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): September 6, 2012 (September 6, 2012)

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 September 6, 2012, John W. Eaves, President and Chief Executive Officer of Arch Coal, Inc. (the "Company"), will deliver a presentation at the Barclays Capital 2012 CEO Energy/Power Conference. The slides from the presentation are attached as Exhibit 99.1 hereto and are hereby incorporated by reference.

The information contained in Item 7.01 and the exhibits attached hereto shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities of that section, nor shall they be deemed incorporated by reference in any filing under the Securities Act of 1933, as amended (the "Securities Act") or the Exchange Act, except as shall be expressly set forth by specific reference in such a filing.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

The following exhibits are attached hereto and filed herewith.

Exhibit
No.

99.1 Slides from the Barclays Capital 2012 CEO Energy/Power Conference.

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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: September 6, 2012 Arch Coal, Inc.

By: /s/ Robert G. Jones

Robert G. Jones

Senior Vice President – Law, General Counsel and Secretary

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Exhibit Index

io. Description

Slides from the Barclays Capital 2012 CEO Energy/Power Conference.

Powering the Working World.







Powering the Working World.

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.



Arch is the most diversified U.S. coal producer, and the No. 2 reserve holder in the nation



*Pro form a reserves at 12/31/11

Slide 3

ArchCoal |

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Arch leads the coal industry in safety and environmental compliance

Lost-Time Safety Incident Rate (per 200,000 employee-hours worked)

4.0 Industry 5-year avg. = 2.64 2.0 Arch 5-year avg. = 0.62 ICG Acquisition 0.0 '07 '08 '09 '10 '11 1H12

ACI Environmental Compliance

(SMCRA violations based on state reports)

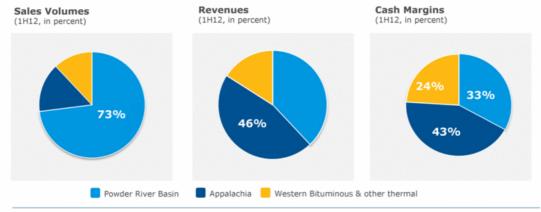


- Arch's safety performance is four times better than the U.S. coal industry average
 - Arch is deeply committed to further improving its industry-leading safety and environmental performances since integrating ICG into the fold



Arch has a balanced and diversified mine portfolio

While Arch's sales volumes are weighted toward low-cost Powder River Basin coal, the company's revenue stream is diversified between eastern (increasingly metallurgical) and western regions – and cash margins are very well balanced among all core operating regions.



Slide 5



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Arch is holding the line on cost escalation despite running at lower volume levels



Prior Current

Appalachian Cost Guidance*
(2012E, cash costs per ton)

Powder River Basin Cost Guidance*



- Controlling consumable costs (i.e. diesel, explosives)
- Reducing headcount, contractors and labor costs
- Decreasing parts & supplies expense as well as repair costs due to idled equipment
- Working with alliance and strategic suppliers
- Right-sizing operations
- Idling high-cost thermal capacity (Appalachia)

*As given on 7/27/12

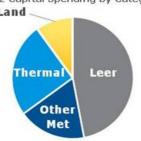


Arch is prudently managing its capital spending during this cycle

2012 Capital Spending Guidance* (in millions)



2012 Capital Spending by Category



- Lowering capital spending at thermal mines
- Matching maintenance capital needs to reduced volume expectations
- Redeploying idled equipment into other operations
- Cautiously proceeding with higher-return metallurgical projects

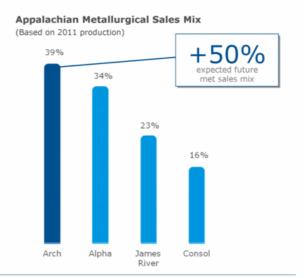
*As given on 7/27/12 Slide1

ArchCoal

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Arch's Appalachian portfolio is low in cost — and is geared toward higher-margin met assets





Sources: Peer earnings and SEC filings, ACI

Arch

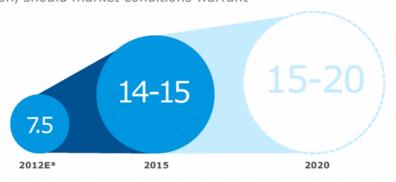
Alpha

James

Consol

Arch's long-term growth plans are focused on higher-return organic expansions

- Leer metallurgical mine adds 3.5 million tons, starting in mid-2013
- 414 million tons of low-cost met reserves support incremental and greenfield expansion, should market conditions warrant



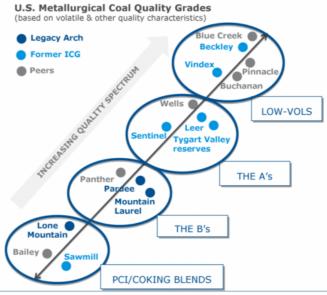
*As given on 7/27/12 Slide

ArchCoal

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Arch's metallurgical coal build-out will expand platform and upgrade overall product slate

- With the acquisition of ICG in 2011, Arch gained low-vol and high-vol A met assets, immediately upgrading its product slate
- With the build-out of Leer, Shelby Run and other reserves in Tygart Valley, Arch's met coal quality mix will increase further







Sources: Wood Mackenzie, ACI Slide 11

ArchCoal

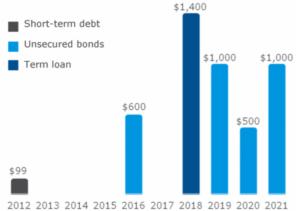
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Arch has increased its financial flexibility and enhanced its liquidity

Cash on Hand*

\$513 million





- Arch has no long-term debt maturities until 2016
- Relaxed financial maintenance covenants until late 2014
- \$860 million of liquidity available, which includes cash on hand

*Balances as of 6/30/2012



Arch maintains very low legacy liabilities versus major peers

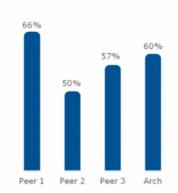
Legacy Liabilities of Largest U.S. Coal Companies (12/31/11, in millions)

Annual Expense of Legacy Liabilities (12/31/11, in millions)

Net Debt-to-Capital Ratio Including Legacy Liabilities







Source: SEC filings

*Legacy liabilities as of 12/31/11



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Metallurgical coal markets represent a compelling long-term opportunity

CURRENT GLOBAL MARKET

- Met markets are soft currently due to global macro uncertainty
- Year-to-date global steel production is up slightly but down in Europe
- Utilization rates at U.S. steel mills have fallen to ~75%
- Seaborne coal markets were modestly oversupplied by roughly 25 million tonnes in the first half of 2012

LONG-TERM GLOBAL MARKET

- World steel consumption is projected to increase +50% by 2020
- World population to top 8 billion by 2030 — with substantial growth in the middle class
- China and India are expected to import 1.5 billion tonnes by 2030
- Long-term met market strength driven by demand growth — and supply constraints

Sources: World Steel Association, Wood Mackenzie, ACI and other public sources

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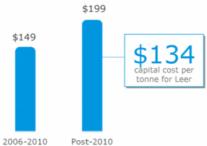


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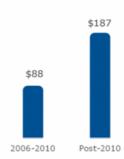
U.S. coal should become increasingly competitive in world markets over time

As pressures mount in the fastest growing supply regions, U.S. coal should become even more competitive on the global stage. With Arch's exceptional reserve base, we expect far lower capital requirements for incremental met and thermal volumes.





New Australian
Thermal Coal Capacity*
(Capital cost per tonne, in AS)

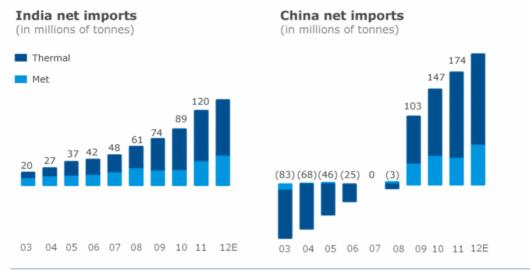


Sources: Wood Mackenzie, ACI

*Projects that began construction prior to 2010 versus post-2010 (or expected post-2010)



In seaborne coal markets, the trend line is clear ... with little reason to believe it will change soon



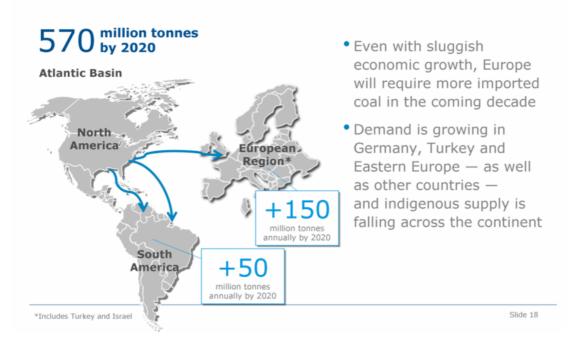
Sources: ACI, McCloskey and India Coal Market Watch Data

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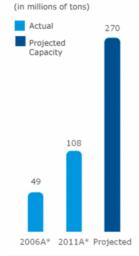
Opportunities in the Atlantic Basin are promising





Planned U.S. port expansions will support a more than doubling of coal exports over the next five years or so

U.S. Exports





Sources: ACI, NMA, Port Terminal Presentations

*Includes overland shipments to Canada/Mexico **Capacity available for U.S. sourced volumes

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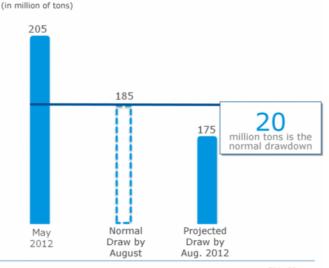


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U.S. thermal market has reached an inflection point — and coal stockpiles are beginning to liquidate

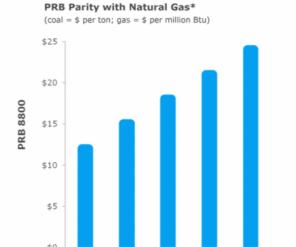
- Stockpiles peaked in May 2012, slightly above the record set in 2009
- Hot weather and modestly higher natural gas prices have drawn down stocks meaningfully
- Domestic thermal market is trending toward better balance in the second half of the year

Estimated Coal Stockpile Levels at U.S. Power Generators



Powder River Basin coal has a compelling story when compared to natural gas

- PRB is the most cost competitive fossil fuel source in the U.S.
- Opportunity for PRB prices to increase even in a low-priced natural gas environment



Sources: ACI, EIA, Ventyx

*Assumes transportation charge of \$20 to \$25 per ton; incremental VOM non-fuel costs; and appropriate heat rate differentials for NGCC plants and coal plants.

\$3.00

\$3.25

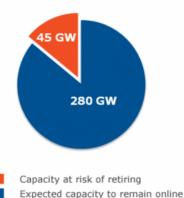
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EPA regulations will force coal plant retirements — but at-risk plants are already operating at very low capacity factors

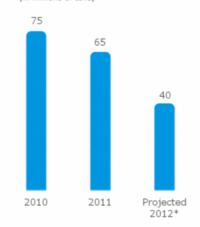
U.S. Coal Fleet (in gigawatts of capacity)



Sources: ACI, Ventyx and EIA



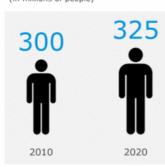
Natural Gas



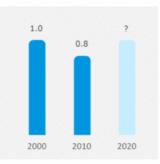


Over the long-term, growth in U.S. coal consumption should offset the impact of coal plant retirements

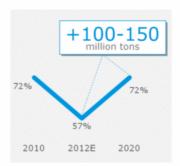
U.S. Population



U.S. Industrial Load (in million megawatt hours)



U.S. Coal Plant Utilization (Remaining 280 gigawatts)



Growing U.S. population trends should boost retail/commercial power demand. A manufacturing renaissance in the U.S. could also spark industrial load again. These demand drivers should increase coal plant capacity utilization to levels achieved in the past, offsetting any impact from coal plant retirements.

Sources: Ventyx , U.S. Census Bureau and ACI

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Powering the Working World.

Arch has optimized its capital structure to weather tough conditions, and will benefit from improving coal markets

Current downturn is primarily cyclical, and Arch's diversified operations and competitive cost position will allow us to emerge as an even stronger player

Flexible Capital Structure

Current Focus

- Manage capital
- Control costs
- Rationalize supply
- Continue met development
- Maximize value of asset base

As Cycle Turns

- · Reduce leverage
- Return capital to stakeholders
- Invest in the business via organic and strategic growth