

COMMODITY INSIGHTS BULLETIN

Metallurgical Coal (2Q, 2013 and 3Q, 2013)

Introduction

The metallurgical coal market continues to be one that has good long-term prospects, as frontier and more established countries have continued needs for steel, as do developed countries replacing and repairing existing infrastructure, buildings, etc. With the dip in metallurgical coal pricing, continued legislative and regulatory activities in various countries, and NGO's who are challenging mining activities – not to mention geological and labor challenges – one could be dismissive of the industry in the short term. To make it through these conditions, the mining

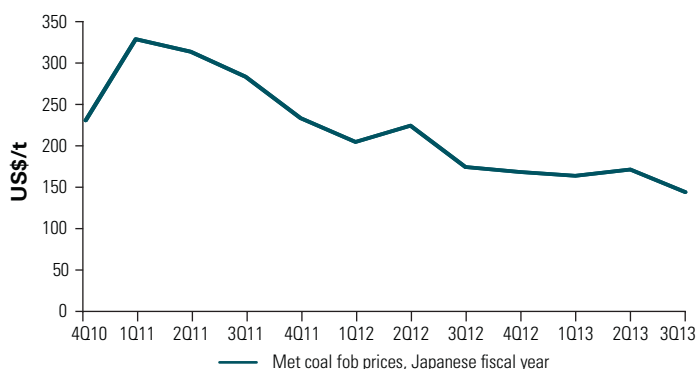
sector continues to look for ways to preserve and build liquidity, and optimize ROI. While evaluating the economics, including ROI, on existing and future projects, they are concurrently reviewing business models to identify both short-term and long-term cost savings opportunities. The major question will continue to be not whether they can cut costs in a downturn, but also unlock value in the business and establish a model to weather them through the peaks and troughs of the business cycle in the future.

Commodity outlook

The contract price of hard high-quality met coal FOB Australia increased 4.2 percent q-o-q to US\$172/ton in 2Q13 before declining 15.7 percent q-o-q to US\$145/ton in 3Q,2013. This dip in contract prices can be attributed to an increased supply from Australia, Mongolia and South Africa. In addition, it was influenced by a comparatively less demand from the Asian markets, especially Japan.¹

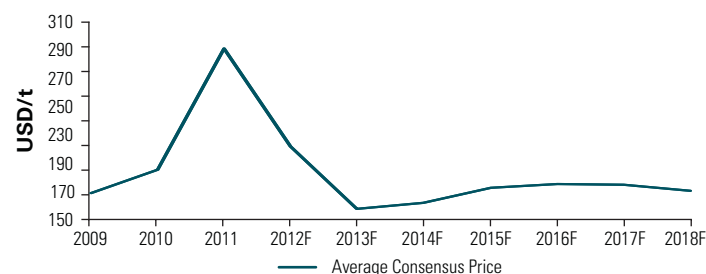
The correlation between Chinese steel demand and met coal prices remains strong. As per the consensus price estimates, met coal prices are expected to grow till 2016 as coal demand to feed Chinese steel mills increases. Also, moderate growth in demand is expected from India, Brazil and South Korea. However, then onwards, met coal prices are expected to moderate as the increase in coal production from Australia and other upcoming nations such as Mozambique is expected to lead to an increase in global supply of met coal.

Figure 1: Met coal prices (4Q, 2010 – 3Q, 2013)



Source: "Japanese steel mill sets Q4 met coal price with Australian miners at \$152/mt FOB, up \$7/mt"; Platts; "Commodities: Daily alert"; CAN Global markets research, 26 June 2013; "Investor Relations"; Nippon Steel & Sumitomo Metal, <http://www.nssmc.com/en/ir/index.html>, accessed 6 November 2013

Figure 2: Met coal prices (2009–18F)

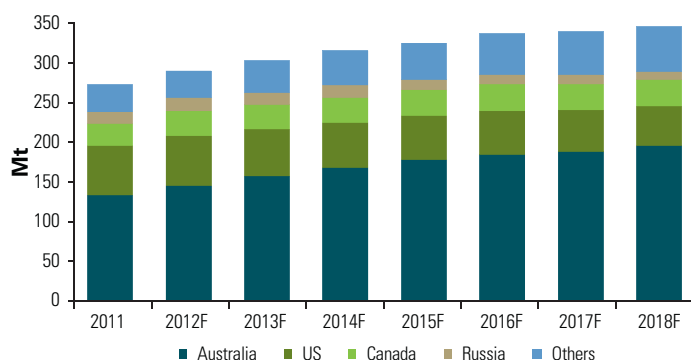


Source: "Resources and Energy Quarterly, September 2013"; Bureau of Resources and Energy Economics, Australian Government; BMO Capital Markets – Global Commodities Research - Commodity Canvas - Q4/13: Home On A Range(Report), 17 October 2013; Morgan Stanley – Latin America Mining: Higher Iron Ore Price In 2014; Lower Nickel And Copper Prices, 7 October 2013; J.P. Morgan Cazenove – European Metals & Mining : Coal Price Forecast Update – Modest, 21 August 2013; Credit Suisse – Canada Metals & Mining: Commodities Forecast Update - The Long, 7 October 2013; VTB Capital – VTB Capital: Steel & Bulks Watch - May 2013; Spring Fails To Surprise With Demand Growth, 10 June 2013, via Thomson Research/Investext, accessed 31 October 2013; KPMG analysis

¹ Ben Sharples "Coking Coal Contracts Seen Slipping to Record Low, Survey Shows," Bloomberg, 13 May 2013

Supply and demand^{2,3}

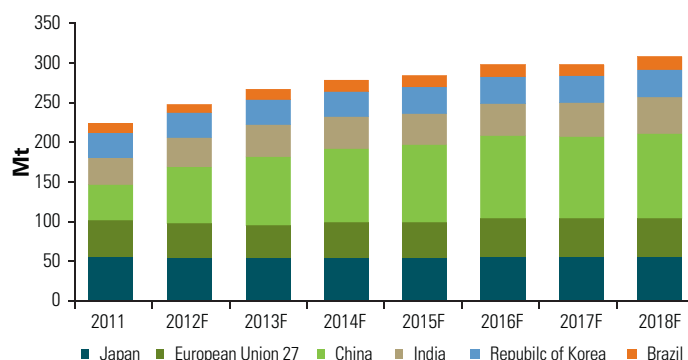
Figure 3: Global met coal exports (2011–2018F)



Source: "Resources and Energy Quarterly, September 2013", Bureau of Resources and Energy Economics, Australian Government; KPMG analysis

- Exports of met coal from Australia are expected to increase 8.3 percent year-over-year (y-o-y) to reach 157MT in 2013. Going ahead, exports of met coal from the country are projected to increase at a CAGR of 3.9 percent to reach 196 MT in 2018, from 168 MT in 2014. This growth in production is expected to be supported by the start up of projects such as the BHP Billiton Mitsubishi Alliance's (BMA's) Caval Ridge and Daunia projects, Anglo American's Grosvenor underground mine and the Jellinbah Group's joint venture Lake Vermont expansion all in Queensland, Australia.⁴
- Exports from the US are expected to decline 4.8 percent year-over-year to about 60 MT in 2013. They are expected to further decline at a CAGR of 3.2 percent from 2014 to reach 50 MT in 2018. This decline will primarily be a result of constraints in infrastructure, higher freight costs in the US coupled with projected decline in met coal prices, which will make US metallurgical coal exports less competitive.⁵
- Exports of met coal from Canada are expected to remain at their 2012 levels of 31 MT in 2013. Going ahead, these exports are expected to grow moderately at a CAGR of 0.8 percent to reach 33 MT in 2018 from 32 MT in 2014.
- Mozambique is emerging as an important met coal mining destination. The Mozambique government has awarded four coal concessions – the Revobóe mine, the Zambeze project, the Midwest mine and the Ncondezi project. In addition, the country has the presence of major coal companies such as Vale and Rio Tinto. Further, Vale is significantly investing in the rehabilitation of its existing infrastructure and the construction of new, railway tracks through Malawi and Mozambique. This effort is being made to link the Moatize project with the port of Nacala and complement the existing Sena line from Tete to Beira. With substantial growth plans, the country is emerging as a significant met coal mining player in the world.⁶

Figure 4: Global imports of met coal (2011–2018F)



Source: "Resources and Energy Quarterly, September 2013", Bureau of Resources and Energy Economics, Australian Government; KPMG analysis

- The global imports of met coal are expected to grow 7.7 percent year-over-year to reach 265 MT in 2013. This growth can be primarily attributed to higher demand from the emerging economies, mainly China, India and Brazil.
- China's imports of met coal are expected to increase 22.5 percent year-over-year to 87 MT in 2013. Going ahead, the country's met coal imports are expected to grow at a CAGR of 3.6 percent from 93 MT in 2014 and reach 107 MT in 2018, primarily due to the fact that its domestic met coal resources are of lower quality and generally located at great distances from the steel mills. This makes the domestic met coal more expensive when compared to imports, thus making Chinese consumers favor imports over domestic production. Also, the Chinese Government has announced a metallurgical coal reservation policy with the aim to promote imports and increase the longevity of its domestic reserves.
- Met coal imports to India are expected to grow 8.1 percent and reach 40 MT in 2013. Further, these imports are expected to grow at a CAGR of 2.9 percent from 41 MT in 2014 to 46 MT in 2018. In addition, met coal imports to Brazil are expected to increase 18.2 percent in 2013 and further increase from 14 MT in 2014 to 16 MT in 2018, at a CAGR of 3.4 percent. The growth in imports to Brazil and India can be primarily attributed to an expected strong growth in steel production in these countries.^{7,8}
- Imports to the European Union 27 (EU-27) are expected to decline 6.8 percent year-over-year to 41 MT in 2013. Further, the EU-27 is expected to witness a modest growth at a CAGR of 2.2 percent and grow to 49 MT in 2018 from 45 MT in 2014. This growth in imports can be attributed to a moderate growth in steel production and flat met coal production in the region.

² "Resources and Energy Quarterly, September 2013", Bureau of Resources and Energy Economics, Australian Government

³ "World commodity forecasts: industrial raw materials", October 2013, Economist Intelligence Unit

⁴ Frik Els "Charts: Australia, Canada met coal outlook OK. US not so much", Mining.com, 12 September 2013

⁵ John D. Oravec "Metallurgical, or coking, coal exports expected to decline", TribLive Business, 6 November 2013

⁶ Keith Campbell "Mozambique approves coal projects, ponders iron-ore proposal", Mining Weekly.com, 20 September 2013; Metallurgical coal – supply side issues abating: HSBC, The Business Times, <http://www.btinvest.com.sg/markets/commodities/metallurgical-coal-supply-side-issues-abating-hsbc/>, accessed 6 November 2013

⁷ Debjoy Sengupta "India's coal demand-supply gap is projected to widen: IMAcs", The Economic Times, 14 February 2013

⁸ "Coaltrans Brazil: Seaborne met coal imports to double by 2030", Steel First, 26 June 2012

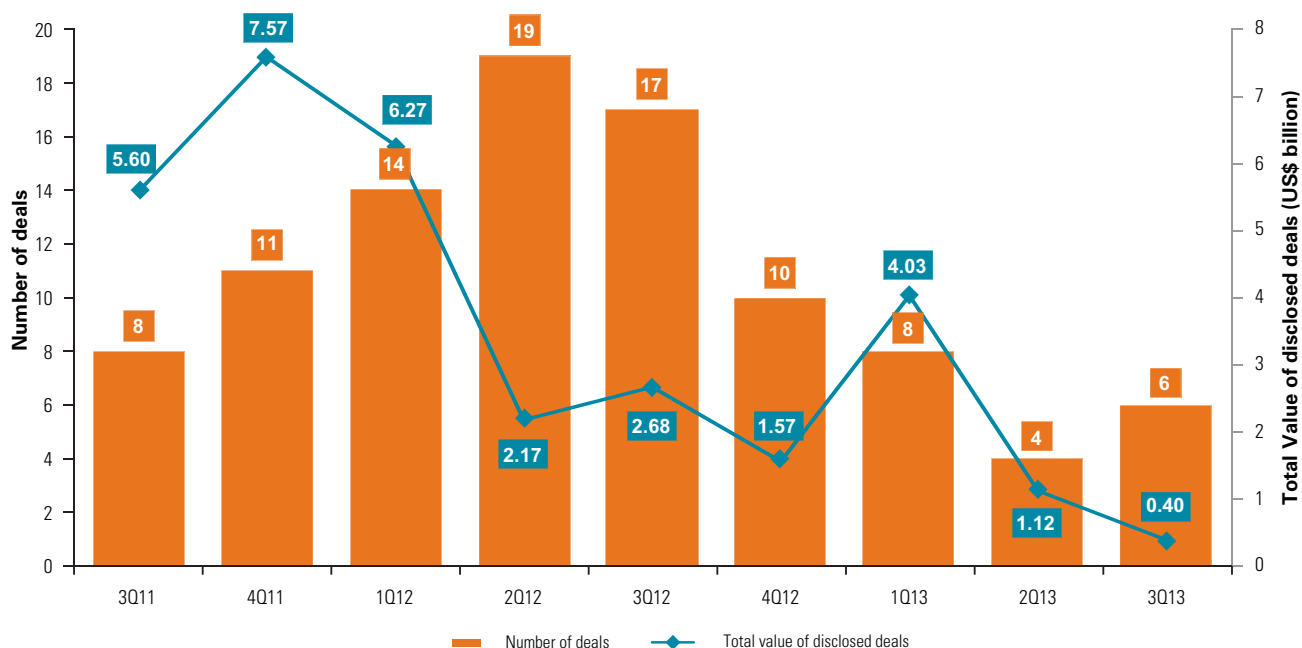
Key developments

Ownership changes⁹

During 2Q, 2013, the total valuation of major deals announced in the met coal industry declined 72.2 percent q-o-q to US\$1.12 billion from US\$4.03 billion in 1Q, 2013. The total valuation of M&A deals further declined

64.3 percent q-o-q to reach US\$0.40 billion in 3Q, 2013. The number of deals announced during 2Q, 2013 fell to four, against the eight announced in 1Q, 2013 before increasing to six in 3Q, 2013.

Figure 5: Value of major deals announced in the coal industry



Source: Deals: Search, Mergermarket; KPMG analysis

Table 1: Top met coal deals announced in 2Q and 3Q13

Date announced	Target (Nation)	Acquirer (Nation)	Status	Value of transaction (US\$ million)	Stake
27-Sep-13	OKK Koksovny, a.s. (Czech Republic)	Metalimex A.S. (Czech Republic)	In progress	131.0	100.0%
25-Sep-13	Cape Alumina Limited (Australia)	MetroCoal Limited (Australia)	In progress	9.0	100.0%
25-Jul-13	Kansuki Concession (Democratic Republic of Congo)	Mutanda Mining Sprl (Democratic Republic of Congo)	Closed	NA	100.0%
25-Jul-13	Erchim-Tkhan LLC (Russia)	Irkutskenergo OAO (Russia)	Closed	40.0	50.1%
11-Jul-13	Bumi Plc (United Kingdom)	Borneo Lumbung Energi & Metal Tbk, PT (Indonesia)	In progress	223.0	23.8%
10-Jul-13	DCM DECOmetal GmbH (International trading business) (US)	American Metals & Coal International, Inc. (US)	Closed	NA	100.0%
28-Jun-13	Canyon Fuel Company, LLC (US)	Bowie Resources, LLC (US)	In progress	435.0	100.0%
19-Jun-13	Compania Minera Condestable S.A. (Peru)	Southern Peaks Mining LP (Peru)	In progress	NA	98.7%
02-May-13	Fu'an City Leixin Mining Company Limited (50% Stake); Tuorong County Leixin Mining Company Limited (42.2% Stake) (China)	King Stone Energy Group Ltd. (Hong Kong)	In progress	34.0	50.0% and 42.2%
28-Apr-13	BHP Billiton Pinto Valley mine (Arizona); San Manuel Arizona Railroad Company (US)	Capstone Mining Corp. (Canada)	Closed	650.0	100.0%

Source: Deals: Search, Mergermarket; Company Reports

⁹ Mergermarket database, accessed 01 November 2013

Regulatory updates

The regulations introduced in 2Q and 3Q, 2013 aimed at enhancing and streamlining domestic coal mining operations.

They are anticipated to help in the optimal utilization of the available resources of the country.

Table 2: List of recent regulations in the met coal industry

Country/Region	Regulation/topic	Description
US	US Environmental Protection Agency (EPA) Carbon Pollution Standards for New Power Plants ¹⁰	<ul style="list-style-type: none"> US EPA proposed Clean Air Act standards to cut carbon pollution from new power plants. New large natural gas-fired turbines would need to meet a limit of 1,000 pounds of CO₂ per megawatt-hour (Mwh). New small natural gas-fired turbines would need to meet a limit of 1,100 pounds of CO₂ per Mwh. New coal-fired units would need to meet a limit of 1,100 pounds of CO₂ per Mwh.
India	Coal Regulatory Authority ¹¹	<ul style="list-style-type: none"> India has decided to set up a Coal Regulatory Authority. The regulatory authority will perform various functions, including specifying the methodology for determining coal prices.

Project updates

Table 3: Cross-section of global Met Coal projects*#

Project	Country	Owners/Operators	Capex (US\$ million)	Potential start year	Full capacity (Mtpa)	Progress and updates
Appin Area 9	Australia	BHP Billiton	845	2016	3.5	The project is progressing as per schedule and within budget. The project is 51 percent complete as on 30 September 2013.
Belvedere underground	Australia	Vale	2,400 ¹	2016	7	Vale has completed the acquisition of 24.5 % interest held by Aquila Resources in the project
Broadmeadows (mine life extension)	Australia	BHP Billiton Mitsubishi Alliance (BMA)	966 ³	2013	0.4	Mine life extension at Broadmeadow was completed in 2013 and first coal was mined in March 2013.
Caval Ridge	Australia	BHP Billiton Mitsubishi Alliance (BMA)	3,740 ²	2014	5.5	The project is progressing as per schedule and within the prescribed budget. The project is 86 percent complete as on 30 September 2013.
Daunia	Australia	BHP Billiton Mitsubishi Alliance (BMA)	1,352 ⁴	2013	4.5	The project was completed in 3Q13. The first coal from the mine occurred in March 2013.
Eagle Downs hard coking coal	Australia	Aquila Resources / Vale	1,130 ^{1,5}	2017	5.9	Eagle downs 2014 budget of A\$97.2 million, with Aquila's 50% share being A\$48.6 million has been approved. The expenditure on the project is being prudently managed by focusing on critical path development tasks
Hay point stage three expansion	Australia	BHP Billiton Mitsubishi Alliance (BMA)	3,010 ^{2,6}	2015	Increased port capacity by 11Mtpa	The project is progressing as per revised schedule and budget. The project is 72 percent complete as on 30 September 2013.
Moatize II	Mozambique	Vale	2,068	2015	11	New pit and duplication of the Moatize coal handling and preparation plant, as well as all related infrastructure in progress. Project is 39 percent complete as on 30 June 2013.
Arctos coal projects	Canada	Fortune Minerals Limited/POSCO	787 ^{7,8}	NA	NA	Fortune has concluded its 2013 summer field work. The company will evaluate the project's merits and impacts, taking into account environmental, social and other values.
Belview coal deposit	Australia	Stanmore Coal Limited	869 ⁹	2017	NA	Stanmore Coal has lodged a mining lease application over a 50.7 sqkm area within the Belview coking coal project's existing EPC boundaries. The application is an important step in the planning and approval process for the project.

¹⁰ "EPA Proposes Carbon Pollution Standards for New Power Plants / Agency takes important step to reduce carbon pollution from power plants as part of President Obama's Climate Action Plan", US EPA News Release, 20 September 2013

¹¹ "Cabinet okays setting up of Coal Regulatory Authority", Hindustan Times, 27 June 2013

Project	Country	Owners/ Operators	Capex (US\$ million)	Potential start year	Full capacity (Mtpa)	Progress and updates
Clyde Park Coal Deposit	Australia	Guildford Coal Limited/Tiara Coal Limited/	~750	2015	10	An upgraded inferred resource of 623MT was announced in September 2012. A further upgrade of the resource was announced in February 2013 with an increased inferred resource of 677Mt, and a maiden indicated resource of 50MT
Grosvenor West Coal Deposit	Australia	Carabella Resources Limited	905 ^{5,11}	2016	5.5 ¹⁰	Grosvenor West was progressed into bankable feasibility study in September 2012 as a large scale open cut mining operation.
Ovoot Coal Project	Mongolia	Aspire Mining Limited	1,205 ¹²	2017 ¹³	5 ¹³	The company has identified a method for the lowest capital intensive start-up. This method employs contractors wherever possible. The development plan outlines a strategy for a potentially fully funded low capital cost development for an initial 5Mtpa of saleable coking coal production by 2017.
Ravensworth North open cut mine	Australia	Glencore Xstrata plc/Itochu Corp.	1,360	2012	8	The first stage of the 8 Mtpa Ravensworth North thermal coal operation was completed in 2012

¹ Excluding the EPCM and contingency costs

² Excludes announced pre-commitment funding

³ As per BHP Billiton 2013 Annual Report, the actual capex incurred by BHP Billiton is about US\$483 million (subject to finalization). US\$966 million is derived on the basis that the capex is equally shared by BHP Billiton and Mitsubishi who both own a 50% share each in the project

⁴ As per BHP Billiton 2013 Annual Report, the actual capex incurred by BHP Billiton is about US\$676 million (subject to finalization). US\$1,352 million is derived on the basis that the capex is equally shared by BHP Billiton and Mitsubishi who both own a 50% share each in the project

⁵ Australian dollar

⁶ As per BHP Billiton operational review for quarter ended September 2013, the actual capex incurred by BHP Billiton is about US\$1,505 million (subject to finalization). US\$3,010 million is derived on the basis that the capex is equally shared by BHP Billiton and Mitsubishi who both own a 50% share each in the project

⁷ Canadian dollars

⁸ Capital costs to achieve full production is C\$ 788.6 million during the first three years of the project and includes the mine, process plant and all required on-site and railway infrastructure

⁹ Start-up capital requirement for a single longwall operation

¹⁰ ROM production

¹¹ Capital cost expenditure for owner operations. Includes capex for surface infrastructure and related costs, coal handling and preparation plant and mining equipment

¹² As per ASX release "Ovoot Coking Coal Project Confirmed as one of the Lowest Cost Potential Exporters of Coking Coal into China" dated 6 December 2012. Capex excluding capital contingencies

¹³ Following the completion of two Pre-Feasibility Studies completed in 2012, the Company has adopted a plan to develop the Ovoot Project in line with the commissioning of the Erdenet to Ovoot Project Railway. The Ovoot Development Plan (ODP) relies on the use of contractors, and production of bypass coal which does not need to be washed. The ODP estimates a capital expenditure requirement of US\$144 million including contingencies to commence mine production in 2017 with an initial production of 5 Mtpa saleable high quality coking coal.

The above table includes projects with capex exceeding US\$750 million

* The list is not exhaustive and contains only a limited number of projects.

Source: Intierra; Company Reports

Contact us

Roy Hinkamper
KPMG in the US
T: +1 314 244 4061
E: rhinkamper@kpmg.com

kpmg.com/mining

kpmg.com/socialmedia



kpmg.com/app



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Publication number: 130759b Publication date: December 2013