A Ten Year Strategic Outlook for the Global Metallurgical Coal Industry

Part 1:
A Ten Year Strategic Outlook for the Global Metallurgical Coal Industry

• How will new supply from Mongolia, Mozambique and Indonesia affect the market?
• Over 80 forthcoming projects are independently assessed
• A complete, by-product (hard, soft and PCI coal) analysis of demand, supply and price for coking coal by product type

Part 2:
Dynamic Demand, Supply and Price Model for the Global Coal Industry

PLUS, this brand new research study also includes the option to purchase the dynamic demand, supply and price forecast model for the global coal industry:
• Unique opportunity to own a fully interactive and dynamic forecast model
• Allows you to model and run various ‘what if’ economic and supply shock scenarios
• Complete supply/demand/trade/price forecasting

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A Ten Year Strategic Outlook for the Global Metallurgical Coal Industry

Where are metallurgical coal prices for hard coking coal, semi-soft coking coal and PCI coal heading over the next ten years?

What are the preferences of blast furnace iron operators in respect to coking coal used in coke and PCI coal?

Which regions and companies will be the major metallurgical coal suppliers over the next ten years and how will this affect the status quo?

The Asian region is heavily reliant on blast furnace technology, providing solid support for regional demand of coke and metallurgical coal. The dominant position of Asia is effectively supported by China’s vast steel industry.

As a result the withdrawal of China from the export market and shift towards greater import dependency will help create the space needed for new suppliers to enter the market such as Mongolia, Indonesia and Mozambique.

The export market is therefore expected to become more competitive. Established producers such as Australia are thus likely to come under pressure.

How quickly will additional supply from Australia, Canada, Mozambique, Mongolia and Indonesia emerge?

Metal Bulletin Research is pleased to announce a new two-part research product, A Ten Year Strategic Outlook for the Global Metallurgical Coal Industry.

Part 1: Consists of Metal Bulletin Research’s comprehensive study, A Ten Year Strategic Outlook for the Global Metallurgical Coal Industry which examines the market forces driving metallurgical coal prices, giving you the necessary information to help plan strategy through the next 10 years with forecasts for supply, demand, trade and prices.

Part 2: Metal Bulletin Research makes available for the first time their complete in-house dynamic demand, supply and price model for the global metallurgical coal industry which comes as an additional service to the written study, Part 1, or as a stand-alone product.
Part 1:
A Ten Year Strategic Outlook for the Global Metallurgical Coal Industry

This study offers expert analysis, forecasting and independent guidance including:

- **The macroeconomic environment 2011-2020**
  - The global economy
  - China
  - Asia
  - Middle East and Africa
  - Americas
  - Western Europe
  - Eastern Europe and Russia
  - Economic case statistics
  - Base case economic statistics
  - Best cost economic statistics
  - Worst case economic statistics
  - Exceptional worst case economic statistics

- **Crude steel production**
  - Outlook by country out to 2020
  - Environmental considerations

- **BFI production**
  - Outlook and analysis by country out to 2020

- **Metallurgical coal demand**
  - Overview and outlook
  - Technology advances in steel making: the impact on metallurgical coal demand

- **Metallurgical coal supply**
  - Overview and outlook
  - Metallurgical coal production and developments in major supply areas:
    - Australia
      - BHP-Billiton
      - Rio Tinto
      - Xstrata
      - Peabody
      - Macarthur Coal
      - Anglo American Coal
      - Westfarmers Resources
      - Vale
      - Gloucester Coal
      - Centennial Coal
      - QCoal
      - Yanzhou Coal Mining Company (Felix Resources)
      - Jellinbah Resources
      - Whitehaven Mining
      - Gujarat NRE Coke
      - Idemitsu
      - Others
    - Canada
      - Jim Walter Resources (Canada, formerly Western Canadian Coal)
      - Teck (Elk Valley Coal)
      - Grande Cache Coal
      - Anglo American (Peace River Coal)
      - Xstrata (Canada)
      - Others
    - China
      - PT Bumi Resources and Tita Power
      - Marunda Graha Mineral (MGM)
      - IndoMet (BHP-Billiton)
      - SouthGobi Energy
      - Trans Asia Mineral
    - Indonesia
      - PT Bumi Resources and Tita Power
      - Marunda Graha Mineral (MGM)
    - Poland
      - Evraz Group
      - Severstal Group
      - Mechel Group
      - ArcelorMittal (Russia)
    - Russia
      - Siberiaenergiet (Sibuglemet)
      - Neryunginskaya
      - Norilsk Nickel
    - Ukraine
      - Ukrgol
      - Metinvest
      - Metinvest
      - Alfa Laval
      - ArcelorMittal
      - Metinvest
      - Vale
      - RusGazCoal
      - Zarubin
      - Evraz Group
      - Sibur
      - Severstal Group
      - ArcelorMittal (Russia)
    - USA
      - Alpha Natural Resources (Massey Energy/ Foundation)
      - Arch Coal
      - Cliffs
      - CONSOL Energy
      - Jim Walter Resources
      - Patriot Coal
      - Others
    - **Global trade**
      - Overview and outlook
    - **Metallurgical coal prices**
      - Market balance
      - Best case scenario
      - Worst case scenario
      - Exceptional worst case scenario
      - Increase of 5% in global supply relative to the economic base case
      - Decrease of 5% in global supply relative to the economic base case
      - The long-term price forecast

- **Appendix A: Coke production and capacity**
  - Austria, Belgium, Finland, France, Germany, Italy, Netherlands, Spain, Sweden, UK, Bosnia and Herzegovina, Bulgaria, Czech Republik, Hungary, Poland, Romania, Slovak, Kazakhstan, Russia, Ukraine, Canada, Mexico, USA, Argentina, Brazil, Chile, Colombia, Algeria, Egypt, South Africa, Zimbabwe, Iran, China, India, Japan, Pakistan, South Korea, Taiwan, Turkey, South East Asia and Australia.

- **Appendix B: Metallurgical coal project expansions**
  - Jim Walter Resources
  - CONSOL Energy
  - Arch Coal
  - Alpha Natural Resources
  - Foundation

- **Appendix C: List of tables**
  - Real GDP $ (2010 Inflation Adjusted) 2006-2020, Region
  - Real GDP Growth 2006-2020, Region and Country (y-o-y)
  - Industrial Production Growth 2006-2020, Region and Country (y-o-y)

- **Appendix D: List of coking coal tables**
  - Global Steel Production Summary 2006-2020 (m tonnes)
  - Coking Coal Consumption (hard & soft) 2006-2020, Region and Country (m tonnes)
  - PCI Consumption 2006-2020, Region and Country (m tonnes)
  - Total Metallurgical Coal Consumption 2006-2020, Region and Country (m tonnes)
  - Consumption Rates 2006-2020, Region and Country (PCI/coke - kg/tpa BFI production, coal - kg/tpa coke production)
  - Real Metallurgical Coal Production 2006-2020, Region and Country (m tonnes)
  - Supply profiles 2005-2020
    - Australia
      - BHP-Billiton
      - Rio Tinto
      - Xstrata
      - Resource Pacific (Part of Xstrata since 2006)
      - Peabody
      - Macarthur Coal
      - Anglo Coal
      - Foxleigh (Part of Anglo American since 2008)
      - Westfarmers
      - Vale
      - Gloucester Coal (Duralie and Stratford operations)
      - Centennial Coal
      - QCoal
      - Yanzhou Coal Mining Company (Felix Resources)
      - Jellinbah Resources
      - Whitehaven Mining
      - Gujarat NRE Coke
      - Idemitsu
      - Various: Caledon Resources/ Northern Energy Corp/New Hope Mining
      - Teck (Elk Valley Coal)
      - Grande Cache Coal
      - Peace River Coal
      - Northern Energy & Mining
      - Teck (Elk Valley Coal)
      - Grande Cache Coal
      - Peace River Coal
      - Northern Energy & Mining
      - (Trend small mine project, added to Peace River Coal profile in late-2006)
      - China
        - Indonesia
        - Mongolia
        - Mozambique
        - Poland
        - Russia
        - Ukraine
        - USA
        - Alpha Natural Resources - Takeover of Foundation 2009 and Massey 2011
        - Massey Energy - As of 2011 part of Alpha Natural Resources
        - Foundation - As of 2009 part of Alpha Natural Resources
        - BHP Coal, Takeover of ICG in 2011
        - Cliffs *Production from PinnOak
        - Resources (Pinnacle complex/ Oak Grove) and INR (CCLC complex) assets prior to mergers included
        - CONSOL Energy
        - Jim Walter Resources
        - Patriot Coal
        - Other - Wexford/Various
        - Metallurgical Coal Exports 2006-2020, Country (HCC, SCC, PCI, m tonnes)

- **Appendix E: Supply profiles 2005-2020**
  - Australia
    - BHP-Billiton
    - Rio Tinto
    - Xstrata
    - Resource Pacific (Part of Xstrata since 2006)
    - Peabody
    - Macarthur Coal
    - Anglo Coal
    - Foxleigh (Part of Anglo American since 2008)
    - Westfarmers
    - Vale
    - Gloucester Coal (Duralie and Stratford operations)
    - Centennial Coal
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    - Yanzhou Coal Mining Company (Felix Resources)
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    - Whitehaven Mining
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    - Idemitsu
    - Various: Caledon Resources/ Northern Energy Corp/New Hope Mining
    - Teck (Elk Valley Coal)
    - Grande Cache Coal
    - Peace River Coal
    - Northern Energy & Mining
    - (Trend small mine project, added to Peace River Coal profile in late-2006)

- **Appendix F: Price forecast tables**
  - Region (m tonnes)
    - Base Case Metallurgical Coal Price
      - Balance 2006-2020 (m tonnes)
      - Best Case Metallurgical Coal Price
      - Balance 2006-2020 (m tonnes)
      - Worst Case Metallurgical Coal Price
      - Balance 2006-2020 (m tonnes)
      - Exceptional Worst Case Metallurgical Coal Price
      - Balance 2006-2020 (m tonnes)
      - Supply Increase (+5%)
      - Metallurgical Coal Price Balance 2006-2020 (m tonnes)
      - Supply Decrease (-5%)
      - Metallurgical Coal Price Balance 2006-2020 (m tonnes)
Part 2: Dynamic Demand, Supply and Price Model for the Global Metallurgical Coal Industry

This will uniquely allow your company to manipulate and/or update our data with the option of changing specific parameters, modeling economic scenarios and introducing new supply.

Part 1 of the service will present results and analysis from our chosen economic and supply case scenarios as generated by our unique and dynamic in-house model.

However, in Part 2, we make available for the first time Metal Bulletin Research’s complete in-house dynamic model which comes as an additional service to the written study, Part 1 or as a stand-alone basis.

Metal Bulletin Research is offering you the opportunity to own our entire in-house model to provide a fully transparent view of the methodology we use for our forecasts and market analysis.

This will allow you to take confidence when making substantial investment decisions as well as change parameters we have assumed in the model.

Dynamic forecast model in MS Excel

- Fully interactive and dynamic forecast model directly accessible in MS Excel;
- Access Metal Bulletin Research’s in-house model that will allow you to formulate and drive market forecasts;
- Complete demand, supply and price forecast model for coal;
- Allows you to model economic scenarios, alter parameters and run “what-if” scenarios using the easy-to-understand model operating manual.

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Key features of this service include:

- Metal Bulletin Research’s (MBR) comprehensive study, *A Ten Year Strategic Outlook for the Metallurgical Coal Industry* examines the market forces driving metallurgical coal prices, giving you the necessary information to help plan strategy through the next 10 years with forecasts for supply, demand, trade and prices;
- Individual detailed profiles of coal mines;
- The latest production data for over 25 mining companies across the globe, including historical and 10 year forecast data on mine output, trade and coal prices;
- Unique insights into the Chinese coking coal industry;
- The ability to access and manipulate MBR’s proprietary forecasting models. The dynamic model offers quick manipulation of key data and assumptions with the option of changing specific parameters to model varying demand, supply scenarios for the coal industry and what this would result in future coal prices;
- Value for money in accessing six months of consultant, on-the-field research and analysis.

Other Metal Bulletin Research studies which may also be of interest to you are:

**A Ten Year Strategic Outlook for the Global Coke Industry** ...
...which is considered to be complimentary to our *A Ten Year Strategic Outlook for the Global Metallurgical Coal Industry* study. Those with access to the dynamic metallurgical coke model will also be able to link in the effects of coking coal prices on coke prices in real time, given that the models (coal/coke) are explicitly linked. This allows any scenario to be modelled throughout the value chain (bottom up).

**Port Constraints for Metallurgical Coal Exports** ...
...which examines how coking coal prices are affected by port constraints and which ports will increase their capacity in the next few years.

For more information on any of these studies please call +44 (0) 20 7779 8000 or email marketing@metalbulletinresearch.com