic Empowerment Act. The act has set indigenous ownership targets for the mining industry and made it mandatory for PGM producers to localise smelting operations. A ban on exports of chrome ore was lifted in 2017 and the act was amended with the change in political leadership. The changes are listed in the table below.

REGULATORY FRAMEWORK FOR MINING	
Mineral Commodity	Ownership Stipulations: Indigenisation and Economic Empowerment Act Requirement Act
Diamonds and PGMs	A minimum of 51% ownership by indigenous Zimbabweans
Other Minerals/Metals	Any persons are free to invest in, form, operate and acquire the ownership or control of the business

Other legislation applicable to specific commodities includes the Gold Trade Act for gold miners and the Precious Stones Trade Act for gemstone and diamond producers. In addition, all mining companies have to comply with the Environmental Management Act, the Forestry Act, the Zimbabwe National Water Authority Act, and procurement legislation.

Across the African continent, there is chronic unemployment and a lack of industrialisation. Governments regard procurement legislation as a tool to create local manufacturing by stipulating local content targets for procurement spend in various industries. Zimbabwe is very lenient in this regard and procurement legislation reserves only certain economic sectors for indigenous Zimbabweans. These sectors are passenger transportation, retail and wholesale trade, grain milling, tobacco grading, packaging, and advertising. There are no local content procurement targets in the mining sector.



GEOLOGICAL OVERVIEW

Zimbabwe has diverse mineral wealth across a variety of geological settings. Gold deposits occur as either hydrothermal intrusions or in greenstones. The Great Dyke of Zimbabwe contains the second largest PGM and chrome resource in the world. Zimbabwean geology favours nickel formation which occurs in komatite-hosted nickel sulphide as layered/unlayered mafic intrusions, lateric nickel deposits and as hydrothermal, shear-zone deposits.

Copper is known to occur in the Deweras and Piriwiri geological formations, post-Karoo igneous complexes and as hydrothermal deposits. An estimated 30 billion tons of iron ore occurs as banded ironstone formations as well as iron formations in the Limpopo Mobile Belt, vanadium-magnetite horizons in layered igneous complexes and the Umkondo sediments.

There is an estimated 25 billion tons of coal deposits and coal-bed methane in the Lower Karoo of the mid-Zambezi basin and the Save-Limpopo Basin. Diamonds are found in the more than 200 economic Kimberlites in Zimbabwe and the Paleo-placer deposits at Marange and Chimanimani. Economic Pegmatite Minerals are generally classified into greenstone belts and metamorphic belt pegmatites. The Economic Pegmatites are sources of Tantalum, Niobium, Tin, Lithium, Caesium, Beryllium and Tungsten. The map shows the geographic location of mineral occurrences.

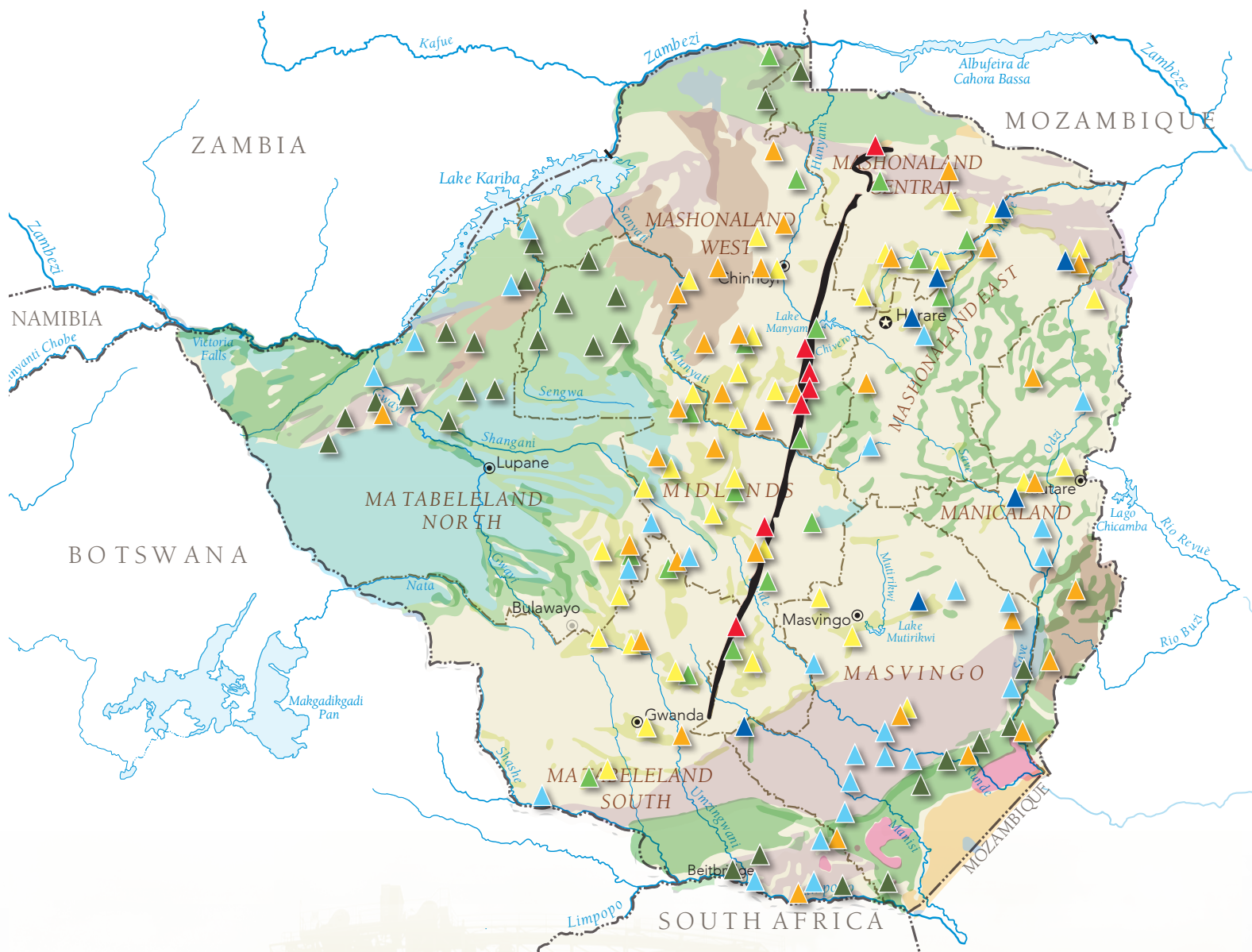
MINERAL DEPOSITS

- ▲ Platinum
- ▲ Gold
- ▲ Nickel
- ▲ Copper
- ▲ Coal and CBM
- ▲ Diamonds
- ▲ Pegmatite

GEOLOGICAL REGIONS

- Unconsolidated sedimentary
- Sedimentary Kalahari Basin
- Sedimentary - Cretaceous
- Igneous - Upper Karoo basalt
- Sedimentary - Mesozoic-Palaeozoic (Upper and Lower Karoo)
- Great Dyke
- Precambrian Metasediments
- Precambrian Basement Complex and Metavolcanics
- Dolorite
- Mobile belt gneisses





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STAGE ONE: PROSPECTING

ONE TO
THREE
YEARS

Prospecting is searching for ores or other valuable minerals above or below the earth's surface.

The **direct method** is typically limited to surface deposits and involves visual examination of an outcrop or loose fragments that have weathered away from an outcrop. This process is augmented by aerial photography, geological maps and structural analysis of the prospect area.

The **indirect method** – the most scientific and valuable tool for mineral discovery – employs geophysical techniques to detect surface and subsurface anomalies by measuring the physical variables – gravitational, seismic, magnetic, electrical, electromagnetic and radiometric – of the earth.

Companies with prospecting rights in 2018:

Laduma Investments, Bilboes Holdings Limited, Exporien Mining Limited (Matabeleland District), Shangani Energy exploration (Bulawayo Mining district), Mukwa Mines Limited (Midlands Mining District), Krumlin Mining (Kadoma Mining District), and Geo-Associates Limited (Gweru Mining District).

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STAGE TWO: EXPLORATION

TWO TO
FIVE
YEARS

Exploration is the process of determining as accurately as possible the size, geometry, and value of a mineral deposit.

It can be difficult to distinguish between prospecting and exploration. Exploration generally involves obtaining representative samples from surface and subsurface locations by chipping outcrops, trenching, tunnelling and drilling. In order to enhance data about the mineral deposit and its valuable mineral/metal content, samples are subjected to chemical, metallurgical, x-ray, spectrographic, or radiometric evaluation. This data is then used to confirm the size, shape and geometry of the mineral deposit.

A geologist or mining engineer uses these results to do pre-feasibility and feasibility studies. Exploration results are used to calculate the tonnage and grade of a mineral deposit. The first phase uses exploration results to calculate the tonnage and grade of a mineral deposit. Estimates of mining costs, the evaluation of the recovery of valuable minerals, determination of environmental costs, and other market and operating factors are used to draw conclusions about the profitability (feasibility) of the mineral deposit.

At the end of the analytical process it is determined whether the property is a mineral deposit or an **ore-body** – an economically viable mineral deposit and the project is either developed, traded to another party or abandoned. Project financing is undertaken after a decision to develop or trade an ore body.

Companies with projects in the pre-feasibility, bankable feasibility and project-financing stage of mineral development.:

China Africa Sunlight energy, Verify Engineering, Tull Coal, Monaf, Sengwa, Apex Petroleum, Markrock Mining for potential coal exploitation, Katele for a rare elements ore body, Shangani Energy Exploration for coal-bedded methane deposits, Kanye Mba for potential uranium exploitation, and Hunters Road for a copper-nickel mineral deposit.

MINERAL DEVELOPMENT IN ZIMBABWE

Mineral development is the process of developing a mineral asset through the five stages in the life of a mine – prospecting, exploration, mine development, production (exploitation) and mine closure (reclamation). In Zimbabwe various companies are engaged in mineral development in lithium, platinum group metals, gold, coal and coal bedded methane, copper, nickel, rare earth elements (REE) and uranium.

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STAGE THREE: MINE DEVELOPMENT

TWO TO
FIVE
YEARS

Mine development is the process of opening up the deposit for exploitation or production.

Access to the ore is gained by stripping the overburden in the case of surface mining or excavating and equipping shafts and developing underground tunnels to gain access to subsurface deposits and enable underground mining.

Other activities before and during mine development are: acquiring water and mining rights, preparing permit applications and undertaking environmental impact assessments. Surface infrastructure that enables mining, such as access to roads, power sources, mineral processing facilities, waste disposal areas, offices and other support facilities are put in place.

Companies developing ore bodies: Sese, Liberation, Zambezi Gas, Discovery Investments, Chilota, GPR, Great Dyke, and Todal Mining.

10
TO 30
YEARS

STAGE FOUR: EXPLOITATION (PRODUCTION)

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Development operations continue during this stage with an emphasis on recovery of minerals. Mining methods fall into two broad categories: underground and surface.

Companies operating within the exploitation (production) phase: Zimplats, Mimosa Platinum, African Chrome Fields, Caledonia Mining Corporation, Vast Resources Plc, Metallon Corporation, Anglo American, African Chrome Fields, Makomo Resources, Prospect Resources, Premier African Minerals, Hwange Colliery, ZIMASCO, ZMDC and many others.

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STAGE FIVE: RECLAMATION OR MINE CLOSURE

The final stage of mining, reclamation or mine closure – the process of closing a mine and recontouring, revegetating and restoring the water and land values – is undertaken when the ore body has been depleted or is close to depletion.

Mining operations undergoing mine closure: Inyati, Mhangura

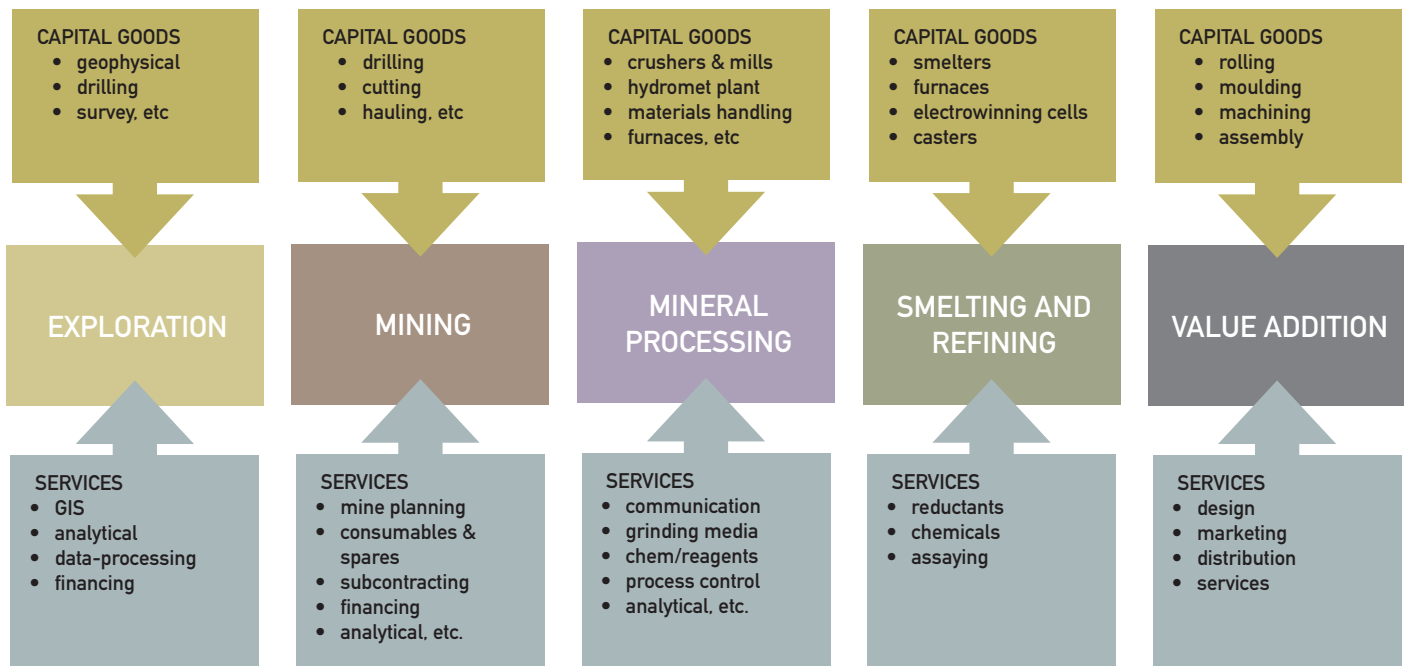
BUSINESS OPPORTUNITIES IN THE MINERAL VALUE CHAIN

There are business opportunities throughout the mineral development value chain broadly classified as upstream and downstream and associated linkages (the side-stream).

Upstream processes: Exploration, mining and mineral processing.

Downstream processes: Smelting and refining and value addition (digesting and fabrication).

Zimbabwe's mining investments are focused on the upstream. The figure below depicts the mineral value chain and the associated side-stream business opportunities for German mining suppliers and service providers in Zimbabwe.



The Competence Centre for Mineral Resources (CCMR), The Southern African-German Chamber of Commerce and Industry (SAGCC) has established commissioned by the German Federal Ministry for Economic Affairs and Energy and aligned with the Resource Strategy of the Federal Republic of Germany.

The focus is on Southern Africa, specifically South Africa, Zambia, Zimbabwe and the Democratic Republic Congo, where mining is an important sector; these countries have the potential to contribute to the security and diversity of the German resource supply and provide a market for German technology, products and services.

The CCMR aims to be a central point of contact for German companies in Southern Africa and serves the following objectives:

- Creating market transparency
- Promoting cooperation and communication
- Providing services
- Marketing/Promoting German technologies

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