



Australian Government
Australian Trade Commission

Mining to India.

Trends and opportunities

The market

India has **high geological prospectivity for a variety of minerals** and currently produces about 87 minerals of which: four are fuel minerals; 11 metallic minerals; 50 non-metallic; and 22 minor minerals of industrial categories. India is largely self-sufficient in 36 of these minerals, which constitute the raw materials of basic industries.

Mineral exploration activities during the last few decades have **established the existence of a wide variety and large deposits of reserves** such as coal, iron ore, bauxite, barytes, dolomite, manganese, titanium, mica, limestone, zinc, zircon, granite and marble. India's east coast gibbsitic bauxite reserves can be ranked among the largest and best in the world.

India is the world's largest producer of mica blocks and mica splitting. With the recent increase in world demand for chromite, India has stepped up its production to reach the third rank among the chromite producers of the world. India ranks **among the world's top 10 producers** of mica, barytes, chromite, bauxite and iron ore, coal-lignite and aluminium.

The [Central Government Ministry of Mines](#) is responsible for the survey and exploration of all minerals (other than natural gas, petroleum and atomic minerals), mining and metallurgy of non-ferrous metals such as aluminium, copper, zinc, lead, gold, nickel, etc, and for the administration of the Mines and Mineral (Regulation and Development) Act, 1957 (MMRDA), in respect of all mines and minerals (other than coal, natural gas, petroleum, and atomic minerals). The Act was amended in 1999 with a view **to accelerate inflow of private capital (both domestic and foreign)** and encourage investment in state-of-the-art technology.

The Indian **non-coal mining sector has fully opened up to private investment**; both domestic and foreign. The recent changes in the Act, and to a variety of rules, have made India **comparable to any liberal regime existing in any major mineral producing country** in the world.

There has also been considerable **liberalisation in Foreign Direct Investment (FDI)** rules which are highlighted below:

- ✍ No difference in caps on foreign equity holdings to be allowed at the stages of exploration and that of mining exist.
- ✍ Except for diamond and precious stones, foreign equity holding up to 100 per cent will be allowed by the automatic route; for both exploration and mining.
- ✍ In the case of diamond and precious stones, foreign equity up to 74 per cent will be allowed on the automatic route both for exploration and mining operations, and only for proposals higher than 74 per cent foreign equity, the same can be approved by the Foreign Investment Promotion Board (FIPB) for clearance on a case to case basis.
- ✍ Foreign equity up to 100 per cent will be allowed on the automatic route for processing of minerals and metallurgy.

For activities not covered by automatic approval (eg. diamond and precious stones), the foreign investor needs to apply to the Foreign Investment Promotion Board (FIPB). The FIPB will consider the application based on parameters such as the:

- ✍ Project size
- ✍ Commitment of external resources for funding project costs
- ✍ Company's mining expertise, experience and financial strength
- ✍ Level of technology sought to be employed in the project
- ✍ Indian partner's equity holding

Government policy is focussed on delivering the introduction of modern technologies for exploration of minerals, improved resources recovery, better operational practices, improved productivity, and conservation of minerals and energy.

Opportunities

There are significant opportunities in India's mining industry, including:

- ✍ Mining technology and services for exploration, software and systems, safety, environment, communications, training
- ✍ Niche mining equipment
- ✍ Technology and equipment for coal washeries
- ✍ Contract mining, especially in coal and iron ore
- ✍ Development and production of surplus commodities such as iron ore and bauxite, mica, potash, a few low-grade ores
- ✍ Mining of small gold deposits
- ✍ Development of gold resources located in the frontal Himalayan belt
- ✍ Mining known deposits of economic and marginal categories such as base metals in Bihar, Jharkhand and Rajasthan
- ✍ Exploration of lateric nickel in Orissa and, molybdenum in Tamilnadu and tin in Haryana

Considerable potential exists for manufacturing units for value added products. As surface exploration techniques have already been extensively used, there exist opportunities for **future discoveries in sub surface deposits**.

Due to the **demand-supply gap for base metals** in particular, there is good scope for exploration and development of these deposits. Opportunities in **project planning and investment in large mines** and supply of equipment, technologies and services will follow.

Potential areas for exploration ventures include gold, diamond, copper, lead-zinc, nickel, cobalt, molybdenum, lithium, tin, tungsten, silver, the platinum group of metals and other rare metals, chromite and manganese ore, and fertiliser minerals.

Exploration

- ✍ **Diamond:** systematic and technologically advanced exploration to locate large workable deposits
- ✍ **Gold:** modern geochemical and geophysical investigation methods are likely to unearth economic deposits in greenstone areas of Central, Eastern and Western India, and in banded iron ore formations, laterite and alluvial placers in various parts of the country

In the state of Andhra Pradesh, 20 reconnaissance permits and four prospecting licences for mineral survey and exploration have recently been granted. This includes some Australian companies.

Mining

- ✍ **Iron ore:** developing iron ore deposits in the Bihar-Orissa sector and the Bellary-Hospet sector of Karnataka; setting up rail links and augmenting existing port facilities
- ✍ **Chromite:** underground mining technology to recover deposits below 65m in depth in chromite mines in the Sukinda Valley in Orissa
- ✍ **Soapstone:** underground mining technology in soapstone mines in the state of Rajasthan where the mineral lies more than 100m deep
- ✍ **Potash:** appropriate mining methods to recover deep-seated potash deposits in Rajasthan
- ✍ **Granite:** joint ventures with existing mine owners to develop large-scale modern quarries; infrastructure development for efficient linkage of quarry to ports

Metallurgy/mineral processing

- ✍ Setting up **iron and steel, alumina/aluminium**, and **nickel** plants.
- ✍ **Titanium:** establishing facilities for titanium sponge and metal production as well as for machining the metal
- ✍ **Lead/zinc:** techno-economic consultancy to Hindustan Zinc Ltd to recover values from the tailings of lead-zinc concentrator
- ✍ **Kaolin:** modern processing technology to recover high-quality products, eg. for utilisation in paper and other industries, calcined and surface-coated varieties, and other value-added products
- ✍ **Steatite/talc:** processing of steatite to produce a purer, whiter and finer micronised product and value-added materials by surface coating with chemicals
- ✍ **Wollastonite:** modern technology for production process; manufacture of value-added items through micronisation and surface coating

Competitive environment

The mineral sector accounts for 11 per cent of the country's industrial production. Presently, **most mining is done by public sector undertakings** (government enterprises), which contribute about 85 per cent of the total value of mineral production. Also, **small mines characterise the Indian mineral sector**; where 95 per cent of operating mines produce about 50 per cent of the value of the minerals.

However, in accordance with policy, **the government is withdrawing from non-strategic production** and undertaking a phased privatisation of public sector production.

Demand for minerals is growing fast, due to increasing levels of consumption, infrastructure development, and growth of the economy. The **emergence of a vibrant middle class has created demand for base metal products**, in addition to the traditional demand for gold and silver. Therefore, search and evaluation of new deposits through **systematic and intensive exploration is necessary** to boost the production of minerals and reserves.

India is looking for state-of-the-art technological and management expertise, which can improve productivity through good planning and design of mines, reduction of costs, and optimisation of smelting and refining operations and by-product recoveries.

India offers an unmatched opportunity to multinational corporations to set up production facilities based on lower wage costs to tap its large domestic market and export prospects.

More information

For further information please contact Austrade on 13 28 78 or email info@austrade.gov.au

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