MOODY'S
INVESTORS SERVICE

INDUSTRY OUTLOOK

Rate this Research

US Coal Industry

US Coal Industry Faces Steady but Weak 2014, With No Relief in Sight

Table of Contents:

US COAL INDUSTRY PAST THE TROUGH, BUT INDUSTRY CONDITIONS REMAIN CHALLENGING 2
NO GROWTH IN DOMESTIC MARKET IN MEDIUM TERM 3
POWDER RIVER BASIN MAKES COMEBACK, BUT MARGINS ARE THINNING 4
ILLINOIS BASIN IS BRIGHT SPOT TODAY, BUT GROWING SUPPLY MAY UPSET BALANCE 6
NEW GAS CAPACITY AND EPA RULES POSE LONG-TERM RISKS FOR NORTHERN APPALACHIA 7
CENTRAL APPALACHIA REMAINS IN SECULAR DECLINE 7
MET COAL EXPORT MARKET WILL REMAIN COOL AMID WEAK STEEL DEMAND 8
THERMAL COAL EXPORTS TO DROP ON WEAKENING OVERSEAS PRICING 9
APPENDIX: RATED US COAL PRODUCERS 10
MOODY'S RELATED RESEARCH 11

Analyst Contacts:

NEW YORK +1.212.553.1653

Anna Zubets-Anderson +1.212.553.4617
Vice President - Senior Analyst
anna.zubets-anderson@moodys.com

Benjamin Nelson +1.212.553.2981
Assistant Vice President - Analyst
benjamin.nelson@moodys.com

Kijana Mack +1.212.553.3811
Associate Analyst
kijana.mack@moodys.com

Brian Oak +1.212.553.2946
Managing Director - Corporate Finance
brian.oak@moodys.com

Our outlook for the US coal industry is stable. This outlook reflects our expectations for the fundamental business conditions in the industry over the next 12 to 18 months.

» **US coal industry conditions have stabilized at very weak levels by historical standards, but overall we expect a modest decline in the coal sector's 2014 earnings, as higher priced contracts continue to roll off and low prices for metallurgical (met) coal persist.** We expect production volumes to rise by 2%-3% in 2014, off the 2013 trough of 1,008 million short tons. Coal's share of electricity generation will approach 40% through mid-2015, but will trend lower over the next decade as coal plants retire and new investment turns to natural gas and renewable capacity. The abundance, lower cost and environmental advantages of natural gas pose US coal's biggest challenge for the foreseeable future.

» **Illinois Basin (ILB) producers will continue to take market share from Central Appalachia (CAPP), but both basins will face price pressure**. Foresight Energy will enjoy growth in volumes and resilient margins, an advantage over such higher-cost ILB producers as Armstrong Energy. Thermal CAPP producers such as James River Coal will continue to face most challenges. CAPP's secular decline stems from mine depletions, fuel substitution at power plants, coal plant retirements and high labor costs.

» **Increased supply will cap prices for Powder River Basin (PRB) coal only marginally above the cost of production**. Cloud Peak Energy Resources can withstand weak prices due to its low cost structure and conservative balance sheet, while Arch Coal needs a healthy price recovery to stop burning cash.

» **Northern Appalachia (NAPP) coal should enjoy steady demand and margins through 2014,** but plant retirements and cheaper natural gas pose a threat in the medium term. CONSOL Energy's diversification into natural gas gives it an advantage over other NAPP producers.

» **Export markets for US coal will remain weak in 2014.** Met coal producers such as Walter Energy and Alpha Natural Resources face a sluggish global steel industry and additional supplies coming online in Australia. Thermal coal will stay oversupplied in both Europe and Asia, limiting price recovery in the seaborne markets.

» **We could change our outlook for the US coal industry to positive if coal's share of electricity generation rises above 41%, met coal prices increase above $175, and coal inventories at utilities decline below 165 million short tons**. Our outlook could change to negative if coal makes up less than 38% of electricity generation, met coal prices persist below $150, or the utilities' coal inventories rise above 185 million tons.

A negative industry outlook indicates our view that fundamental business conditions will worsen. A positive outlook indicates that we expect fundamental business conditions to improve. A stable industry outlook indicates that conditions are not expected to change significantly. Since industry outlooks represent our forward-looking view on conditions that factor into ratings, a negative (positive) outlook indicates that negative (positive) rating actions are more likely on average.

US Coal Industry Past the Trough, But Industry Conditions Remain Challenging

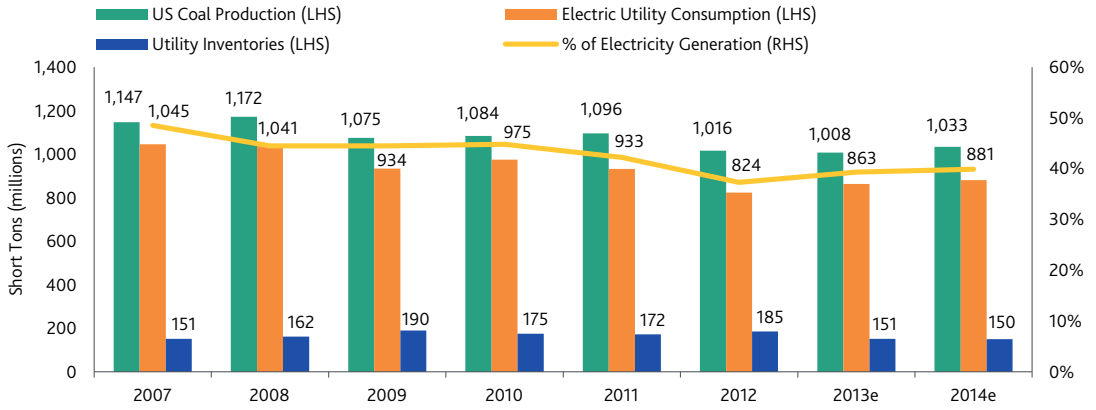
US coal industry conditions have stabilized at very weak levels by historical standards, but overall we expect a modest decline in the coal sector's 2014 earnings, as higher priced contracts continue to roll off and low prices for metallurgical (met) coal persist.

We expect production volumes to rise by 2%-3% in 2014, off the 2013 trough of 1,008 million short tons. We expect that sustained natural gas prices of $3.50-$4.00/million BTU (MMBtu) will prop up demand for thermal coal used in power production through early 2015, with coal's share of electric generation approaching 40% through mid-2015.

Domestic power producers consume roughly 85% of US coal by volume, but coal's share of electricity generation has slipped amid historically low natural gas prices and environmental regulations that have discouraged coal consumption (see Exhibit 1, below). US power producers once derived about half of their electricity from coal, but coal's share slipped to about 42% in 2011 and 37% in 2012, when natural gas prices dropped below $2.00/MMBtu in April 2012. As natural gas prices recovered to $3.50-$3.75/MMBtu in 2013, some coal demand came back, and electric utilities increased coal consumption to 863 million short tons in 2013, up from a trough of 824 million short tons in 2012.

EXHIBIT 1

US Coal Production, Consumption, Inventories, and Share of Electricity Generation, 2007-2014E



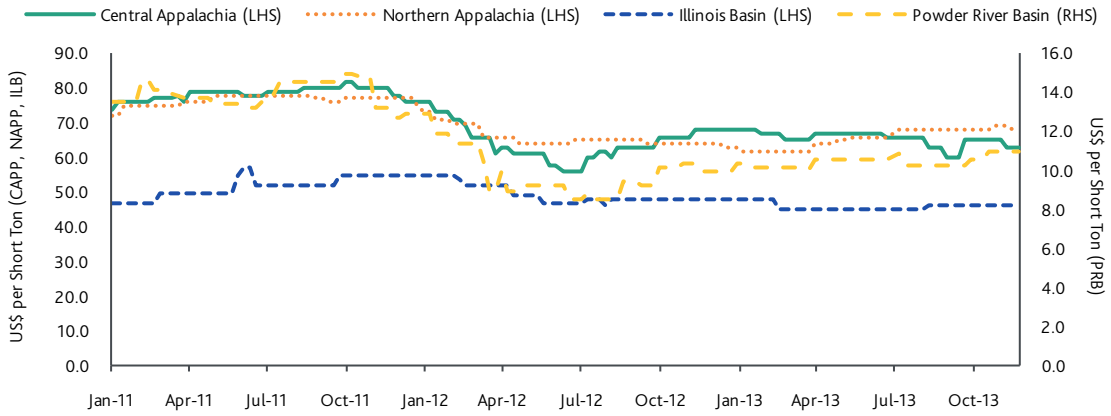
Source: US Energy Information Association (EIA)

Utilities increased much of their consumption in 2013 by burning their coal inventories, which by mid-2013 normalized at roughly 160 million tons. The US Energy Information Administration (EIA) estimates that thermal coal production will grow by 2.5% in 2014 to meet recovered demand.

Yet despite supply rationalization and burn of coal inventories, coal prices in late 2013 still had not recovered to pre-2012 levels (see Exhibit 2, below). We see little catalyst for material price improvement through mid-2015. Coal supply contracts with utilities gave producers some protection from the price slump of recent years, but current market prices would put average realizations under further pressure as favorable supply contracts continue to roll off.

EXHIBIT 2

US Thermal Coal Spot Prices, 2011-2013



Source: EIA

No Growth in Domestic Market in Medium Term

We expect no meaningful growth in domestic coal consumption for the foreseeable future, even though EIA expects total electric generation to grow by roughly 10% over the next decade.[1] We estimate that alternative power sources will capture the growth in electric generation, cutting coal's share to about 35% by 2025, from roughly 39% in 2013. We expect total coal consumption to remain relatively flat, as larger coal-fired plants increase power production, which will compensate for retired coal capacity.

The overabundance, lower cost and environmental benefits of natural gas will remain US coal's biggest challenge for the foreseeable future. Utilities continue to favor gas-fired power generation over coal-fired plants. In April 2012, coal and natural gas comprised equal shares of US power generation for the first time—roughly 32% each—amid rock-bottom natural gas prices and unseasonably low electricity demand. And utilities continue to make investments that threaten to further displace coal. EIA expects that through 2040, 63% of newly built power generation capacity will use natural gas and 31% renewable energy.[2]

US environmental regulation will also continue to pressure coal. Over the next decade, we expect as much as 20% of today's coal capacity to retire, with virtually no investment in new coal plants. Two initiatives from the US Environmental Protection Agency (EPA) are key factors in this trend:

» **The Mercury and Air Toxics Standards (MATS)**, finalized in February 2012, seeks to limit mercury and other hazardous emissions by mandating that the power sector install and operate "maximum achievable control technology" by 2015. MATS will make many older coal-fired units

[1] US Energy Information Administration, Annual Energy Outlook 2013.

[2] Ibid.

uneconomical to operate, particularly in the US east, and will drive most of the 50,000 megawatts (MW) of coal-fired power capacity retirements that we expect in the next few years.

» **The Carbon Pollution Standard for New Power Plants** proposed in September 2013[3] would impose limits on carbon dioxide emissions from new power plants, requiring carbon capture and storage technology that is still economically unproven on a large scale. The Standard would effectively prohibit investment in new coal plants, given current fuel mix economics and available technology.

We expect most future retirements to affect older and smaller coal plants in the US East, but shut downs will continue to impact producers in all coal basins. In November 2013, the Tennessee Valley Authority announced plans to shut down eight Alabama and Kentucky coal-fired units that took almost 10 million short tons of coal in 2012 from producers across the country. Those deliveries included coal from Powder River Basin (PRB) mines owned by Peabody Energy (Ba2 stable) and Arch Coal (B3 negative), as well as Illinois Basin (ILB) mines owned by Foresight Energy (B2 stable), Armstrong Energy (B3 stable) and Murray Energy (B3 stable). In July 2013, FirstEnergy Corp. (Baa3 negative) said it would shut down its 1,710 MW Hartfield's Ferry plant in Pennsylvania—a large, efficient plant close to Northern Appalachia (NAPP) coal providers—because of the capital investments necessary to comply with MATS.

Powder River Basin Makes Comeback, But Margins Are Thinning

We believe that at recent prices of roughly $11/short ton, PRB coal is generally competitive as long as natural gas prices stay above $3.00/MMBtu. The exact parity point varies, however, depending on the coal's heat content and destination, with significant volumes now shipping east of the Mississippi River. The competitiveness of PRB coal is especially sensitive to transportation costs due to its low heat value. And although low sulfur content of PRB coal is a positive characteristic from environmental standpoint, it also means that some volumes are currently being consumed by smaller, unscrubbed power plants which are more likely to face retirement over the next decade.

We expect that PRB supply, demand and pricing will remain more volatile compared to coal from other regions, due to sensitivity of PRB demand to natural gas price movements. The PRB saw a severe collapse in demand and prices in 2012, when natural gas prices tracked below $3.00/MMBtu, followed by a strong recovery when natural gas prices stabilized above $3.00/MMBtu in 2013 (see Exhibit 3, next page). We believe that utilities are now managing their PRB coal inventories to levels below historical averages, in order to enhance their flexibility to reduce consumption quickly if natural gas prices fall.

[3] This proposal replaces EPA's original March 2012 proposal.

EXHIBIT 3

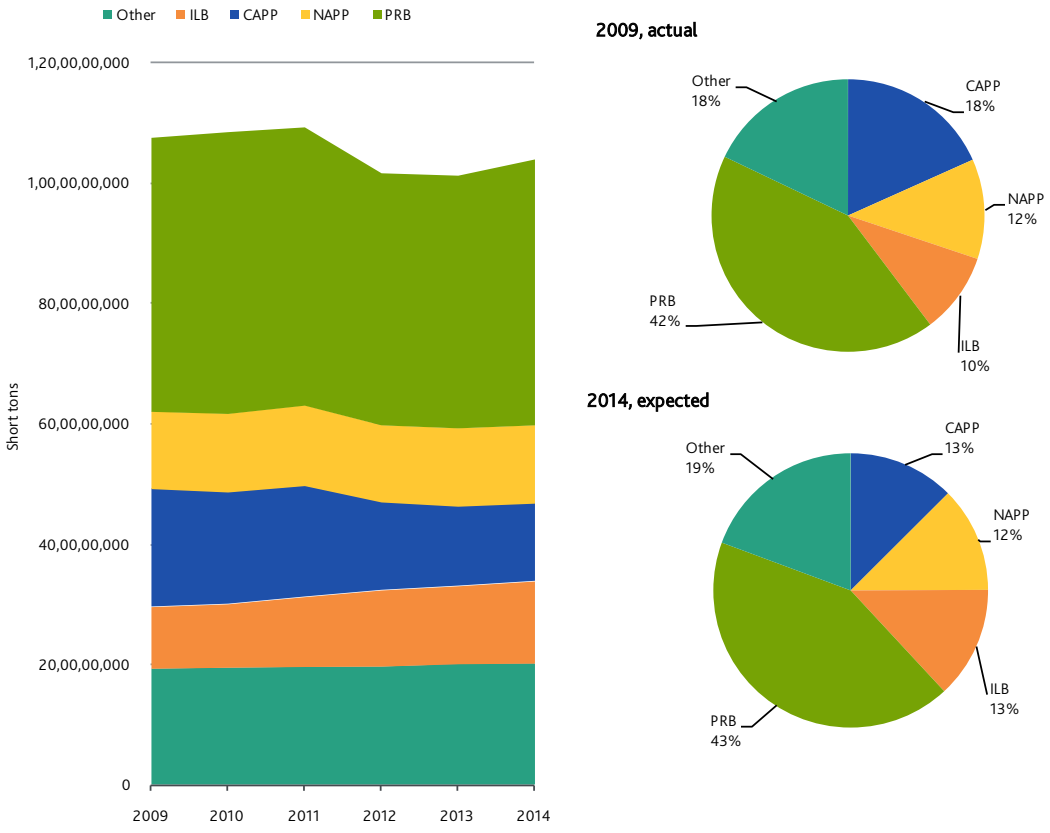
Henry Hub Natural Gas Spot Prices, January 2010-November 2013

Source: Bloomberg

In 2012, PRB producers reduced production by roughly 40 million short tons, or 9%, and we expect production levels to remain flat in 2013 (see Exhibit 4, below). As demand has returned and PRB stockpiles normalized, coal companies increased production run rates in the third quarter of 2013, which should drive annual production roughly 20 million short tons higher for 2014. For the longer term, PRB production will be relatively flat as demand lost to retirements is offset by larger plants running at higher capacity factors.

EXHIBIT 4

Coal Supply Trends by Basin



Source: EIA; Mining Safety and Health Administration (MSHA); Moody's estimates

Over the next 18 months through mid-2015, we don't expect sustainable price recovery beyond roughly $12/short ton. If these prices persist, average realizations will decline as higher-priced legacy contracts continue to roll off. PRB prices recovered substantially in 2013 from 2012 levels (see Exhibit 2), but in late 2013 were only marginally above the average cost of production. Although US coal producers made substantial efforts to contain costs throughout the recent downturn, average production costs will face pressures going forward as producers face thicker overburden and higher equipment maintenance costs.

Among our rated PRB producers, Cloud Peak Energy Resources (Ba3 stable) is best positioned to weather the period of low pricing, due to its low cost structure and conservative balance sheet.

Illinois Basin is Bright Spot Today, But Growing Supply May Upset Balance

Evolving competitive dynamics could upset the Illinois Basin's (ILB) position as the US coal industry's brightest spot.[4] As US coal consumption collapsed, ILB demand and prices have held up better than for other US coal-producing regions (see Exhibit 2), because ILB coal is generally consumed by the larger baseload coal plants that are less likely to be retired or under-utilized in favor of gas-fired capacity. Most ILB producers can generate healthy margins at the late 2013 spot prices of around $45/short ton.

But expansion plans in the region threaten to disrupt the ILB supply-demand equilibrium and may pressure prices. ILB production volumes grew to 127 million tons in 2012 from roughly 116 million tons in 2011, and we expect modest growth through mid-2015, with production volumes approaching 135 million tons in 2014.

ILB's coal has a natural customer base in newer, larger coal plants with proper emission controls. The coal's high heat value allows utilities to generate electricity from fewer tons, but its sulfur content produces high sulfur dioxide emissions, requiring scrubbers.

In the longer term, ILB producers will find buyers for their increased production, increasing exports and selling to utilities now served by other basins, especially CAPP. Lower labor costs and thicker coal seams make ILB coal production about half as expensive to produce as CAPP's low-sulfur coal. Some power producers in the US East will switch to ILB coal as their contracts roll off and they invest in emission-control technology. Other plants that currently use ILB coal will run at greater capacity factors as smaller plants retire.

Despite competitive costs, continued weak prices in the seaborne market may limit ILB producers' ability to export their additional production. Prices will come under pressure in the near- to intermediate term if supply outstrips demand growth, compressing ILB margins. But this pressure will hurt some producers more than others. Foresight has the lowest cost position among the six ILB producers that we rate, with an average cost advantage of as much as $10/ton. This advantage could keep particular pressure on Murray and Armstrong, the two other rated producers concentrated in ILB.

[4] See our Special Comment, "Increased Production at Illinois Basin Could Dim US Coal Sector's Brightest Spot," October 14, 2013.

New Gas Capacity and EPA Rules Pose Long-Term Risks for Northern Appalachia

NAPP production will remain steady through mid-2015 at close to 130 million tons annually, but over the medium term, competition with low-cost natural gas from the Marcellus Shale will put NAPP coal under greater pressure. CONSOL Energy's (Ba3 review for downgrade) diversification towards natural gas leaves it best-positioned to respond to this changing dynamic in the region.

NAPP mines will continue to earn healthy margins, due to the Pittsburgh Seam's favorable geology and higher heat content than most CAPP coal. Producers such as CONSOL, Alpha Natural Resources (B2 stable) and Murray can sell some of their NAPP coal into either thermal or high-vol met coal markets, which also offers some pricing support. NAPP coal costs about $45-$50/short ton to produce, while in late 2013 spot prices were comparable to CAPP coal at roughly $65/short ton.

Most NAPP coal contains less sulfur than ILB coal, but more than CAPP. The rated producers in the NAPP region tend to hold contracts with larger coal plants that have adequate emission controls. This and the region's proximity to eastern ports have kept NAPP production relatively stable through the downturn, and will continue to do so over the next 18 months through mid-2015.

Natural gas from Marcellus poses a longer-term threat, however. Most Northeastern power producers are deregulated and thus especially sensitive to fuel mix economics. The region's natural gas boom and limited pipeline capacity have oversupplied the market for natural gas; in late 2013 Marcellus Shale prices tracked increasingly lower than benchmark prices at Henry Hub. Growing natural gas production will drive gas-fired capacity additions in the region as soon as 2015. This additional capacity and MATS requirements will reduce demand for NAPP coal over longer term. CONSOL's diversification towards natural gas leaves it best-positioned to respond to this changing dynamic in the region.

Central Appalachia Remains in Secular Decline

Fuel substitution and coal plant retirements have hurt thermal production in CAPP more than any other US basin. CAPP mines today are largely depleted after decades of intensive mining, and they come with difficult geology and high labor costs from thorough unionization. Enhanced federal scrutiny over safety and difficulty in obtaining permits will keep adding to CAPP's high production costs. These factors prevent CAPP coal from competing with natural gas that sells below $5.00/MMBtu, as it has since 2010 and will likely do for the foreseeable future.

CAPP coal has already faced secular decline for several years. Production dropped most steeply in 2012, when producers curtailed almost 40 million short tons—about 20% of production. CAPP spot prices have collapsed since 2011, when they averaged $78/short ton; by late 2013, spot prices at roughly $65/short ton tracked below the average cost of production. As higher-priced legacy contracts continue to roll off, average realizations will keep declining, driving the higher-cost production out of the market. Meanwhile, high coal stockpiles in the region make any prospect of price recovery even more distant.

We expect full-year 2013 CAPP volumes to dip by another 10% and to continue declining as other basins and natural gas take more market share. As their market for thermal coal erodes, CAPP producers will increasingly focus on met coal production. Producers focused on thermal coal, such as James River Coal (Caa2 negative), will remain the weakest from a credit perspective.

Met Coal Export Market Will Remain Cool Amid Weak Steel Demand

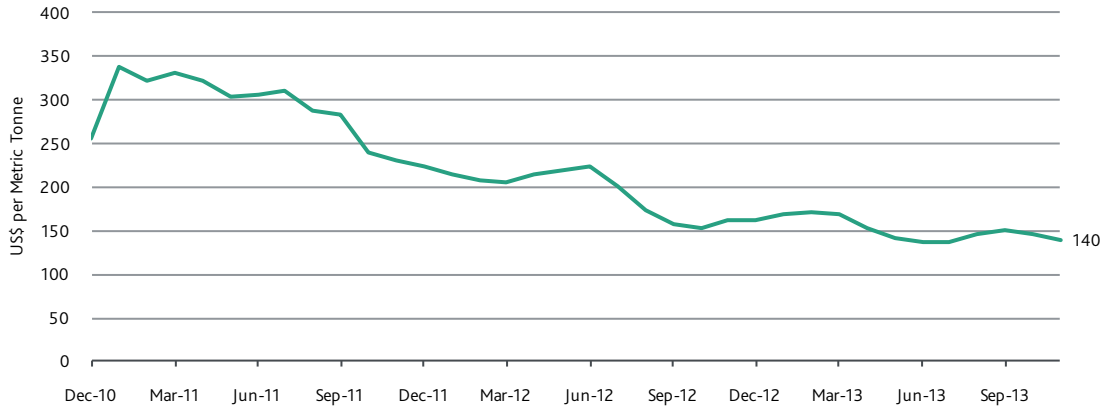
Annually US coal mines sell roughly 60 million-70 million short tons of met coal into the export markets and roughly 20 million short tons to domestic coke plants. Despite comprising a small proportion of production volumes, even small movements in met coal prices can have a dramatic effect on the credit metrics of US producers such as Alpha, Arch and Walter Energy (Caa1 stable). Peabody is the only US coal producer with mines in Australia, giving it the biggest near- and medium-term advantage as compared to its US-based peers.

Met coal producers tend to keep much of their future output uncommitted or unpriced, so met coal revenue is both less predictable and more susceptible to low spot prices than revenue for thermal coal. US met coal producers will continue struggling with low met coal prices through mid-2015.

The seaborne met coal market is driven by the global hard coking coal benchmark settlements that take place quarterly between the large coking coal producers and the Asian steelmakers. Met coal prices topped $300/tonne[5] in 2011 after devastating flooding in Australia cut supplies to the then-booming Asian steel market. Since then, supply bottlenecks have resolved and Asia's steel market has cooled. By summer 2013, benchmark settlements had fallen to $145/tonne, and spot prices approached $135/tonne—the lowest since 2009 (see Exhibit 5, below). Low prices forced more than 40 million metric tonnes of global met coal production offline in 2013, and sluggishness in the global steel markets will continue to pressure met coal prices and challenge its producers.

EXHIBIT 5

Met Coal Spot Prices, 2010-2013



Source: Bloomberg

Although supply rationalization helped push the benchmark settlement back to $152/tonne in the third quarter of 2013, we believe the global met coal market remains oversupplied. Supplies from Australia will increase as new projects that began when prices were higher come online. Those projects are generally closer geographically to their key markets and enjoy lower costs than their US peers. Recent improvements in productivity and a weaker Australian dollar have widened the Australian producers' cost advantage.

We expect met coal prices to hover in the $150-$165/tonne range in 2014, due to muted supplier response and continued weakness in the steel markets. These prices will ultimately drive higher-cost mines to close in North America and Australia before prices recover in the medium term to $170-$175/tonne.

[5] Or metric ton.

Thermal Coal Exports to Drop on Weakening Overseas Pricing

The seaborne market has been the "safety valve" for US producers in recent years, absorbing excess coal supplies being displaced by the shale gas revolution, and offering an alternative market at global benchmark prices when domestic prices are low. US coal exports set a record in 2012 at 126 million short tons. Export volumes are still high by historical standards, even though they will likely fall by roughly 10 million short tons in 2013 because of lower export prices.

Europe's high natural gas prices and Asia's growing coal-fired power generation present opportunities for the US thermal coal producers, but competition from other suppliers globally and port constraints pose a formidable challenge.

Europe's weak economic environment reduced benchmark API2 prices to an average of roughly $80/tonne in 2013, compared to $121/tonne in 2011. We believe that current spot prices offer little margin potential for US producers and make domestic market more lucrative. We expect that Atlantic basin will remain oversupplied in 2014, with prices in the range of $80-$85/tonne.

Meanwhile, roughly one-quarter of US exports are exports of thermal coal to Asia, where market continues to be oversupplied by production from Indonesia and Australia, the Pacific basin's two largest exporters, with slower growth in China only adding to this pressure. We expect the prices in the Pacific Basin to remain depressed through 2014, tracking in the range of $80-$85/tonne.

We believe that ILB and NAPP producers with low-cost longwalls and ample access to the ports, such as Foresight and CONSOL, will enjoy most opportunities in the seaborne markets.

Meanwhile, limited port capacity will continue to stifle PRB coal's access to the Pacific Basin. Producers today must ship coal through Canada's Ridley, Neptune and Westshore terminals, which have little capacity for additional US coal. Port operators plan to build nearly 100 million tons of additional capacity at Washington State's Millennium Bulk Terminals and Gateway Pacific Terminal, but environmental and regulatory roadblocks will probably delay this expansion for several more years.

Appendix: Rated US Coal Producers

US Coal Rated Universe

Company	Corporate Family Rating (CFR)	Outlook	Speculative Grade Liquidity Rating	LTM 9/30 Revenue (US$ mm)
Peabody Energy	Ba2	Stable	SGL-2	7,288
Cloud Peak Energy	Ba3	Stable	SGL-2	1,418
CONSOL Energy	Ba3 RUR	RUR (down)		4,843
Natural Resource Partners	B1	Stable	SGL-3	365
Alpha Natural Resources	B2	Stable	SGL-2	5,348
Bowie Resource Partners	B2	Stable		460
Foresight Energy	B2	Stable	SGL-2	940
Arch Coal	B3	Negative	SGL-2	3,562
Armstrong Energy	B3	Stable		405
Patriot Coal	B3	Stable	SGL-3	1,527
Walter Energy	Caa1	Stable	SGL-4	1,867
Westmoreland Coal	Caa1	Positive	SGL-3	660
James River Coal	Caa2	Negative	SGL-3	736

Note: Data for Bowie Resource Partners is for 2012 and pro forma for the Canyon Fuel acquisition from Arch Coal.

Source: Moody's Financial Metrics.

Moody's Related Research

Industry Outlooks:

» 2014 Outlook - US Steel, US Coal, and Global Base Metals (Presentation), December 2013 (160571)

» 2014 Outlook - US Steel, US Coal and Global Base Metals: Downward Pressure Has Bottomed But No Significant Improvement in Sight (Summary), December 2013 (160973)

» Outlook Update: US Coal Industry Outlook Stabilizes as Business Conditions Hit Bottom, August 2013 (157309)

Special Comments:

» North American Coal Industry: Increased Production at Illinois Basin Could Dim US Coal Sector's Brightest Spot, October 2013 (159076)

» North American Coal Industry: US Coal Producers' Liquidity Signals Varying Ability to Cope with Weak Conditions, August 2013 (157228)

Sector Comment:

» North American Coal Industry: US Met Coal Struggles for Relief Amid Low New Benchmark Prices, June 2013 (155841)

Rating Methodology:

» Global Mining Industry, May 2009 (116843)

To access any of these reports, click on the entry above. Note that these references are current as of the date of publication of this report and that more recent reports may be available. All research may not be available to all clients.

Rate this Research »

Report Number: 161317

Authors
Anna Zubets-Anderson
Kijana Mack

Production Associate
Avkash Prasad

MOODY'S
INVESTORS SERVICE