UNITED STATES SECURITIES AND EXCHANGE COMMISSION WASHINGTON, DC 20549

FORM 8-K

CURRENT REPORT Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of report (Date of earliest event reported): May 12, 2010 (May 12, 2010)

Arch Coal, Inc.

(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation) 1-13105 (Commission File Number) 43-0921172 (I.R.S. Employer Identification No.)

CityPlace One One CityPlace Drive, Suite 300 St. Louis, Missouri 63141 (Address, including zip code, of principal executive offices)

Registrant's telephone number, including area code: (314) 994-2700

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

o Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

o Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

o Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

o Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Item 7.01 Regulation FD Disclosure.

On May 12, 2010, John Drexler, Senior Vice President and Chief Financial Officer of Arch Coal, Inc., will deliver a presentation at the Bank of America Merrill Lynch 2010 Global Metals & Mining Conference that will include written communication comprised of slides. The slides from the presentation are attached hereto as Exhibit 99.1 and are hereby incorporated by reference.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

The following exhibit is attached hereto and furnished herewith.

Exhibit No.	Description
99.1	Slides from the Bank of America Merrill Lynch 2010 Global Metals & Mining Conference.
	1

Signatures

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Dated: May 12, 2010

Arch Coal, Inc.

By: /s/ Robert G. Jones Robert G. Jones Senior Vice President—Law, General Counsel and Secretary Exhibit Index

Description

99.1 Slides from the Bank of America Merrill Lynch 2010 Global Metals & Mining Conference.

Bank of America Merrill Lynch Global Metals & Mining Conference

Miami | 05.12.2010



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Forward-Looking Information

This presentation contains "forward-looking statements" – that is, statements related to future, not past, events. In this context, forward-looking statements often address our expected future business and financial performance, and often contain words such as "expects," "anticipates," "intends," "plans," "believes," "seeks," or "will." Forward-looking statements by their nature address matters that are, to different degrees, uncertain. For us, particular uncertainties arise from changes in the demand for our coal by the domestic electric generation industry; from legislation and regulations relating to the Clean Air Act and other environmental initiatives; from operational, geological, permit, labor and weather-related factors; from fluctuations in the amount of cash we generate from operations; from future integration of acquired businesses; and from numerous other matters of national, regional and global scale, including those of a political, economic, business, competitive or regulatory nature. These uncertainties may cause our actual future results to be materially different than those expressed in our forward-looking statements. We do not undertake to update our forward-looking statements, whether as a result of new information, future events or otherwise, except as may be required by law. For a description of some of the risks and uncertainties that may affect our future results, you should see the risk factors described from time to time in the reports we file with the Securities and Exchange Commission.

This presentation includes certain non-GAAP financial measures, including Adjusted EBITDA. These non-GAAP financial measures are not measures of financial performance in accordance with generally accepted accounting principles and may exclude items that are significant in understanding and assessing our financial results. Therefore, these measures should not be considered in isolation or as an alternative to net income from operations, cash flows from operations, earnings per fully-diluted share or other measures of profitability, liquidity or performance under generally accepted accounting principles. You should be aware that our presentation of these measures may not be comparable to similarly-titled measures used by other companies. A reconciliation of these financial measures to the most comparable measures presented in accordance with generally accepted accounting principles has been included at the end of this presentation.





Arch Coal is a leader in the coal industry

- · Second largest coal producer in the U.S.
 - Leading U.S. position in all three major low-sulfur coal basins
 - Significant exposure to metallurgical markets
 - Diversified reserve portfolio of 4.7 billion tons
- Represent 16 percent of the U.S. coal supply
 - Provide cleaner-burning, low-sulfur coal to 183 domestic power plants in 39 states to fuel 8 percent of the nation's electricity
 - Ship coal to domestic/international steel manufacturers and international power producers
- Lead coal industry in mine safety and environmental compliance
 - Talented workforce operates large, modern mines

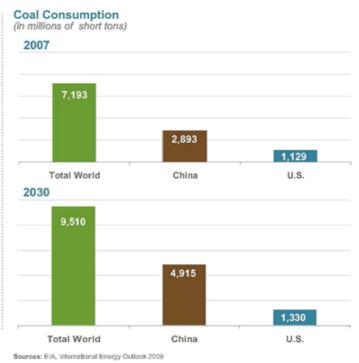






World coal consumption is expanding rapidly

- Over 80% of the world's population lives in developing countries
- Many developing countries are just reaching the point where individual wealth and energy consumption start to accelerate







Arch Coal, Inc.

Around the world, countries are building coal plants to fuel electricity needs







Global coal supply flows continue to shift – and create further opportunities for U.S. met/steam coal exports Atlantic Basin Market ~ 36% of Global Seaborne Trade in 2009



USA: potential growing seaborne supplier with available export capacity; emerging supplier to Pacific Rim

South America: infrastructure constraints; political instability; growing regional coal burn; emerging supplier to Pacific Rim

Russia: coal exports to Asia are increasing, while coal exports to Europe are decreasing

Europe: coal production declining; growing coal burn in eastern Europe; traditional import supply waning

South Africa: 30% of coal exports moved to India in 2009; domestic needs and infrastructure constraints limit export growth

Who will supply coal in Atlantic Basin during the next market up-cycle?



Global coal demand is recovering (albeit at different rates), while structural supply constraints remain

Last Market Run-Up

- "The lack of investment spent by Australian infrastructure providers over the past decade has resulted in severe rail and port bottlenecks." Macquarie (6/07)
- "China, which became a net importer of coal this year, increased purchases of the fuel 27% in April to meet higher energy demand." Bloomberg (5/07)
- "India is expecting to double its South African coal imports during 2007. High demand and a halt in Chinese exports of coal are thought to be the cause of this increase." *Reuters* (5/07)
- "Production is shifting away from West Virginia because the state has presented coal producers with difficult regulations, torrents of litigation and orchestrated hostility that discouraged growth and investment." West Virginia State Journal (5/07)



Present

- "Fundamentally, the metallurgical coal market looks extremely tight, as recent Australian infrastructure problems have removed any remaining slack." Macquarie (2/10)
- "China finished the year as a net importer to the tune of 103.43mt – a massive swing from its position of net exporter of 17.43mt in 2008." *McCloskey (1/10)*
- "India was the biggest single buyer of South African coal in 2009...and is hungry for more to feed its burgeoning power needs." Reuters (1/10)
- "The outlook for CAPP surface mining, in our view, remains in question following the EPA's decision to undergo a thorough reevaluation of the standards mandated by the CWA. CAPP surface mines have begun to idle as existing permits are exhausted and cannot be extended." Morgan Stanley (1/10)

Coal was disproportionately impacted by downturn in 2009; should outperform other fuels in recovery

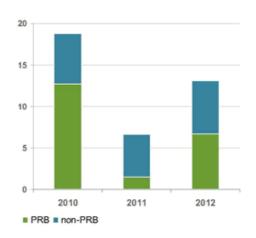


U.S. coal consumption also will benefit from new coal plant start-ups

- Approximately 5 GW 16 plants have come online in 2008 and 2009
- Build-out of 12 GW through 2012 equates to 40 million tons of new annual coal demand
- Arch estimates that the Powder River Basin will service one half of this demand
- Currently we estimate that 5 GW roughly 8 plants – are scheduled to be in operation by the end of 2010

Anticipated Annual Supply Needs for U.S. Coal Plants Under Construction (in millions of tons)

Arch Coal, Inc.



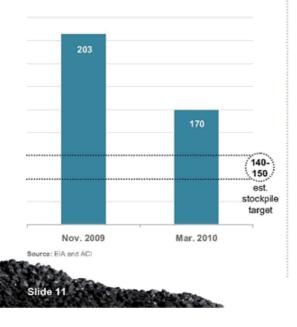


Source: Platts, EIA and ACI



U.S. coal stockpiles are being liquidated much faster than anticipated

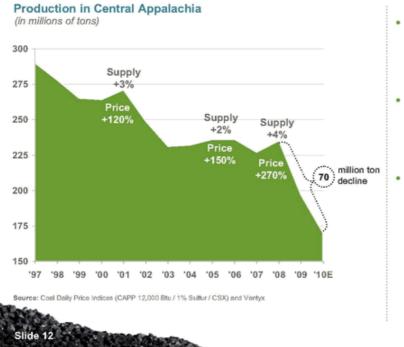
Estimated Coal Stockpile Levels at U.S. Power Generators (in millions of tons)



- During the shoulder season, Arch anticipates a smaller build in stockpiles versus previous years
- PRB stockpiles are the lowest in the country and approaching normal levels ... translating into improvement in the forward curve index pricing ... with pressure building for additional price movement much earlier in this market up-cycle

Arch Coal, Inc.

U.S. coal production continues to shift westward as Central Appalachia is in long-term decline

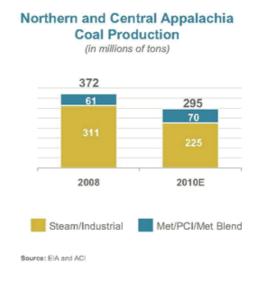


- Sharp price run-ups have acted to arrest production declines only temporarily
- Based on historical trend, most of that supply reduction is likely to be permanent
- The 2008 2010 drop is shaping up to be the largest decline in production yet

Arch Coal, Inc.

Competition is set to increase for constrained coal supply in Northern and Central Appalachia

- Nearly 90 million tons of high-Btu Appalachian production could disappear from steam coal markets or migrate to higher margin met coal markets
- Other coal basins will need to fill the supply gap left by the Appalachian basins





Arch Coal, Inc.

Powder River Basin should fill most of the supply gap from the Appalachian basins over the next five years

Powder River Basin

- Lowest cost and largest coal supply region in the United States
- Consistent with history, PRB will be called upon to fill supply gap created by Appalachia
- Replacing 90 million tons of Appalachian coal would require more than 120 million tons of PRB coal on a Btu-equivalent basis
- Would represent the most profound call on PRB yet



Illinois Basin

- Positive long-term outlook
 Imited growth ... but with challenges:
 - Much higher cost than PRB
 - Capital investment required will be significant
 - Long lead time for permitting and project development
 - Some areas contain difficult geology
 - Quality disadvantage (particularly chlorine) in certain regions

Northern App

- potential
- High sulfur content
- Export pull for steam and crossover met products will further reduce supply available to domestic power generators



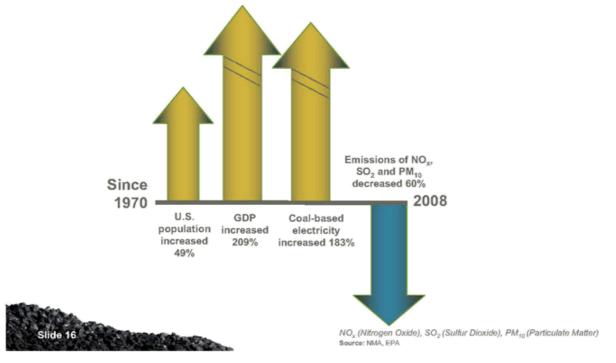


Arch Coal, Inc.





Coal is increasingly clean...and will become more climate-friendly with time and funding

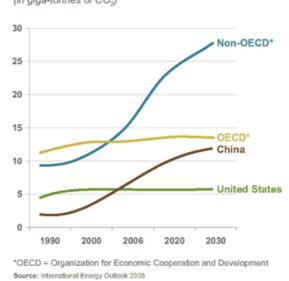




The developed and developing world must work together to address the climate challenge

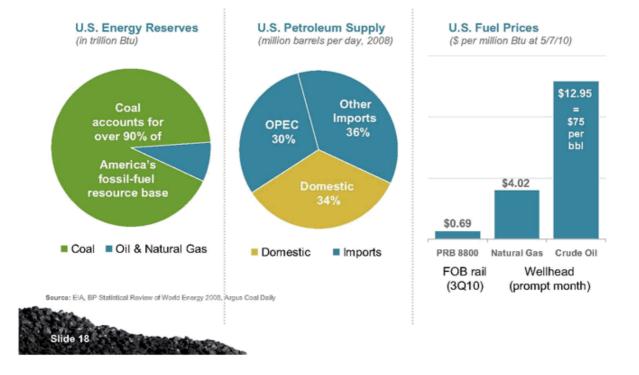
CO₂ Emission Trends (in giga-tonnes of CO₂)

Slide 17



- Rapid increases in CO₂ emissions in emerging Asia further underscore the need for clean coal technologies
- China is now the largest emitter of CO₂ and the developing world has surpassed the OECD nations in total emissions
- Clearly, we will need global solutions to address the climate issue

Coal will remain a vital part of America's energy future







Arch's national scope of operations and reserve base includes presence in five major U.S. coal basins





137

Arch is a top producer in each of nation's key low-sulfur coal-producing basins

2009 Tons Sold

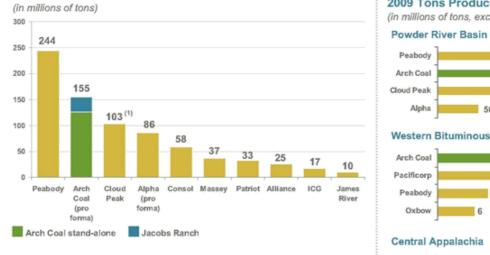
2009 Tons Produced (in millions of tons, excludes brokerage)

Peabody

Arch Coal

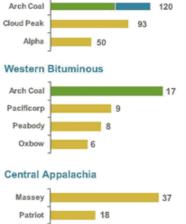
Alpha

Arch Coal



(1) Includes roughly 10 million tons of brokered coal from Jacobs Ranch





16

11

Arch's safety and environmental performance is the best among the largest public coal companies

- Arch's safety record is the best in the U.S. coal industry
 - Set new company record
 - Arch's rate was one-fourth the national coal industry average
- Arch's environmental performance ranks first among major coal industry peer group
 - Set new company record in 2009
- Ten of Arch's individual mines and facilities achieved either zero reportable injuries or zero environmental violations in 2009



4.00	Industry five-year average = 3.21
3.50	industry interyour average = 5.21
3.00	
2.50	
2.00	Arch five year average = 0.92
2.00	Arch five-year average = 0.93
	Arch five-year average = 0.93
1.50	Arch five-year average = 0.93
1.50 1.00	Arch five-year average = 0.93

Lost-Time Safety Incident Rate

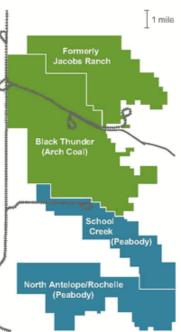
Sources: ACI, MSHA, State environmental agencies

Slide 23

Arch Coal, Inc.

Arch completed acquisition of Jacobs Ranch in 2009, and integrated it into Black Thunder

- The enhanced Black Thunder is the largest single coal-mining complex in the world
 - Permitted coal reserves* of 1.5 billion tons
 - Productive capacity of more than 140 million tons per year should market conditions warrant
- Synergies from the transaction of between \$45 million and \$55 million annually
 - Roughly half represent operational cost savings with the remaining related to administrative cost savings as well as enhanced coal-blending opportunities
- Arch's leading position in the PRB is focused on the 1-billion-ton domestic steam coal market
 - Growing interest in expanding exports off the West Coast



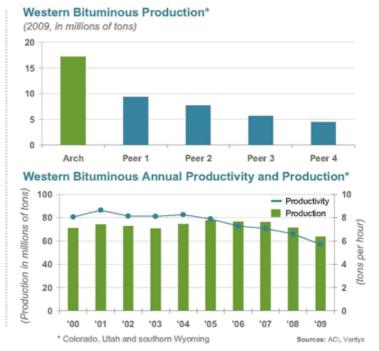
* Reserves at 12/31/09

Arch Coal, Inc.

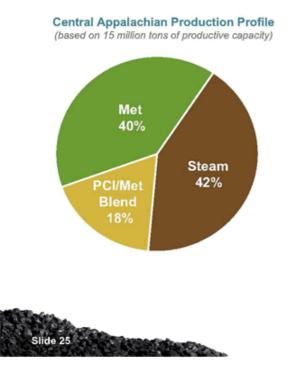
Arch's Western Bituminous assets continue to contribute meaningfully to the company's earnings profile

- Arch is the leading producer in the Western Bituminous region
 - Earnings leverage as demand expands for region's high-Btu coal and as legacy contracts roll off
- Supply in the mature Western Bituminous region is constrained even as pricing has remained elevated

Slide 24



Arch is a leading producer of met and PCI coal – with plans to expand position further

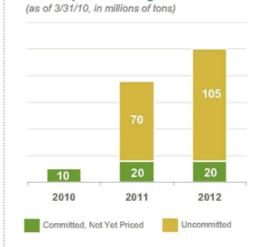


- Arch's low-cost production profile is geared towards serving high-margin met market as well as high-quality
 Eastern power and growing
 seaborne steam market
- In the current met market, Arch's met shipments should increase meaningfully
- Arch plans to invest modest capital in 2010 to add met production at Cumberland River – increasing total met capabilities to approach 8 million tons per year

Arch Coal, Inc.

Arch is strongly positioned for the recovering domestic coal market

- Arch employs a pragmatic, marketdriven pricing strategy
- We remain committed to maintaining near-term stability in earnings
 - Effectively sold out for 2010; retain some price exposure
- We also strive to preserve our longterm earnings leverage by retaining the flexibility to layer in future volumes at attractive levels

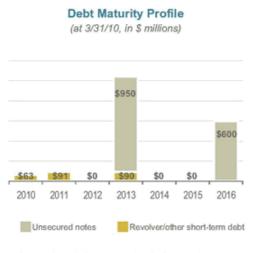


Arch Unpriced Tonnage



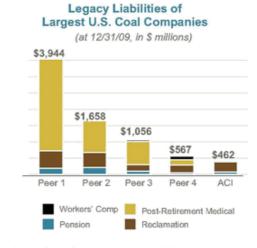


Arch maintains one of the strongest and cleanest balance sheets in the U.S. coal industry



- Financing initiatives in 2009 enhanced liquidity and extended debt maturities
- Available liquidity is more than \$700 million





- Low level of legacy liabilities vs. peers
- Two-thirds of Arch's legacy liabilities are comprised of reclamation liabilities

Source: ACI and peer SEC fillings

Slide 28

Arch has the capacity to capitalize on strengthening coal markets

Arch Potential Upside to Increase in Coal Prices - 2011

(\$ in millions, except per ton and per share amounts)

		Illustrative Price Increase		
Steam Coal	\$2	\$5		
Met Coal	\$20	\$40		
2011 Unpriced Tons (in millions)				
Steam Coal (1)	83.0	83.0		
Met Coal (1)	7.0	7.0		
Potential Incremental Revenue	\$306	\$695		
Less: Sales-Sensitive Payments @ 18.5% ⁽²⁾	(57)	(129)		
Potential Incremental EBITDA	\$249	\$566		
Less: Taxes @ 25%	(62)	(142)		
Potential Incremental Net Income	\$187	\$424		
Potential Incremental EPS (3)	\$1.15	\$2.60		

Steam coal based on midpoint of open tonnage guidance of 90 million tons less met coal capabilities of roughly 7 million tons Sales-sensitive costs consist of royalties, black lung tax and severance tax Based on diluted weighted average shares outstanding of 163 million in 2009 (1) (2) (3)

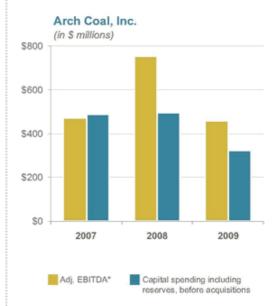
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With major expansion plans completed, Arch is focused on generating free cash flow

- From 2004-2007, Arch completed a large capital spending program that supported organic growth initiatives
- Looking ahead, Arch will maintain rigorous capital and cost control – with a focus on growing free cash flow in 2010 and beyond
- Arch will evaluate all priorities for utilizing free cash flow, including:
 - Debt pay down
 - Dividends
 - Share repurchase
 - Re-investing in the business through organic growth and acquisition opportunities
 - Investments to expand market for coal (coal conversion technologies)





*Adjusted EBITDA is defined and reconciled at end of presentation

EBITDA Reconciliation Chart

Included in the accompanying presentation, we have presented certain non-GAAP measures as defined by Regulation G. The following reconciles these items to net income as reported under GAAP.

Adjusted EBITDA

Adjusted EBITDA is defined as net income attributable to the Company before the effect of net interest expense, income taxes, depreciation, depletion and amortization and the amortization of acquired sales contracts, net, and other non-operating expense. Adjusted EBITDA may also be adjusted for items that may not reflect the trend of future results.

Adjusted EBITDA is not a measure of financial performance in accordance with generally accepted accounting principles, and items excluded to calculate Adjusted EBITDA are significant in understanding and assessing our financial condition. Therefore, Adjusted EBITDA should not be considered in isolation nor as an alternative to net income, income from operations, cash flows from operations or as a measure of our profitability, liquidity or performance under generally accepted accounting principles. We believe that Adjusted EBITDA presents a useful measure of our ability to service and incur debt based on ongoing operations. Furthermore, analogous measures are used by industry analysts to evaluate operating performance. In addition, acquisition-related expenses are excluded to make results more comparable between periods. Investors should be aware that our presentation of Adjusted EBITDA may not be comparable to similarly titled measures used by other comparies. The table below shows how we calculate Adjusted EBITDA.

Year Ended December 31,					
2009		2008			2007
		(t	inaudited)	_	
\$	42,179	\$	355,211	\$	175,943
	(16,775)		41,774		(19,850)
	98,310		64,285		72,265
	301,608		293,553		243,695
	19,623		(705)		(1,633)
	13,726				
					2,273
	(10)		(881)	_	(1,014)
\$	458,661	\$	753,237	\$	471,679
		_			
	\$	2009 \$ 42,179 (16,775) 98,310 301,608 19,623 13,726 (10)	2009 (0 \$ 42,179 \$ (16,775) 98,310 301,608 19,623 13,726 (10)	2009 2008 (Unaudited) \$ 42,179 \$ 355,211 (16,775) 41,774 98,310 64,285 301,608 293,553 19,623 (705) 13,726 - (10) (881) - -	2009 2008 (Unaudited) (Unaudited) \$ 42,179 \$ 355,211 (16,775) 41,774 98,310 64,285 301,608 293,553 19,623 (705) 13,726 - (10) (881)



JOHN T. DREXLER

Senior Vice President and CFO, Arch Coal, Inc.

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