



OIL & GAS SERVICES



Bridging Two Disciplines

We are independent Engineering Economists and Advisors. Our principal competency is as supply side and asset specialists. Since 1971 we have bridged the gap between market analysis and the project work undertaken by consulting engineers. We operate two major research centres within an integrated global footprint of regional offices and associates.

Our focus is on the granular issues relating to projects, mines, plants and fields. Our research is based on a quarterly cycle of production analysis, engineering models, financial models and a final review. This intelligent data collection and interpretation is the heart of AME. The resulting site by site research offers full industry supply chain analysis, output reconciliation, quarterly cost curves and generates a current factual global supply statement.

Our work is often about the data that is not easily available and involves deductive research. It usually relates to vital new knowledge at the margin that drives markets and identifies trends.

Our colleagues have a strong resource industry track record. Many of our team leaders are experienced plant managers. We are fortunate to have a wide span of skills from geologists, metallurgists, mining and civil engineers to economists, accountants and software engineers.

In essence, AME's core and historical advantage is fundamental 'grass roots' research by experienced engineers and analysts who visit mines, smelters, mills and oil fields. To facilitate this huge data gathering and analysis exercise we utilise a sophisticated software research platform. This work forms the basis for the capital and operating decisions our clients make.



Research – The AME Structure

AME's seven distinct research groups are responsible for Gold, Base Metals, Light Metals, Energy (Oil, Gas and Coal), Steel, Steel Raw Materials and Software Engineering. These teams draw upon shared resources, have a common methodology and definitions. We utilise a common research platform.

This commonality allows cross-checking of operations between industries which often have similar processes, transportation needs and CAPEX requirements. It offers a more pragmatic and realistic industry view.

Direct

Our *Direct* research platform is unique. It utilises the latest programming language, has a powerful search engine and works as a single analytical database. This simplicity improves stability, speed of use and data extraction – different from the multiple platforms stitched together with a common "front end". AME Direct offers:

- The only cross-industry portal. It encourages direct comparison between over 6,000 projects, plants, companies and countries from a financial, cost and production perspective.
- Intimate contextual analysis that links your query to the associated research, technical specifications and descriptions for easy assembly of reports.
- Manipulation and export of your search results into Excel spreadsheets, HTML, Word and many other formats with formulas intact.



Oil Outlook

Worldwide oil supply has seen modest increases over recent years despite tensions and disruptions in Middle East and Africa. OPEC countries continue to produce about 40% of global oil and non-OPEC countries such as US, China, and Russia also contributed a large share of global oil production growth. Although development of EOR technology has improved production efficiencies and slowed depletion rate, there remains the chance that supply will tighten over the long run.

Traditional oil and gas still plays a dominant role in supply, while shale energy is gaining market share. The reviving European market combined with the slower but still robust Chinese economy will mean the market continues to grow over the medium term. The US and China have been constructing refineries and pipelines to de-bottleneck and cater the growing consumption.

The boom of shale oil (and gas) will reshape the energy market in coming years reducing the supply reliance, and political clout, of the Middle East. Other shale rich countries also started similar programs however their success is not guaranteed. Environmental issues and drilling difficulty pose growing challenges to future shale energy development.



AME's Research Tools & Resources

Mining/site data and production parameters are at the centre of what we do. It is our core as these basic inputs are the truthful variables that show the operational changes within the industry. To leverage this research we offer the following separate products.

Analytical Tools

Sniper Tool

Valuation, cashflow modeller based on site by site inputs available in Excel.

M&A Tool

Compilations of companies and individual assets.

Production Cost Modeller

Manipulate project and industry parameters.

Cost Curve Archive

Historical site by site costs.

Engineering Site Modeller

Site engineering models.

Supply Chain Tool

Material flows through each production stage, port and transport route.

Bulla Tool

Mapping and tenement assessment.

Research Resources

Equipment View

Multi segmented capex and opex Equipment Database.

Commodity Pricing Database

Long time series data and indices.

Macro Economics Module

Comprehensive global industry data.

International Labour Database

Historical and forecasts labour rates.

Shipping/Freight Database

Transport costing and assessment.

Consumables Database

Cost inputs for mines, fields and beneficiation plants.

Port Database

Distances, costing and capacities.



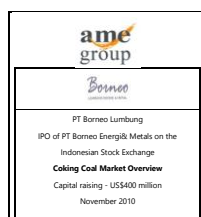
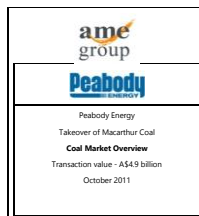
Advisory Capability

After 42 years, AME Advisory is one of the most experienced global resource advisors. Our extensive history has enabled us to attract miners, smelters, refiners, traders, power utilities, financiers, fund managers, governments and suppliers as clients. This broad and mixed clientele has in turn helped us develop a mature view of the dynamics of the international market place.

Our tailored and independent market consulting services and technical reports are used for:

- Market assessments for debt information memorandums and feasibility studies for resource, energy and associated infrastructure projects.
- Independent market or technical reports for Initial Public Offerings.
- Project audits and reviews involving both technical and market aspects.
- Analysis of end-use markets for specific commodities and industries.
- Productivity and cost benchmarking analysis for mines, smelters and refineries.
- Advice and independent assessments on trade sales or purchases.
- Company advice relating to asset evaluation, resource benchmarking, strategic planning or the development of an improved negotiating position.
- Litigation, including complex transactions relating to resource industries with limited market transparency.

We have worked with most large publically listed resource companies over the last 42 years:



Advisory – A Focussed Method

AME is usually commissioned to undertake focussed reports on changes in supply, market dynamics and price for very specific products. Our assignments range from sourcing distinctive types of concentrates or blends, to understanding opaque markets for resource products or assisting contract negotiations to achieve a pragmatic, commercial outcome.

Our bespoke reports cover major new and existing projects – the resulting supply change often affects the industry balance. This requires consideration of the clients market position, costs (opex & capex), product specifications and the creation of a niche to achieve a defensible price.

We have close and long standing working relationships with the major producers at a management level. Indeed, we rank many major producers as current clients. Our industry links ensure our view of the market is pragmatic, defensible and rigorous.

We are one of the few global companies that have the experienced critical mass capable to undertake this level of research. We undertake most of our analysis with our existing “in house” teams at AME. This resident knowledge helps us to offer more research consistency as our colleagues work closely together and provide insights that may be missed with newly formed temporary groups or use of external consultants.

Client Country	Commodity	Report Title	Report Type
Australia	Aluminium	Company Demerger – Aluminium Pricing	Internal Company Report
Australia	Aluminium, Alumina	Aluminium and Alumina Market Study	Internal Board Report
Australia	Coal	Coal Market Report – Coal Terminal	Internal Company Report
Mozambique	Coal	Expansion project – Marketing Strategy	Confidential Due Diligence Rpt
USA	Coal	Thermal Coal Market Report	Feasibility Study
Australia	Coal, Iron Ore	Coal and Iron Ore Research Analysis	Internal Company Report
Australia	Coal, Iron Ore, Copper	Commodity Industry Report	Internal Company Report
Philippines	Copper	Copper Market Report	IPO
UK	Copper, Gold	Gold and Copper Market Report	Internal Company Report
Hong Kong	Iron Ore, Cu, Pb, Zn, Sulphur	Multi-Commodity Market Report	Internal Board Report
Japan	Copper, Molybdenum	Commodity Market Report	Commodity Presentation
Russia	DRI & HBI, Iron Ore	Iron Ore and DRI Project Report	Confidential Due Diligence Rpt
Australia	Infrastructure, Mo, Mn, Fe, Cu	Commodity Market Report	Feasibility Study
Australia	Iron Ore	Product Premium Report	Internal Company Report
Australia	Iron Ore	Future price of Iron Ore	Confidential Due Diligence Rpt
Brazil	Iron Ore	Iron Ore Market Report	Project Finance
UK	Iron Ore	Pre-feasibility Study Marketing Section	IPO
UK	Iron Ore	Iron Ore Sinter Fines Market Overview	Confidential Due Diligence Rpt
Australia	Iron Ore	Expert Services for Arbitration Matter	Internal Company Report
Australia	Iron Ore Pellet	Iron Ore Pellet Market Report	Project Finance
Australia	Iron Ore, Coal, Gold, Nickel	Mine Cost Analysis	Internal Company Report
USA	Iron Ore, Ni, Cu, Manganese	Detailed Market Report	Report for Valuation
Japan	Iron Ore, Steel	Iron Ore and Steel Market Report	Internal Board Report
Hong Kong	Manganese	Manganese Industry Market Study	Internal Company Report
China	Met Coal, Fe, Mn, Chrome	African Commodity Report	Expert Witness
Australia	Multi Commodity	Estimated Production Cost Study	Confidential Due Diligence Rpt
Australia	Multi Commodity	Multi-Industry Minehead Value Analysis	Internal Company Report
Australia	Coal	Seaborne Coal Market Report	Report for Valuation
Japan	Steel and Raw Materials	Steel Production & Raw Material Market	Project Finance
Australia	Zinc, Copper	Cost Curve Analysis	Project Finance

Command Options for AME's Research

"Command" allows you to purchase any single aspect of our analysis via AME Direct (see table below). This simple concept lets you immediately acquire and export our research into your report.

Command Index & Selection

Class (Broad View)	Macro View	Detail View
Company & Corporate	Project Supply, Costs	Production, Cost detail, Cost position, History, Key events
	Project Evaluation	Reserves & Resources, Construction, Product Specifications
	Financial Asset Models	Cashflow models, Capex, Asset sale, M&A
	Supply Chain Analysis	Material Flow, Shipping port, Receiving Plant(s)
	Engineering Models	Technical process models, Equipment detail
Commodity	Supply	Production, Exports, Product types
	Industry Costs	Opex, Capex, Benchmark cost curves, Cost drivers
	Inventory	Stocks, Inventories, Warehouses
	Prices, Market Balances	Prices, TC/RCs, Premiums, Industry balances
	Technology	Mining methods, Process technologies
Country	Prices, Royalties, Taxes	Contract and Spot prices, Royalty rates, Taxes
	Transport	Ports, Rail, Barge, Equipment
	Macro & Micro Demand	Demand, Supply, Imports, Exports, End Use
	Economic Indices	Labour rates, GDP, IP, Population, FX rates
	Carbon & Energy, Political Risk	Country risk profiles

At the high level you may acquire all work we undertake on a major corporation, or for an industry such as Oil or Gas, or for any country. At the next level of detail (macro view) you may select all our work on a specific asset or project. However, at the detailed view you can drill down and seek CAPEX costs or a segmented cost breakup for one aspect of a project.

Our teams cover the following upstream industries:

- Energy: Oil, Gas and Coal.
- Steel: Crude, Longs, Flats and other products.
- Steel Raw Materials: Metallurgical Coal types, Iron Ore, Pellets, DRI & HBI.
- Base Metals: Copper, Copper Concentrate, Lead, Lead Concentrate, Zinc, Zinc Concentrate, Nickel, various intermediaries.
- Gold: Gold & Silver, Gold Concentrates, Dore.
- Light Metals: Bauxite, Alumina, Aluminium.

Please contact our business development personnel with any query.

Hong Kong

t: +852 2846 8220
e: hk@amegroup.com

Sydney

t: +61 2 9262 2264
e: ame@amegroup.com

London

t: +44 20 3714 8725
e: uk@amegroup.com

New York

t: +1 646 736 7887
e: usa@amegroup.com