Vietnam Mining and Resources profile

IMARC 2020
Bilateral trade at $15.6 billion (2019)

- Australia's 14th largest trading partner, and Australia is Vietnam's 14th largest trading partner.
- Australian companies are generally well received in Vietnam.
- Australia is regarded as a modern, technologically advanced and friendly country located within Vietnam's immediate sphere of interest.
- Long-term trade and investment opportunities should increase in line with Vietnam's progress in implementing its legislative and administrative reform program.
- Australia and Vietnamese Prime Ministers agreed to develop an Enhanced Economic Engagement Strategy, with the aim of becoming top ten trade partners and doubling bilateral investment.
Why Vietnam

- Population: 97 million;
- Area: 331,698 km²;
- GDP (nominal): US$260 billion → 2,722 US$ per capita (2019);
- Covid-19 is under control;
- Positive growth 1.8% 1\textsuperscript{st} half 2020 in spite of Covid;
- Strong export orientated economy with bilateral and multi-bilateral FTAs.
Vietnam has a wide variety of mineral deposits.

- **Coal**: dominates mining activities
- **Bauxite**: substantial bauxite deposit - approximately 5.5 billion tons
- **Tungsten**: The largest producer outside China with vertical integrated value chain
- **Titanium mineral sand**: Substantial resources along the coastal line
- **Other minerals**: iron ore, chromite, copper, tin, gold, lead, zinc, antimony, rare earths, gems, limestone, clay and other construction materials.
Coal Resources and Reserve

• Anthracite reserve to-300m: 4bn.t.

• Big resource of sub bituminous in Red River Delta, expected 250bn.t., proven 1.5bn. in 25km2.

• Peat coal in Mekong delta: 10bn.t., proven 0.2bn.t.

• Exploited over 170 years (since 1840), Vietnam coal is the mainly anthracite type in Quang Ninh area.

Source: Vinacomin
## Vietnam Coal Resources (Mil tons)

<table>
<thead>
<tr>
<th>Coal type</th>
<th>Reserve</th>
<th>Confirmed Reserve</th>
<th>Reliable Reserve</th>
<th>Estimated Reserve</th>
<th>Resources</th>
<th>Total Reserve and Resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>2.260</td>
<td>161</td>
<td>1.137</td>
<td>2.687</td>
<td>42.632</td>
<td>48.878</td>
</tr>
<tr>
<td>Dong Bac Basin</td>
<td>2.219</td>
<td>109</td>
<td>395</td>
<td>1.585</td>
<td>1.979</td>
<td>6.287</td>
</tr>
<tr>
<td>Red River Delta Basin</td>
<td></td>
<td>525</td>
<td>955</td>
<td>40.531</td>
<td></td>
<td>42.011</td>
</tr>
<tr>
<td>Other national coal mines</td>
<td>41</td>
<td>52</td>
<td>74</td>
<td>32</td>
<td>6</td>
<td>206</td>
</tr>
<tr>
<td>Local coal mines</td>
<td></td>
<td></td>
<td>10</td>
<td>8</td>
<td>19</td>
<td>37</td>
</tr>
<tr>
<td>Lignite</td>
<td></td>
<td></td>
<td>133</td>
<td>107</td>
<td>96</td>
<td>336</td>
</tr>
</tbody>
</table>

(Source: National Coal Master Plan 403 3/2016)
Minerals Processing Industry

Copper

Tungsten

Coal

Iron

Bauxite

Titan
Vietnam Mining Market Profile

**Industry outlook**

- Rich in mineral resources
- Coal mining swift to underground
- Active steel and cement industry
- Mineral processing and deep processing is mandatory
- Need significant infrastructure and logistics capability
- Need stronger sustainable mining practice and regulations

**Challenges**

- High mining tax regime
- Except for coal, bauxite, most of mines and deposits are small scale
- Higher exploitation cost due to deeper resource
- Outdated technologies
- Environment issues and low safety standard
- Illegal mining
Production

Major Minerals Producers

• Masan High-Tech Materials: vertical integrated producer of tungsten, bismuth, florite and copper

• Lam Dong Bauxite and Alumina Refinery

• Nhan Co Bauxite and Alumina Refinery

• Sin Quyen Copper

• Ta Phoi Copper

• Lao Cai Phosphate and Fertiliser

• Phuoc Son Gold

• Viet Trung Mining and Metallurgy

Major Coal Producers

• Vinacomin Group

• Dong Bac Corporation

• Vietmindo
Vinacomin Profile

• 100% State owned economic group

• 88 units under the corporation: Head office, 22 branches, 23 companies 100% owned by Vinacomin, 32 affiliated companies, 7 institutes and training schools, 2 overseas subsidiaries, other joint ventures

• Core business: Coal mining, minerals mining and processing

• Other businesses: Power generation; minerals exploration, explosive materials production, chemical and mechanical services

• Coal production (2019): 40.5Mil tons

• Turnover (2019) VND131,500 Billion (USD5.6Bil)

• Work force: 96,900 (2019)

Source: Vinacomin
## VINACOMIN production

<table>
<thead>
<tr>
<th>Production</th>
<th>Unit</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coal mined</td>
<td>Mln. Ton</td>
<td>48.232</td>
<td>44.512</td>
<td>42.687</td>
<td>37.430</td>
<td>37.684</td>
<td>34.791</td>
<td>35.037</td>
</tr>
<tr>
<td>Tin bars</td>
<td>Ton</td>
<td>934</td>
<td>833</td>
<td>731</td>
<td>868</td>
<td>648</td>
<td>549</td>
<td>407</td>
</tr>
<tr>
<td>Zinc bars</td>
<td>Ton</td>
<td>9464</td>
<td>7,744</td>
<td>8,208</td>
<td>10,800</td>
<td>10,532</td>
<td>10,800</td>
<td>10,947</td>
</tr>
<tr>
<td>Refined Copper ore of 25% Cu</td>
<td>Ton</td>
<td>42076</td>
<td>45,569</td>
<td>46,960</td>
<td>47,430</td>
<td>50,190</td>
<td>51,104</td>
<td>50,129</td>
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<tr>
<td>Copper plate</td>
<td>Ton</td>
<td>8130</td>
<td>8,200</td>
<td>9,716</td>
<td>11,151</td>
<td>11,316</td>
<td>11,600</td>
<td>11,496</td>
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<tr>
<td>Iron ore of 61% Fe</td>
<td>Ton</td>
<td>209911</td>
<td>240,900</td>
<td>243,114</td>
<td>130,516</td>
<td>108,927</td>
<td>77,690</td>
<td>132,011</td>
</tr>
<tr>
<td>Gold</td>
<td>Kg</td>
<td>305</td>
<td>392</td>
<td>385</td>
<td>564</td>
<td>539</td>
<td>584</td>
<td>557</td>
</tr>
<tr>
<td>Alumina</td>
<td>Ton</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explosive</td>
<td>Ton</td>
<td>65900</td>
<td>57,500</td>
<td>60,876</td>
<td>67,400</td>
<td>70,000</td>
<td>64,300</td>
<td>61,000</td>
</tr>
<tr>
<td>Electricity</td>
<td>Mln. KWh</td>
<td>6690</td>
<td>6,305</td>
<td>8,408</td>
<td>8,450</td>
<td>8,991</td>
<td>8,493</td>
<td>9,385</td>
</tr>
<tr>
<td>Turnover</td>
<td>Bln. VND</td>
<td>93,969</td>
<td>95,424</td>
<td>100,105</td>
<td>103,568</td>
<td>106,860</td>
<td>101,180</td>
<td>109,200</td>
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<tr>
<td>Submitting to the state budget</td>
<td>Bln. VND</td>
<td>14,000</td>
<td>12,500</td>
<td>12,930</td>
<td>12,500</td>
<td>14,310</td>
<td>14,000</td>
<td></td>
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<tr>
<td>Profit before tax</td>
<td>Bln. VND</td>
<td>7800</td>
<td>2500</td>
<td>3000</td>
<td>2500</td>
<td>600</td>
<td>800</td>
<td>2500</td>
</tr>
</tbody>
</table>

Source: Vinacomin
Other mining projects

Pu Sam Cap Gold project (TPJ)
- Location: Lai Chau province
- Latest update: Under exploration stage, looking for investor

Viet Phuong Bauxite and Alumina project in Laos
- Location: Dak Cheung, Sekong Province, southeastern Laos

BlackStone Minerals - Ta Khoa Nickel (aka Ban Phuc Nickel)
- Location: Son La province
- Under drilling program and Pre Study of development including mining to processing for battery material supply
Opportunities

- Underground coal mine solutions, equipment, automation
- Open pit improvement and deepening
- Locally manufacturing JV for mining equipment
- Mineral processing technologies, equipment (bauxite, copper, titanium)
- Parts, consumables
- Operation improvement solutions, automation and IT applications
- Commodity supply (coking coal, thermal coal, iron ore)
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Thank you