# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive Summary</td>
<td>3</td>
</tr>
<tr>
<td>Advantage India</td>
<td>4</td>
</tr>
<tr>
<td>Market Overview</td>
<td>6</td>
</tr>
<tr>
<td>Recent Trends and Strategies</td>
<td>20</td>
</tr>
<tr>
<td>Growth Drivers</td>
<td>23</td>
</tr>
<tr>
<td>Opportunities</td>
<td>33</td>
</tr>
<tr>
<td>Key Industry Contacts</td>
<td>37</td>
</tr>
<tr>
<td>Appendix</td>
<td>39</td>
</tr>
</tbody>
</table>
Executive summary

1 Third-largest coal producer
- India is the third-largest producer of coal. Coal production in the country stood at 729.10 million tonnes (MT) in FY20 and reached 425.51 MT in FY21 (as of December 2020).
- India is expected to overtake Australia and the US in early 2020s to take the position of the world’s second-largest coal producer.

2 Fourth-largest iron ore producer
India ranks fourth globally in terms of iron ore production. Production of iron ore in FY20 stood at 205.74 MT.

3 Second-largest steel producer
India became the world’s second-largest crude steel producer in 2019 with production at 111.2 MT.

4 Aluminium production
Combined Aluminium production (primary and secondary) in India stood at 3.6 MT in FY20.

5 Long duration mining lease
India has a vast mineral potential with mining leases granted for a longer duration of 50 years.
**Advantage India**

**1 COMPETITIVE ADVANTAGE**
- India holds a fair advantage in cost of production and conversion costs in steel and alumina.
- India has 1,356 active mines and produces 95 minerals – 4 fuel-related minerals, 10 metallic minerals, 23 non-metallic minerals, 3 atomic minerals and 55 minor minerals (including building and other minerals).

**2 DEMAND GROWTH**
- Rise in infrastructure development is driving growth.
- Power and cement industries also aiding growth in the metals and mining sector.
- Demand for iron and steel is set to continue, given the strong growth expectations for the residential and commercial building industry.

**3 ATTRACTIVE OPPORTUNITIES**
- There is significant scope for new mining capacities in iron ore, bauxite and coal.
- The Ministry of Steel aims to increase the steel production capacity to 300 MT by 2030-31 from 134.6 MT in 2017-2018, indicating new opportunities in the sector.
- The Geological Survey of India has nearly doubled its exploration activity by implementing about 400 mineral exploration projects on various mineral commodities. In January 2021, GSI launched the National Geoscience Data Repository (NGDR) to collate the country's geoscience data to derive high-quality baseline data in order to boost mineral exploration.

**4 POLICY SUPPORT**
- 100% FDI allowed in the mining sector and exploration of metal and non-metal ores under the automatic route.
- The National Mineral Policy 2019 was launched and Mineral Laws (Amendment) Bill, 2020, is expected to propel Indian coal & mining sector to promote ‘Ease of Doing Business’.
Market Overview
Evolution of the Indian mining sector

- Mining sector received a boost post independence under the impact of successive 5 Year Plans.
- The exploration of minerals was intensified, and the Geological Survey of India was strengthened.
- Indian Bureau of Mines was established to look after the scientific development of mineral resources.
- Mineral Exploration Corporation established to conduct exploration with focus on coal, iron ore, limestone, dolomite and manganese ore.
- Indian mining sector was opened to Foreign Direct Investment in 1993 after the announcement of the New Mineral Policy.
- Mineral Exploration Corporation established to conduct exploration with focus on coal, iron ore, limestone, dolomite and manganese ore.
- Indian mining sector was opened up to Foreign Direct Investment in 1993 after the announcement of the New Mineral Policy.
- Ministry of Mines notified revised royalty rates and dead rent in September 2014 and the revised rates came into effect on September 1, 2014.
- Total crude steel production in India reached 111.2 million tonnes in 2019 making the country the second-largest crude steel producer in the world.
- In May 2020, Indian Government announced major reforms in mining of minerals through seamless composite exploration-cum-production regime. Also, >500 blocks of minerals will be auctioned in a composite exploration-cum-mining-cum-production regime.
## Segments of metals and mining industry

<table>
<thead>
<tr>
<th>Segment</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron and steel</td>
<td>Iron and steel segment offers a product mix which includes hot rolled parallel flange beams and columns rails, plates, coils, wire rods and continuously cast products such as billets, blooms, beam, blank, rounds and slab and metallics and ferro alloy.</td>
</tr>
<tr>
<td>Coal</td>
<td>Coal market consists of primary coal (anthracite, bituminous and lignite).</td>
</tr>
<tr>
<td>Aluminium</td>
<td>Aluminium segment includes primary aluminium, aluminium extrusions, aluminium rolled products, alumina chemicals.</td>
</tr>
<tr>
<td>Bauxite</td>
<td>BauxBPM are sub-divided into two basic types based on the processing methods - Tropical bauxite and European bauxite.</td>
</tr>
<tr>
<td>Base metals</td>
<td>Base metal market consists of lead, zinc, copper, nickel and tin.</td>
</tr>
<tr>
<td>Precious metals and minerals</td>
<td>Precious metals market includes gold, silver, platinum, palladium, rhodium and diamond.</td>
</tr>
</tbody>
</table>
India metals and mining sector has witnessed strong growth over the past few years. GVA from mining and quarrying reached US$ 55.77 billion in FY20.

Mineral production also surged, registering a CAGR of 5.52% between FY16 and FY20E and reached US$ 17.53 billion in FY20E.

The number of operative mines (excluding atomic, fuel and minor minerals) in India reached 1,356 in FY20 (until December 2019).

Exports of mica, coal & other ores and minerals including processed minerals stood at US$ 2,627.14 million in FY21 (from April 2020 to December 2020).

Notes: CAGR - Compound Annual Growth Rate, ^Excluding atomic and fuel minerals, GVA - Gross Value Added, P- Provisional, E- Estimate
Source: Ministry of Statistics and Programme Implementation, Ministry of Mines
Production of as many as 95 minerals is undertaken in India, including 4 fuel minerals, 10 metallic minerals, 23 non-metallic minerals, 3 atomic minerals and 55 minor minerals (including building and other materials).

Odisha was the leading producer of minerals with production worth US$ 4.38 billion in FY20E, followed by Rajasthan, Karnataka, Andhra Pradesh and Chhattisgarh with production worth US$ 2.98 billion, US$ 1.57 billion, US$ 1.40 billion and US$ 1.40 billion, respectively.

Production of metallic minerals in the country increased from US$ 5.14 billion in FY16 to US$ 9.29 billion in FY20E. During the same period, production of non-metallic minerals increased from US$ 1.16 billion to US$ 1.34 billion.

Notes: MMT- Million Metric Tonnes, E-Estimate, ^ - excluding fuel and atomic minerals, P- Provisional, E- Estimate
Source: Ministry of Mines
Iron ore production

- Iron ore is a key input for production of steel and primary iron.
- Majority (over 85%) of iron ore reserves are of medium- to high-grade and are directly used in blast furnace and direct reduced iron (DRI) plants in the form of sized lumps or sinters or pellets.
- India was estimated to be the fourth-largest producer of iron ore in 2019.
- Iron ore production in the country increased from 158.11 million tonnes in FY16 to 206.45 million tonnes in FY19 and is estimated to reach 222.33 million tonnes by FY20.
- In December 2020, the long pending issue of Donimalai iron ore mine (ML No.2396) of National Mineral Development Corporation Ltd. (NMDC) which was suspended since November 2018, has finally concluded through the endeavor of the Government.
  - Donimalai iron ore mine, which has total concession area of 597.54 hectare and estimated resource of 149 million tonnes shall increase the annual Iron ore production in the country by 7 MTPA. The operationalization of the mine would contribute a total of ~Rs. 1,100 crore to the State exchequer per annum.

Notes: CAGR- Compounded Annual Growth Rate, P - Provisional, E - Estimate
Source: Business Standard, Ministry of Mines (Annual Report)
Rising steel demand driving growth

- With the Indian economy expected to grow more than 7% in the years to come, sectors such as infrastructure and automobiles will receive a renewed thrust, which would in turn generate demand for steel in the country.

- India’s crude steel production crossed 100 million tonnes for the first time in FY18. Crude steel production in the country decreased 2.2% y-o-y to 108.5 million tonnes in FY20.

- Crude steel demand/production is forecast to reach 255 million tonnes by FY31.

- India’s per capita consumption of steel increased at a CAGR of 4.12% from ~64 kgs in FY16 to ~74 kgs in FY19. The National Steel Policy aims to boost per capita steel consumption to 160 kgs by 2030-31. The government has a fixed objective of increasing rural consumption of steel from the current 19.6 kgs per capita to 38 kgs per capita by 2030-31.

- On October 1, 2020, Directorate General of Foreign Trade (DGFT) announced that steel manufacturers in the country can avail duty drawback benefits on steel supplied through their service centres, distributors, dealers and stock yards.

Notes: CAGR - Compound Annual Growth Rate, MT - Million Tonnes, *- Until December 2020
Source: World Steel Association, News Article
Rising domestic demand puts pressure on supply of iron and steel… (1/2)

- In FY20, India’s iron and steel export was valued at US$ 9.28 billion. During FY16-FY20, India’s export of iron and steel grew at a CAGR of 14%.
- Government of India has imposed 30% export duty on all iron ore forms (except the low-grade iron ore) and 5% export duty is levied on iron ore pellets.
- In June 2020, iron and steel recorded more than 100% growth in exports shipments of US$ 1.32 billion against US$ 653.52 million in June 2019.
- Iron ore exports stood at US$ 3,184.86 million in FY21 (between April 2020 and December 2020).

**India’s export of iron and steel (US$ billion)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Export (US$ billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY16</td>
<td>5.49</td>
</tr>
<tr>
<td>FY17</td>
<td>8.68</td>
</tr>
<tr>
<td>FY18</td>
<td>11.24</td>
</tr>
<tr>
<td>FY19</td>
<td>9.74</td>
</tr>
<tr>
<td>FY20</td>
<td>9.28</td>
</tr>
</tbody>
</table>

**Notes:** CAGR - Compound Annual Growth Rate, ^CAGR is up to FY20

**Source:** Ministry of Commerce, DGCIS - Directorate General of Commercial Intelligence and Statistics, Engineering Exports Promotion Council
India has turned into a net importer of iron and steel due to strong growth in the manufacturing sector and rising infrastructure projects.

India’s transition into a net importer of steel despite the strong growth in domestic steel production shows the demand potential of the sector.

The impact of strong growth in domestic steel production has been most felt in the iron ore sector. With steel firms’ ever rising demand for the raw material, India’s import of iron ore has been growing steadily.

India’s iron and steel import decreased at a CAGR of 1.10% to reach US$ 10.73 billion in FY20.

Iron and steel imports stood at US$ 8,048.94 million in FY21 (from April 2020 to December 2020).

In November 2020, MS Agarwal Foundries (MSAF) announced plan to set up a steel plant in Andhra Pradesh. The company signed an MoU with the Government of Andhra Pradesh for commissioning a new ultron modern steel plant at Mantralayam in Kurnool district. The plant will require an investment of Rs. 1,200 crore (US$ 162.40 million) and be completed by the second half of 2021.

In March 2020, IMR Metallurgical Resources AG, a Switzerland-based company, has proposed to set up a major steel plant in YSR Kadapa district, Andhra Pradesh, with an annual production capacity of 10 million tonnes by investing more than Rs. 12,000 crore (US$ 1,630.89 million)

Notes: CAGR - Compound Annual Growth Rate, ^CAGR is up to FY20
Source: Ministry of Commerce, DGCIS - Directorate General of Commercial Intelligence and Statistics
Coal production growing at a steady pace

- In the coming years, coal production in the country is likely to receive a boost as the Government plans to replace country’s captive mining policy in coal and iron ore with an open bidding one.
- India’s coal production increased at a 2.88% CAGR between FY16 and FY20 to reach 730 million tonnes. However, for FY21, production is likely to be hampered due to lower mineral offtake on account of the COVID-19 pandemic, leading to low demand from end-use sectors and non-availability of labour.
- In September 2020, Coal India Ltd. (CIL) announced plans to invest over Rs. 1.22 lakh crore (US$ 16.5 billion) on projects related to coal evacuation, exploration and clean coal technologies by 2023-24 to achieve 1 billion tonnes of the fuel output target.
- In November 2020, the Union Coal Minister, Mr. Pralhad Joshi, stated that 19 mines have been successfully auctioned; this is the highest number of successfully auctioned mines in any tranche of coal auctions. The country’s first-ever commercial mining auction will garner a total revenue of Rs. 6,656 crore (US$ 900.59 million) annually from mines spread over the following five states—Madhya Pradesh, Chhattisgarh, Odisha, Jharkhand and Maharashtra.
- In January 2021, the Ministry of Coal launched ‘Single Window Clearance Portal’, a unified platform that facilitates the grant of clearances and approvals required for starting a coal mine in India.

**Notes:** CAGR - Compound Annual Growth Rate, ^CAGR is up to FY20, *- Until December 2020.
**Source:** Ministry of Coal
India’s role in global Aluminium production

- India was the fourth-largest producer of aluminium in the world with a share of around 5.33% of the global aluminium output.
- The principal user segment in India for aluminium continues to be electrical and electronics sector followed by automotive and transportation, building, construction, packaging, consumer durables, industrial and defence.
- According to the Ministry of Mines, India had the seventh-largest bauxite reserves of ~2,908.85 million tonnes in FY18.
- Aluminum production increased to 3.65 million kgs in FY19.
- Over the course of the last four years, India’s aluminium production capacity has increased to 4.1 MMTPA, driven by investment worth Rs. 1.2 lakh crore (US$ 18.54 billion).

![India’s share in global aluminium production (2019E)](image)

- China: 55.94%
- Russia: 14.30%
- India: 5.59%
- United Arab Emirates: 5.75%
- Australia: 4.51%
- Norway: 4.20%
- Bahrain: 2.49%
- Iceland: 2.18%
- United States: 1.71%
- Other countries: 1.32%

**Note:** ICRA - Information Credit Rating Agency Ltd.

**Source:** World Bureau of Metal Statistics (WBMS), Aluminium Association of India, Economist Intelligence Unit (EIU), ICRA Management Consulting Services Ltd (IMaCS)
Growing domestic demand to support Aluminium production

- Demand for aluminium is expected to pick up as the scenario improves for user industries like power, infrastructure and transportation.
- Production of aluminium stood at 3.65 million tonnes in FY20.
- Aluminium export from the country reached 1.50 million tonnes in FY19 and 0.52 million tonnes in FY20. In value terms, aluminium export from the country stood at US$ 20.18 million in FY20.
- The National Aluminium Company (NALCO), a central government-owned entity, is set to join the club of million tonne producers in the metal segment by 2020. NALCO has readied about US$ 3.72 billion investments for increasing its alumina, aluminium and power production capacities.
  - In April 2020, the Government of Odisha granted the mining lease of Utkal-D coal block in Angul district to NALCO. The initial capacity of Utkal-D coal block is 2 million tonnes per year with a total mineable reserve of 101.68 million tonnes.
- In January 2021, the National Aluminium Company (NALCO) announced that it would invest ~Rs. 30,000 crore (US$ 4,102.51 million) by 2027-28 in capacity expansion and diversification.

**Note:** CAGR - Compound Annual Growth Rate, F- Forecast, ^CAGR is till FY20, ^- Until December 2020

**Source:** CARE Ratings, Ministry of Mines, DGCIS, News Articles
Stronger economic growth to support aluminium consumption

- Aluminum consumption in India is 2.5 kgs per capita.
- Aluminum consumption reached 3.40 million tonnes in FY19.
- Aluminum consumption is expected to reach 7.2 million tonnes in the next five years.

Note: CAGR - Compound Annual Growth Rate, F - Forecast, *CAGR is till FY19
Source: Care Ratings, Indian Bureau of Mines
### Major metals and mining players in the country

<table>
<thead>
<tr>
<th>Segment</th>
<th>Major player</th>
<th>Market share</th>
<th>Other players</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron and Steel</td>
<td>NA</td>
<td>Sesa Goa, SAIL, Orissa Minerals</td>
<td></td>
</tr>
<tr>
<td>Coal</td>
<td>80%</td>
<td>Singareni Collieries Company, Reliance Natural Resources</td>
<td></td>
</tr>
<tr>
<td>Aluminium</td>
<td>60%</td>
<td>National Aluminium Company (NALCO), Bharat Aluminium Company (BALCO)</td>
<td></td>
</tr>
</tbody>
</table>
Recent Trends and Strategies
Notable trends in the metals and mining sector… (1/3)

1. Captive mining for coal
   - In captive mining for coal, companies are permitted to set up coal washeries and for specified end uses, including the setting up of power plants, fertilizers and steel units.

2. Longer duration lease
   - India has seen a significant growth in minerals with the Government granting lease for longer duration, between 20-30 years.

3. Focus on domestic market
   - The demand for metal and metal products is rising in the domestic market with India being a net importer in the metals segment.

4. Overseas ventures
   - In search of greater mineral opportunities, an increasing number of Indian mining companies are venturing overseas in a bid to secure stable, long-term supplies of minerals especially in the areas of coal and iron ore.
   - Adani Enterprises’ Carmichael coal plant expects to make its first shipment by August 2021.
Outlook of metal and mining
- The index of mineral production was 132.7 in March 2020.
- Mining group under Index of Industrial Production (IIP) stood at 109.7 for FY20, showing a growth of 1.7% y-o-y

Build strategic alliances
- Alliance with global and domestic players help companies to improve their operational performance through technological improvement and cost optimisation.
- In December 2020, the National Mineral Development Corporation Ltd. signed an MoU with Mineral Exploration Corporation Ltd. to collaborate and conduct exploration in mutually agreed projects for iron ore, gold, coal, diamond and other minerals in various states.

Focus on technology
- Players in the industry are focusing on optimising technology to increase process efficiency.
- Coal India Ltd. has ambitious plans of using GPS/GPRS based vehicle tracking system to enhance productivity. It also has services such as E-auction and E-procurement of goods and services.
- Mining Industry in India has been dominated by surface mining. However, due to various challenges presented by surface mining, the move towards underground mining is considered inevitable. This presents an opportunity for players to enter the market with underground mining technology.
- According to Federation of Indian Mineral Industries (FIMI), digital mining will help run the mining business more effectively and sustainably across the entire value chain.
- In January 2021, the Ministry of Steel, Government of India, signed a Memorandum of Cooperation (MoC) with the Ministry of Economy, Trade and Industry, Government of Japan, to boost the steel sector through joint activities under the framework of India–Japan Steel Dialogue.
Cost optimisation

- Players in the industry are trying to minimise cost to gain competitive advantage.
  - For example, SAIL is trying to reduce cost by entering into an MoU for coal bed methane and propane gas to reduce cost of energy.
  - Optimising input resources, operating efficiency for handling assets available with the company, reducing overhead costs and stabilising newly formed operation units.
Growth Drivers
Strong fundamentals and policy support aiding growth

Higher demand for metals
- Growing infrastructure investment
- Sustained growth in India’s automotive sector
- Aluminum and coal benefiting from rising power production
- Rising production of cement increasing demand for coal

Policy support
- Relaxed FDI norms
- Allowing private ownership
- Reduced customs duty
- Tax and other incentives

Innovation
- Expanding research and development and distribution facilities in India
- Use of modern technology
- Providing support to global projects from India

Increasing investment
- Increasing FDI
- Increasing private participation

Notes: M&A - Mergers and Acquisitions, FDI - Foreign Direct Investment
Source: TechSci Research
A fast-expanding construction sector has aided growth... (1/2)

- India is witnessing a sustained growth in the infrastructure build up. The construction industry has witnessed a strong growth wave powered by large spends on housing, road, ports, water supply, rail transport and airport development.

- In March 2020, NHAI accomplished the highest ever highway construction of 3,979 km of national highways in FY20.

- Revenue growth has been strong over the years. Indian Railways’ revenue reached US$ 24.78 billion in FY20.

- Cargo traffic handled stood at 707.4 million tonnes (MT) in FY20.

- Electricity production reached 1,252.61 BU in India in FY20.

- It has been estimated that India is going to require US$ 4.5 trillion of investment by 2040 for infrastructure development.

- The Government of India has allocated Rs. 111 lakh crore (US$ 1.4 trillion) under the National Infrastructure Pipeline (NIP) for FY2019-25. Sectors such as energy (24%), roads (18%), urban (17%) and railways (12%) account for ~71% of the projected infrastructure investments in the country.

**Note:** F - Forecasts (by BMI), CAGR - Compounded Annual Growth Rate, BU- Billion Unit

**Source:** Business Monitor International’s (BMI) Report on infrastructure industry in India
Gross Value Added (GVA) in the construction sector grew almost 1.3% y-o-y to Rs. 10.33 trillion (US$ 146.58 billion) in FY20PE.

Iron and steel being a core component of the real estate sector, demand for these metals is set to continue given strong growth expectations from residential and commercial building industry.

In November 2020, Odisha-based Shiva Cement Ltd., a subsidiary of JSW Cement Ltd., announced plans to invest ~Rs. 1,500 crore (US$ 202.98 million) in a new 1.36 million tonne per annum (MTPA) clinker unit project in the state’s Sundergarh district.

Note: PE - Provisional Estimated, YoY - Year on Year
Source: Business Monitor International’s (BMI) Report on infrastructure industry in India
Power fuelling demand

- The power sector accounts for a large share of the consumption of coal in the country.
- Installed capacity have increased steadily over the years, posting a CAGR of 7.19% in FY16-FY20.
- With electricity production of 1,252.61 BU in FY20, the country witnessed growth of around 0.26% over the previous fiscal year.
- Energy generation from conventional sources stood at 97.70 billion units (BU) in March 2020. Between 2017 and 2022, conventional sources are expected to witness capacity addition of 58.38 GW.
- Around 81% of the total power generation was done through thermal power plants, while hydro and nuclear plants contributed 15% and 4% respectively in FY20.

Note: GW - Gigawatt, ^ - Tentative, @ CAGR till FY20, ^ - Until December 2020
Source: Ministry of Power, Central Electricity Authority (CEA),
Favourable policies are supporting the sector growth

1 Mineral Laws (Amendment) Bill, 2020
- Aims to open a new era in Indian coal and mining sector, specially to promote ‘ease of doing business’.
- It will boost coal production and will reduce dependency on import.

2 National Mineral Policy 2019
- To bring more transparency, better regulation and enforcement, balanced socio-economic growth along with sustainable mining practices.
- Proposed to grant ‘industry’ status to mining with an objective of boosting financing of private sector.
- Supported M&A of mining players.

3 Relaxed FDI norms
- FDI up to 100% is permitted under the automatic route to explore and exploit all non-fuel and non-atomic minerals and process all metals as well as for metallurgy.
- FDI cap in the mining and exploration of metal and non-metal ores have been increased to 100% under the automatic route.
- In March 2018, the Government allowed 100% FDI in coal mining.

4 Allowing private ownership
- Government of India is encouraging private ownership for steel operations and other high priority industry.

5 Reduced custom duty
- Government of India significantly reduced the duty payable on finished steel products and has streamlined the associated approval process.

6 Skill Development Plan for the Mining Sector (2016-22)
- Focus on upgradation of skill sets to foster adaptation of new state of art technology.
- Increase the capacity and quality of training infrastructure and trainers to address human resource needs.

7 Bank Loans
- State Bank of India (SBI) is planning to introduce a policy to lend loans to the coal miners before the landmark auction.
- As per the planned policy, SBI is open to provide some of the financing required to put 41 coal mines with a combined annual production capacity of 225 million tonnes to private companies.
1 Relaxation on duties

- The Basic Customs Duty (BCD) on
  - ships imported for breaking up is being reduced from 5% to 2.5%.
  - coal-tar pitch is being reduced from 10% to 5%.
  - battery waste and battery scrap is being reduced from 10% to 5%.
  - steel grade limestone and steel grade dolomite is being reduced from 5% to 2.5%.

2 Process of revenue collection and usage

- Central Government to establish National Mineral Fund, while individual state governments to establish State Mineral Fund(s).
- District Mineral Foundation will be set up by state Government and will work for the interest and benefit of persons or families affected by mining related operation in the district - it will be managed by a governing council.
- The mining tax collected will be spent within the district.

3 General restrictions and concessions

- Reservation of areas for PSUs removed.
- State Government to set special courts to expedite prosecution in illegal mining.
- Statutory Coordination cum Empowered Committee at central and state level to decide upon stringent penalties for offences.
1 Auction modalities

- Auctions are conducted electronically, and bidding is done over two rounds.
- The first round requires bidders to furnish technical details and initial offer must be equal to or higher than the set ‘Reserve Price’.
- The highest bid in the first-round acts as the ‘reserve price’ for the second-round in which only technically qualified bidders participate.

2 Net worth requirements

- For annual average production up to
  - Rs 2 crore (US$ 311,090) - net worth required: Rs. 50 lakh (US$ 77,773).
  - Rs 20 crore (US$ 3.11 million) - net worth required: Rs. 10 crore (US$ 1.56 million).
- Small bidders can include value of unencumbered immovable property in net worth.

3 Mining lease

- Mining auctions conducted under the ambit of state Government.
- Types of lease granted:
  - Mining lease - where evidence of mineral contents is established.
  - Composite lease - combination of a prospecting licence and a mining lease.
Foreign investments flowing in India

- FDI up to 100% is allowed in exploration, mining, minerals processing metallurgy and exploration of metal and non-metal ores under the automatic route for all non-fuel and non-atomic minerals including diamonds and precious stones.
- From April 2000 to September 2020, FDI inflow in the metallurgical industry stood at US$ 14,244.26 million, followed by mining (US$ 2,789.44 million), diamond and gold ornaments (US$ 1,183.07 million) and coal production (US$ 27.73 million) industries.

Source: Department of Industrial Policy and Promotion
## Merger and acquisitions

### M&A activities

<table>
<thead>
<tr>
<th>Acquirer</th>
<th>Target</th>
<th>Acquisition price (US$ billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>JSW Steel Ltd.</td>
<td>Bhushan Power and Steel (BPSL)</td>
<td>2.69</td>
</tr>
<tr>
<td>ArcelorMittal</td>
<td>Essar Steel</td>
<td>6.01</td>
</tr>
<tr>
<td>Tata Steel</td>
<td>Bhushan Steel</td>
<td>7.04</td>
</tr>
<tr>
<td>Mr. Anil Agarwal</td>
<td>Anglo American (Partial stake purchased)</td>
<td>2.0</td>
</tr>
<tr>
<td>JSW Energy Ltd.</td>
<td>Jindal Steel and Power Ltd.</td>
<td>0.97</td>
</tr>
<tr>
<td>SAIL</td>
<td>Reiterated its interest to acquire majority stake in Neelachal Ispat Nigam Ltd (NINL) in Jajpur, Odisha</td>
<td>-</td>
</tr>
<tr>
<td>Joint Venture between Vedanta Resources and Sesa Goa</td>
<td>Merger of Sterlite Industries (Indian subsidiary of Vedanta Resources ) and Sesa Goa</td>
<td>3.90</td>
</tr>
<tr>
<td>GVK Power and Infrastructure Ltd.</td>
<td>Hancock Coal-Queensland Coal</td>
<td>1.26</td>
</tr>
<tr>
<td>Sesa Goa Ltd.</td>
<td>Cairn India Ltd.</td>
<td>1.18</td>
</tr>
<tr>
<td>JFE Steel Corp.</td>
<td>JSW Steel Ltd.</td>
<td>1.03</td>
</tr>
<tr>
<td>Lanco Resources Australia</td>
<td>Griffin Coal Mining Co Pty Ltd.</td>
<td>0.72</td>
</tr>
<tr>
<td>Vedanta</td>
<td>Cairn India</td>
<td>1.56</td>
</tr>
<tr>
<td>Oil and Natural Gas Corporation (ONGC)</td>
<td>Gujarat State Petroleum - KG Basin</td>
<td>1.20</td>
</tr>
<tr>
<td>Tata Steel Ltd.</td>
<td>Brahmani River Pellets Ltd.</td>
<td>0.13</td>
</tr>
</tbody>
</table>

*Source: Thomson Banker, Deal Tracker*
Opportunities

1. Untapped market with strong growth potential
   - India’s per capita steel consumption was 65.2 kgs in 2019 compared with the global average of 214.5 kgs.
   - Between US$ 25 billion to US$ 33 billion is expected to be invested in the steel sector over the next 6-7 years.
   - Under the “Atmanirbhar Bharat” vision, Government plans to move around 500 mineral blocks through an open and transparent auction by repealing Section 10A2 (b) of the MMDR Act.

2. Scope for new mining capacities in iron ore, bauxite and coal
   - India has the world’s seventh-largest reserve base of bauxite and fourth-largest base of iron ore, which accounts for about 7% and 11% of the total world production, respectively.
   - Moreover, India had the world’s fifth-largest coal reserve at 319.02 billion tonnes in FY19.

Source: WSA, Ernst and Young
Opportunities

3

Rapid growth of user-industries to drive demand for metals and minerals

- Strong long-term demand from the steel industry is expected to further boost the iron ore industry.
- Increasing power production is likely to catapult demand for coal.
- Booming construction, automobiles and packaging industries are expected to lend substantial support to the metals and mining sector.

4

Expansion of product line by existing players

- The iron and steel segment offers a product mix which include hot rolled parallel flange beams and columns rails, plates, coils, wire rods, and continuously cast products such as billets, blooms, beams, blanks, rounds and slabs as well as metallics and ferro alloy
- Looking at the expected growth in the sector, existing manufacturers have a huge opportunity to expand their product line in new segments.

Source: WSA, Ernst and Young
Opportunities in the iron ore sector

1

Exploration in proposed exploration zones

- Odisha: Bonai (Keonjhar belt) and Tomka (Daitari and Umerkoke belts).
- Jharkhand: All major high-grade ore deposits; contain low-grade lateritic ores.
- Karnataka: Bagalkot, Tumkur, and Chitradurga districts.
- Maharashtra: Sindhudurg, Gadchiroli and Gondia.
- Chhattisgarh: All 14 deposits of Bailadila range, Dantewada district.
- Andhra Pradesh: Kadapa, Kurnool, Karimnagar, Adilabad, and Guntur districts.

2

Scope for new mining capacities in iron ore, bauxite and coal

- Pelletisation capacity is about 59.30 metric tonnes per annum (MTPA)*.
- Sintering capacity is about 70.05 MTPA*.
- Scope for domestic and foreign firms to explore PPP opportunities.
  - Joint Venture or technical participation with midcap players with lease/license and seeking capital, expertise and technology.
  - Through the auction route, players can get access to coal mines and iron ore reserves.

Notes: MT - Metric Tonnes, MTPA - Metric Tonnes Per Annum, *: As per Indian Minerals Yearbook 2017
Source: PwC, Ministry of Mines
Key Industry Contacts
# Key industry contacts

<table>
<thead>
<tr>
<th>Agency</th>
<th>Contact Information</th>
</tr>
</thead>
</table>
| SAIL - Steel Authority of India Ltd. | Ispat Bhawan, Lodi Road, New Delhi - 110 003  
Phone: 91- 11 24300100, 24367481-86  
Fax: 91-11 24367015  
E-mail: chairman.sail@sail.in  
Website: https://www.sail.co.in/ |
| Federation of Indian Mineral Industries | FIMI House, B-311, Okhla Industrial Area  
Phase-I, New Delhi-110 020  
Phone: 91-11- 26814596  
Fax: 91-11- 26814593  
E-mail: fimi@fedmin.com  
Website: http://www.fedmin.com/ |
| Indian Stainless Steel Development Association | L -22/4, DLF Phase-II  
Gurgaon, Haryana-122 002  
Phone: 91-124 - 4375501  
Fax: 91-124 - 4375509  
E-mail: nissda@gmail.com  
Website: https://www.stainlessindia.org/ |
Appendix

- BMI’s Mining Business Environment Ratings
  - Market structure: It takes into consideration mining output in US$ billion, sector value growth, % y-o-y, mining sector, % of GDP
  - Country structure: It takes into consideration labour market infrastructure, physical infrastructure, tax, and scope of state
  - Market risks: It considers metals prices, 5-year forecast average, metals price forecast, average 5-year growth, regulatory framework, legal framework
  - Country risk: It considers, long-term external risk, corruption, bureaucracy, long-term policy continuity
  - Mining ratings: It shows the overall scores of the above indicators
Glossary

- CAGR: Compound Annual Growth Rate
- FDI: Foreign Direct Investment
- FY: Indian Financial Year (April to March); So, FY10 implies April 2009 to March 2010
- GOI: Government of India
- IBM: The Indian Bureau of Mines
- MoU: Memorandum of Understanding
- PPP: It could denote two things (mentioned in the presentation accordingly) -
  - Purchasing Power Parity (used in calculating per-capita GDP)
  - Public Private Partnership (a type of joint venture between the public and private sectors)
- PE: Private Equity
- US$: US Dollar
- Wherever applicable, numbers have been rounded off to the nearest whole number
## Exchange Rates

### Exchange Rates (Fiscal Year)

<table>
<thead>
<tr>
<th>Year</th>
<th>Rs. Equivalent of one US$</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004-05</td>
<td>44.95</td>
</tr>
<tr>
<td>2005-06</td>
<td>44.28</td>
</tr>
<tr>
<td>2006-07</td>
<td>45.29</td>
</tr>
<tr>
<td>2007-08</td>
<td>40.24</td>
</tr>
<tr>
<td>2008-09</td>
<td>45.91</td>
</tr>
<tr>
<td>2009-10</td>
<td>47.42</td>
</tr>
<tr>
<td>2010-11</td>
<td>45.58</td>
</tr>
<tr>
<td>2011-12</td>
<td>47.95</td>
</tr>
<tr>
<td>2012-13</td>
<td>54.45</td>
</tr>
<tr>
<td>2013-14</td>
<td>60.50</td>
</tr>
<tr>
<td>2014-15</td>
<td>61.15</td>
</tr>
<tr>
<td>2015-16</td>
<td>65.46</td>
</tr>
<tr>
<td>2016-17</td>
<td>67.09</td>
</tr>
<tr>
<td>2017-18</td>
<td>64.45</td>
</tr>
<tr>
<td>2018-19</td>
<td>69.89</td>
</tr>
<tr>
<td>2019-20</td>
<td>70.49</td>
</tr>
<tr>
<td>2020-21</td>
<td>73.51</td>
</tr>
</tbody>
</table>

### Exchange Rates (Calendar Year)

<table>
<thead>
<tr>
<th>Year</th>
<th>Rs. Equivalent of one US$</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>44.11</td>
</tr>
<tr>
<td>2006</td>
<td>45.33</td>
</tr>
<tr>
<td>2007</td>
<td>41.29</td>
</tr>
<tr>
<td>2008</td>
<td>43.42</td>
</tr>
<tr>
<td>2009</td>
<td>48.35</td>
</tr>
<tr>
<td>2010</td>
<td>45.74</td>
</tr>
<tr>
<td>2011</td>
<td>46.67</td>
</tr>
<tr>
<td>2012</td>
<td>53.49</td>
</tr>
<tr>
<td>2013</td>
<td>58.63</td>
</tr>
<tr>
<td>2014</td>
<td>61.03</td>
</tr>
<tr>
<td>2015</td>
<td>64.15</td>
</tr>
<tr>
<td>2016</td>
<td>67.21</td>
</tr>
<tr>
<td>2017</td>
<td>65.12</td>
</tr>
<tr>
<td>2018</td>
<td>68.36</td>
</tr>
<tr>
<td>2019</td>
<td>69.89</td>
</tr>
<tr>
<td>2020</td>
<td>74.18</td>
</tr>
<tr>
<td>2021*</td>
<td>73.25</td>
</tr>
</tbody>
</table>

**Note:** As of January 2021

**Source:** Reserve Bank of India, Average for the year
Disclaimer

India Brand Equity Foundation (IBEF) engaged Sutherland Global Services private Limited to prepare/update this presentation.

All rights reserved. All copyright in this presentation and related works is solely and exclusively owned by IBEF, delivered during the course of engagement under the Professional Service Agreement signed by the Parties. The same may not be reproduced, wholly or in part in any material form (including photocopying or storing it in any medium by electronic means and whether or not transiently or incidentally to some other use of this presentation), modified or in any manner communicated to any third party except with the written approval of IBEF.

This presentation is for information purposes only. While due care has been taken during the compilation of this presentation to ensure that the information is accurate to the best of Sutherland Global Services’ Private Limited and IBEF’s knowledge and belief, the content is not to be construed in any manner whatsoever as a substitute for professional advice.

Sutherland Global Services Private Limited and IBEF neither recommend nor endorse any specific products or services that may have been mentioned in this presentation and nor do they assume any liability, damages or responsibility for the outcome of decisions taken as a result of any reliance placed on this presentation.

Neither Sutherland Global Services Private Limited nor IBEF shall be liable for any special, direct, indirect or consequential damages that may arise due to any act or omission on the part of the user due to any reliance placed or guidance taken from any portion of this presentation.