



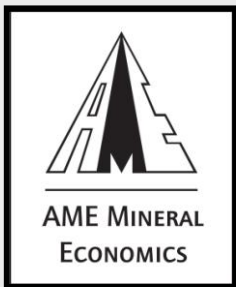
AME Mineral Economics

Iron Ore



Strike While the Iron (Ore) is Hot

**leading independent
commodity analysts in
metals, mining and minerals**



We are a leading independent research firm. For nearly 40 years we have served most major corporations active in the metals, mining and energy sectors.

The heart of our organisation is based around the talents of industry-experienced engineers, metallurgists, geologists, scientists, software developers, market experts, accountants and mineral economists with decades of experience, intellectual maturity and consulting expertise.

We offer

- *Independence* – Our perspective is based upon offering detailed material flow analysis from mines to consumers, including all the interlinked beneficiation and transport stages.
- *Asian knowledge* – Due to our long history in the region we offer an insight into the ASEAN countries and China - the engine of economic growth and metal demand. This is in contrast to the usual Northern Hemisphere view.
- *Maturity* – Since 1971 we have developed a huge history of people, companies, projects and acquisitions.
- *Critical mass* – We employ many skilled industry practitioners, have developed powerful databases and have an integrated global coverage.
- *Comprehensiveness* – We have specialist teams for LME metals research (such as copper, and nickel) and for steel raw materials, steel, and energy products.
- *Accuracy* – We are disciplined in capturing knowledge by undertaking site visits, attending industry conferences and meeting company management.

AME Direct

AME Direct is a secure and powerful delivery system. You can rapidly search and download just the analysis you need as opposed to pages of information.

AME Direct offers:

- *speed* – we utilise rapid packet technology.
- *ease of use* – filter tools that allow intuitive navigation.
- *interaction* – the **Cost Modeller** software encourages you to change key costing variables 'on the fly' and instantly observe the results. You can also merge datasheets to compare specific information over a number of industries and benchmark new projects.
- *timeliness* – our analysis and data is continually updated with new releases.
- *portability* – our research is stored on your PC and can also be retrieved off-line, as our research is stored after each visit to our site.
- *comprehensive coverage* – depending on the services you buy it covers most major industries from steel to gold from coal to copper.

comprehensive and accurate data collection from many sources

powerful systems detailed analysis

creativity new insight



Iron Ore Production Cost Reports & Databases

Weakening global demand is providing some small advantage in that it is relieving supply tensions and removing shortages of skilled labour, goods and services within the industry. Combined with declines in energy costs, the industry is now faced with a reduction in production costs for the first time for many years. Average world iron ore cash costs had been rising systematically in recent years.

The average FOB cash cost of international non-agglomerated iron ore production covered by this report has increased by 38% between 2005 and 2009.

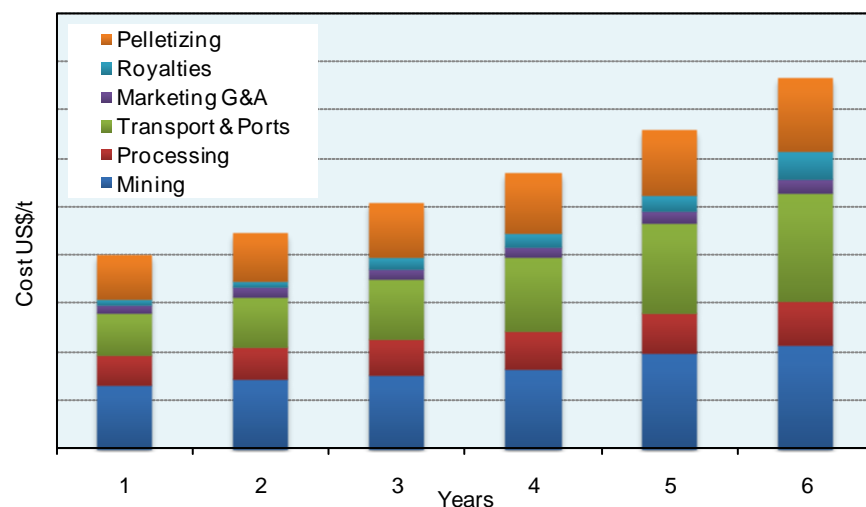
China is the key driver of the global iron ore industry, and will remain this way for the foreseeable future.

- Changes in Chinese steel production hold the greatest influence over world iron ore trade, as the appetite for high quality ore will be satisfied by imports.
- Despite a surge in domestic mine output, which jumped by over 16% CAGR from 2000 to 2009 on a run-of-mine basis, China remains the dominant buyer.
- Chinese iron ore demand is primarily driven by GDP growth, which considerably exceeds Western World growth rates, rapid industrialization and urbanization on a huge scale.

Freight rates are a key component of the profitability of iron ore operations this year. Freight rates collapsed at the beginning of 2009, to levels below the cost of operating ships in some cases. A mild recovery is occurring, but not to the levels seen in 2007/2008. Freight cost increases will tend to benefit Australian iron ore producers exporting to Asia, while iron ore producers in the Americas will have a CIF cost advantage servicing the European market.

Our Iron Ore Mine Cost Report covers operational data over a 10-year time span, representing the majority of production for the seaborne trade. This multi-volume analysis estimates production costs in 16 countries, including many of the major facilities around the world. Detailed cost estimates, covering the production process from raw materials to either concentrate or delivered ore are provided.

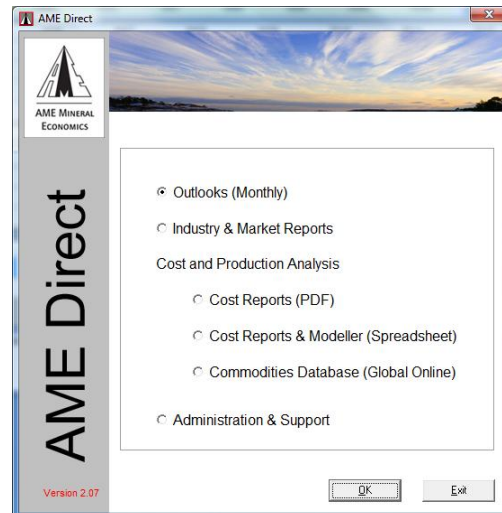
Iron Ore Mining Cost Breakdown





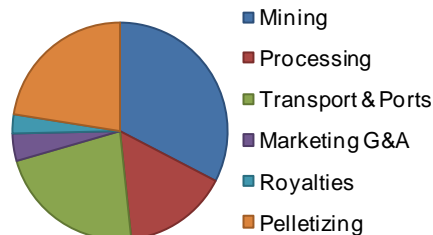
We benchmark all major operations to highlight changes, assess profitability and identify opportunities. This research provides:

- *Production and financial performance* over the next ten years with five years of history.
- *Detailed cost breakdowns* by project for up to 30 major components such as process technology, production, labour, energy usage, royalties and transport costs.
- Access to published reports and AME's Excel-based **Cost Modeller** via **AME Direct**, allowing users to change assumptions, analyse cost sensitivities, as well as introduce and compare new projects and operations:
 - Change operating cost, energy cost assumptions
 - Alter exchange rates for any producing country
 - Change freight rates
 - Override detailed cost assumptions for individual operations
 - Introduce new operations or projects

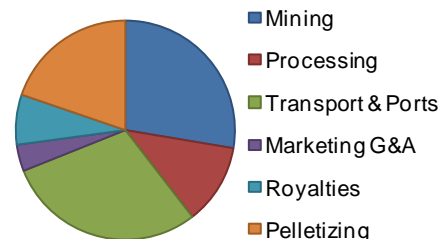


The database ensures access to accurate and timely information for most of the world's operations. Our analysts conduct thorough examinations of well-sourced data to provide valuable answers, saving you time and effort. Specifically, our work is based on detailed analysis of flow sheets, exhaustive company research, and ongoing revisions supplemented by mine visits and technical contact with individual operations.

Year 1



Year 2





Iron Ore Strategic Market Reports

Market fundamentals will be determined by the speed and size of the recovery from the global recession. 2009 was a tough year for global consumer demand. Fortunately, the outlook for 2010 and beyond is significantly better.

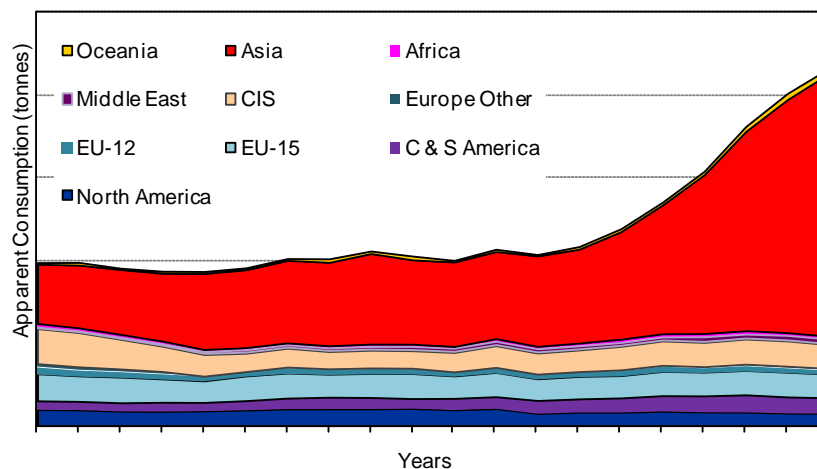
Continued urbanisation in Asia and progressive industrialisation in the wider developing world will underpin growth over the next decade. However, global growth will be at more modest levels in comparison to the last ten years. Thus spectacular growth at the height of the boom was driven by four principal factors, a combination unlikely to be replicated any time too soon:

- Enormous increase in the availability of credit to households and industry, driven by innovations such as securitisation of receivables, deregulation of the banking industry, credit insurance and increased acceptance of risk.
- The initial high growth rate of industrialization of greater Asia, and the consequent development of this region into the world's dominant manufacturing and metal powerhouse. The impact on the world was greater than any preceding Industrial Revolution.
- Tremendous productivity growth driven by an IT revolution which provided enormous communication, data flow and data storage capability at a fraction of previous historical costs.
- Huge growth in international trade that was by and large well managed by the World Trade Organisation. The compound growth rate of 5% has been unprecedented in recent economic history.

After a more subdued 2010 global GDP growth rates will rebound in the medium term but will be somewhat more modest at around 3% per annum over the long-term and below the rates experienced in the last five years.

Iron ore prices will increase substantially this year, due to the expected shortage of new iron ore supply available to meet growth in Chinese iron ore demand. In the longer-term, iron ore prices will be maintained by the marginal high-cost production in China, which will support above-normal industry profitability for low-cost Brazilian and Australian producers.

Global Demand for Iron Ore by Region





Additional support will also come from the delay of new projects and expansion plans, driven by the reduced availability of funding. AME forecasts that China will soon account for over 50% of traded world seaborne iron ore imports. China is also pursuing strategic targets overseas, acquiring significant overseas equity and encouraging the development of overseas projects.

2009 was initially a bad year for iron ore exporters, with substantial falls in prices.

- Vale saw a 28% decrease for Itabira fines and a 48% reduction for its Tubarao pellets.
- In June, Australian producers experienced decreases of 33% for fines and 45% for lumps.

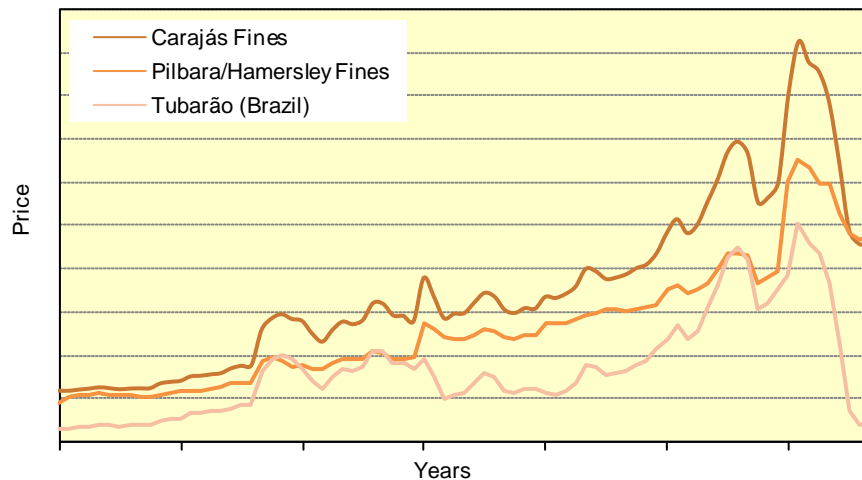
However, in late 2009 spot producers revealed in prices approaching US\$135/t in a sign that supply is stretched in meeting Chinese import demand and the recovered growth in the rest of the world.

With over three decades of experience in market analysis, AME appreciates the old adage “the devil is in the detail” is a fundamental truth. To this end, we concentrate our investigation on end-users, particularly the construction, transport, equipment and consumer durable sectors.

We provide, usually quarterly, strategic supply/demand and price analysis to generate our long-term view. We offer:

- An innate understanding of raw material flow i.e. supply, which supports our project-by-project costing analysis.
- Comprehensive coverage of the entire global supply chain.
- Detailed end-use analysis, (transport, construction, consumer-durable sectors) as part of a coherent macro-economic demand view.
- Explanations of market dynamics and the implications for operations, companies and the industry.
- Support from our experienced team of industry analysts.
- Full electronic access through **AME Direct** as well as the printed reports.

Iron Ore Prices





Iron Ore Outlooks

Our monthly Outlook offers short-term analysis on developments, operations, consumption, production and trade and export in the Iron Ore Industry. A tactical, topical and thought-provoking tool; the service includes:

- Support from our analytical teams.
- Detailed supply/demand research offering company and country breakdowns.
- Forecast near-term prices and understanding of the market from a tactical perspective.
- Real insight on current topics such as the changing patterns in demand, industry consolidation or commentary on our latest studies.
- Great monetary value.
- Access to current and recent archived issues via **AME Direct**.

Consulting

We are frequently commissioned to provide:

- Market assessments for debt information memorandums, feasibility studies and initial public offerings.
- Project audits and reviews involving both technical and market reports.
- Analysis of end-use markets for specific commodities.
- Cost benchmarking analysis for mines, smelters and refineries.
- Advice and independent assessments on trade sales or public equity issues.
- Strategic direction and focus for acquisitions.

Critical Mass in People and Resources – Our structured methodology allows us to rapidly undertake assignments and offer consistently rigorous work. This is possible as we employ a considerable team of engineers, geologists, metallurgists, economists, computer programmers and market experts. For nearly 40 years we have built widespread recognition among major mining companies, banks and trading houses, reflected in our increasing market share.

Close Industry Connections – Our analysts offer practical intelligence and advice due to years of experience in the mining industry. Consequently, our integrity and credibility is unrivalled when it comes to evaluations of mines, beneficiation projects and end-user plants.

A Comprehensive Global View – Our technical associations and international contacts allow us to provide you with broad, in-depth and forward-thinking research.





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Copper Mining				
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