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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, DC 20549**

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**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 14, 2008 (May 14, 2008)**

**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:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
  - Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
  - Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
  - Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
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**Item 7.01 Regulation FD Disclosure.**

On May 14, 2008, Steven F. Leer, Chairman and Chief Executive Officer of Arch Coal, Inc., will deliver a presentation at the Merrill Lynch Global Metals, Mining & Steel 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.

A copy of the slides will be available at <http://investor.archcoal.com/events.cfm> for 30 days.

**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 presentation at the Merrill Lynch Global Metals, Mining & Steel Conference.

**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 14, 2008

Arch Coal, Inc.

By: /s/ Robert G. Jones  
Robert G. Jones  
Vice President – Law, General Counsel and Secretary

**Exhibit Index**

Exhibit No.	Description
99.1	Slides from the presentation at the Merrill Lynch Global Metals, Mining & Steel Conference.



Arch Coal, Inc.



## Merrill Lynch Global Metals, Mining & Steel Conference

Steve Leer, Chairman and CEO  
Arch Coal, Inc.

Key Biscayne, FL  
May 14, 2008

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## Forward-Looking Information

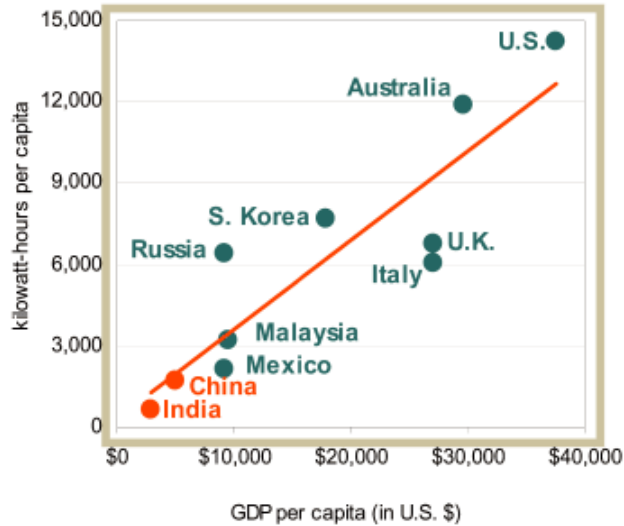
This presentation contains “forward-looking statements” – that is, statements related to future, not past, events. In this context, forward-looking statements often address our expected future business and financial performance, and often contain words such as “expects,” “anticipates,” “intends,” “plans,” “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.



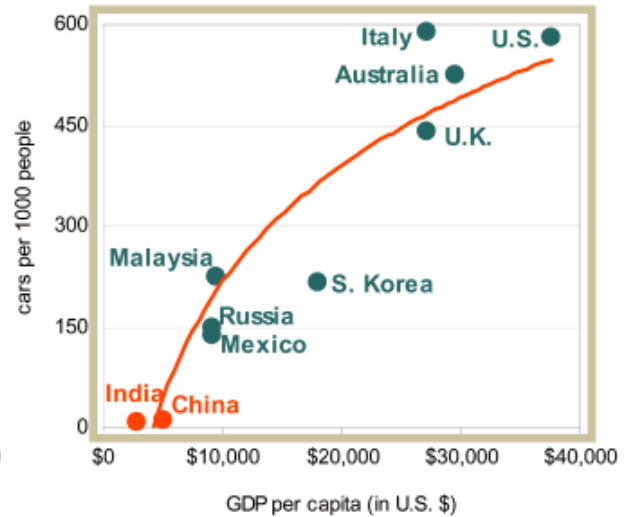


## Developing nations will increase energy use, putting pressure on global supply

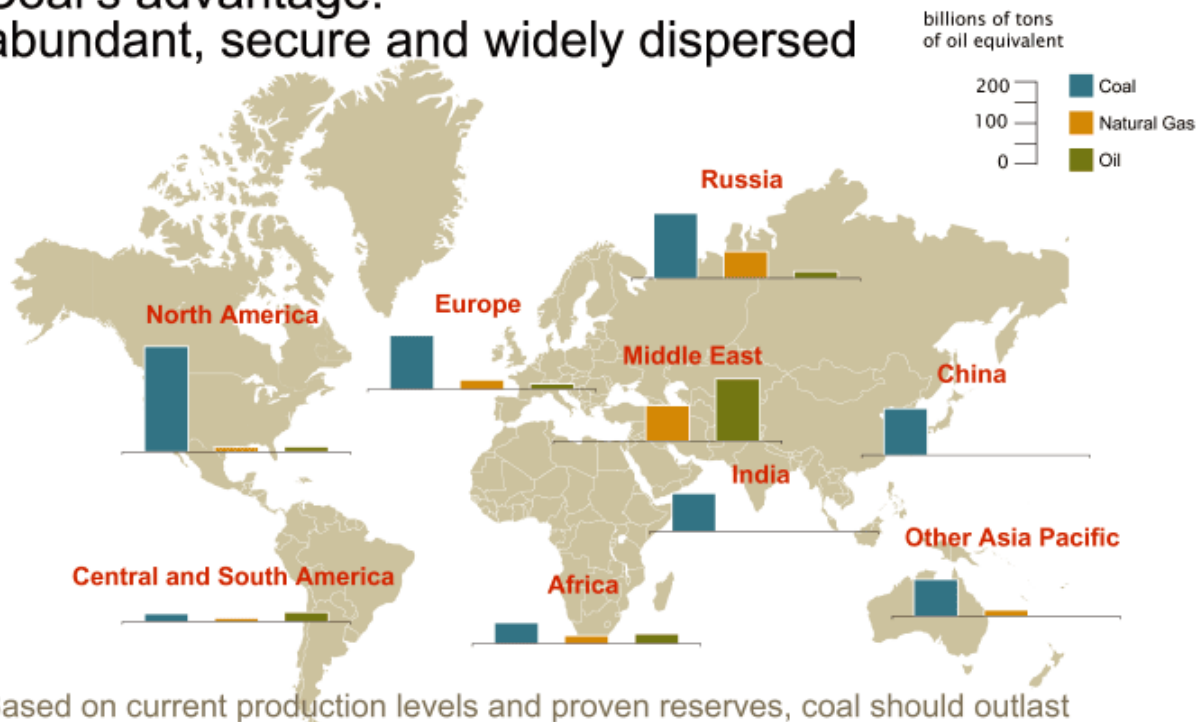
### Electricity Usage per Capita



### Passenger Vehicles per 1,000 People



## Coal's advantage: abundant, secure and widely dispersed

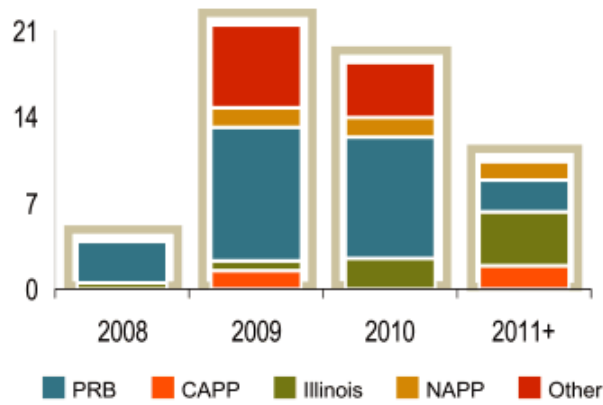


Based on current production levels and proven reserves, coal should outlast both gas supplies and oil reserves by **roughly 4 times**



## Largest U.S. coal plant build-out since 1980 is ongoing, but not enough to satisfy America's energy needs

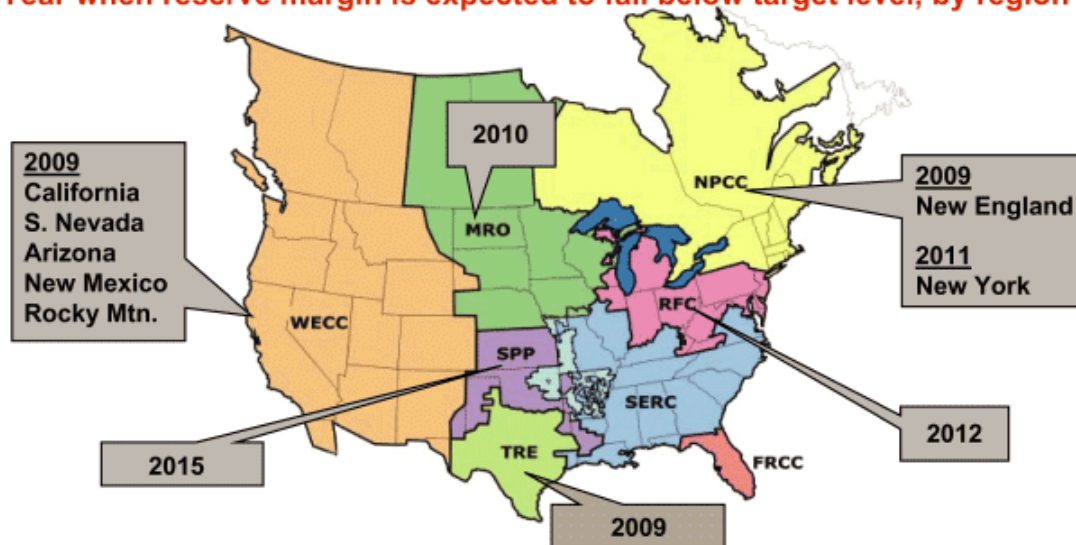
**Anticipated Supply Region for Coal Plants Under Construction**  
(in millions of tons)



- Build-out of 16 GW equates to **54 million tons** of new annual coal demand over next five years
  - Arch's reserve base positioned to service two-thirds of these plants
- Roughly 9 GW – another **33 million tons** – in advanced permitting stages
- Other fuels used for electric generation are challenged to grow or represent niche players
- Reality is that we need all fuels – along with conservation and efficiency – to meet our growing **energy needs**

## Reserve margins for the U.S. power grid will fall below target levels without adequate investment

Year when reserve margin is expected to fall below target level, by region

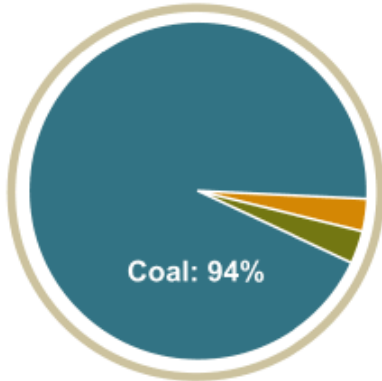


America has long had one of the **world's most reliable power systems**. Without investment, that could soon change.



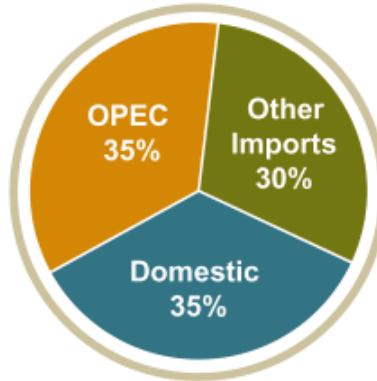
# Coal is – and will remain – a vital part of America’s energy future

**U.S. Energy Reserves**  
(in trillion Btu)



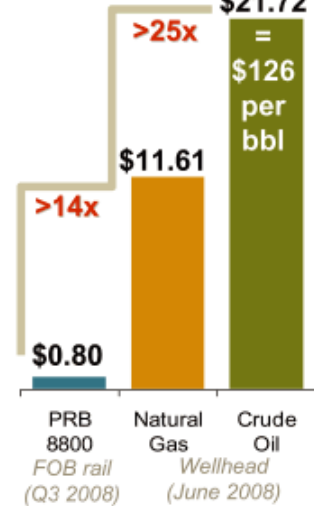
■ Coal ■ Natural Gas ■ Oil

**U.S. Petroleum Supply**  
(million barrels per day)

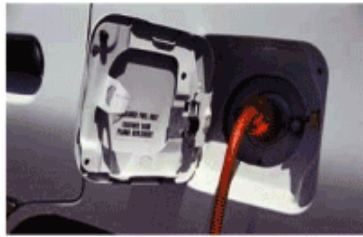


■ Domestic ■ OPEC ■ Non-OPEC

**U.S. Fuel Prices**  
(\$/million Btu at 5/9/08)



## Over the long term, clean-coal technologies can broaden market demand for coal



A plug-in hybrid is one entry for coal into the transportation market

- Likely to create significant off-peak demand for electricity



Coal can be converted into transportation fuel

- At current oil prices, coal-to-liquids facilities are economically feasible



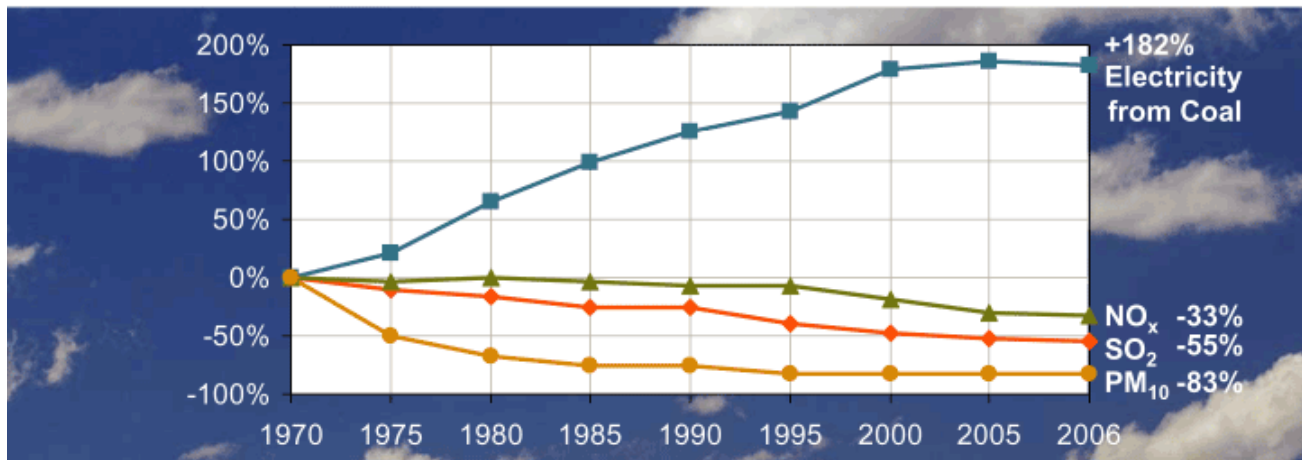
Gasification can reduce emissions and transform coal into pipeline-quality natural gas

- IGCC and CCS should enable coal to prosper in a carbon-constrained world

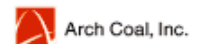
Public policy initiatives aimed at domestic energy security are spurring **debate** on energy legislation and **incentives** for clean-coal technology development



## Since 1970, coal has been used in increasingly clean ways in the United States

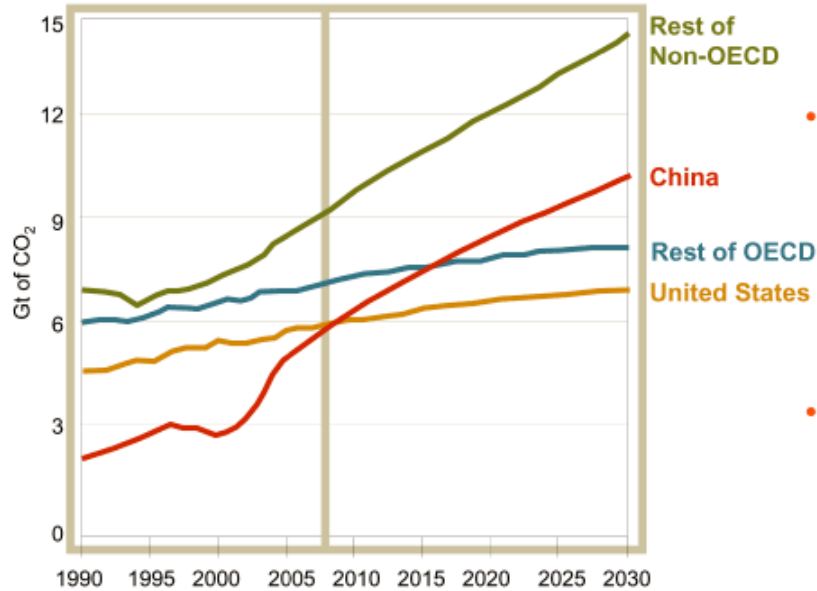


- More **progress** is expected under existing regulations
- Higher efficiency rates and **carbon capture technologies** create opportunities for reducing carbon intensity as well



## Developed nations must adopt climate solutions and export them to developing nations

**CO<sub>2</sub> Emission Trends**  
(1990 - 2030)



- China surpassed the U.S. in **GHG emissions** in 2007
- The growth rate of GHG emissions in **developing nations** is likely to significantly exceed that of developed nations
- Developed nations must invest in more **clean coal** technology research & development





## Explosive growth in international coal markets underscores the shortage of energy around the globe

### Americas

Americas expected to almost double net coal exports in 2008

- Driven by increase in exports from USA

Americas imports expected to decline from 2007 levels

- Driven by lower import levels into USA

### Europe/Africa

Europe/Africa should increase its net imports in 2008

- Significant export declines from South Africa
- Large switch from domestic to imported coal in Europe
- Coal production declines in Europe

### Asia/Pacific

Asia's net exports projected to decline significantly in 2008

- Driven by strong economic growth in developing nations
- Severe supply constraints in traditional coal export nations

Global coal supply and demand flows suggest that the world is **short of coal** by 25 million to 35 million metric tons in 2008, with continued significant supply deficits in 2009 and beyond



## In the United States, Arch expects growth in coal demand to accelerate over the next three years

<i>(in million tons)</i>	2008	2009	2010
Growth at Existing Coal Plants	+11	+11	+11
New Coal Plant Demand <sup>1/</sup>	4	22	19
Increase in Gross Exports	20	10	10
Decline in Imports	8	1	-
<b>Incremental Demand Growth</b>	<b>+43</b>	<b>+44</b>	<b>+40</b>
<b>Cumulative</b>		<b>+87</b>	<b>+127</b>

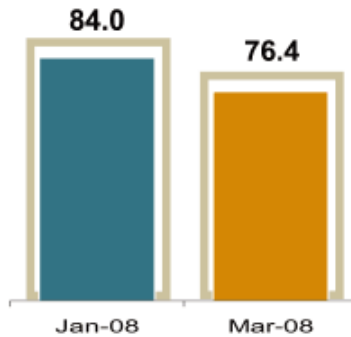
<sup>1/</sup> Net of coal plant retirements.

- U.S. coal demand to grow by **more than 3%** annually through 2010
  - U.S. coal generation fleet has **increased average utilization** by 1 percent annually over the past 10 years
  - New **coal plant build-out** will expand coal consumption meaningfully
  - U.S. is expected to become a more **significant net exporter** given shortage of coal supply worldwide and available port capacity



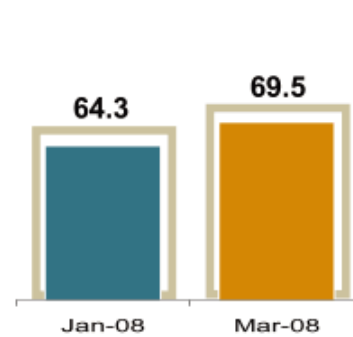
## While U.S. generator stockpile levels are comfortable, inventories are declining in the East

**Inventory Levels East of MS**  
(in million tons)



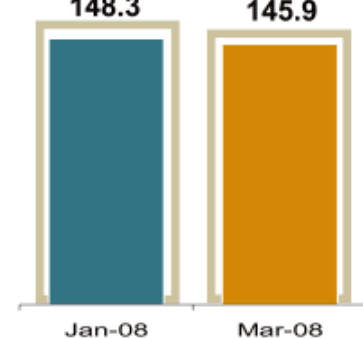
- Eastern stockpile levels have declined 7.6 million tons year-to-date
- In Central Appalachia, stocks could fall to near-critical levels by autumn

**Inventory Levels West of MS**  
(in million tons)



- Western stockpile levels have increased 5.2 million tons year-to-date
- Expect levels to decline as demand in the East for replacement tons grows

**Total U.S. Inventory Levels**  
(in million tons)

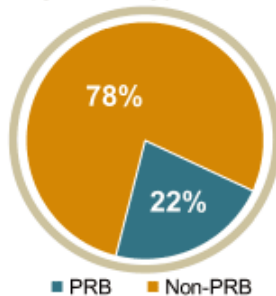


- Total generator stockpile levels have declined 2.4 million tons year-to-date
- Typically, stockpiles build from January through March

## PRB coal has gained market share in border states just east of the Mississippi River

### Border States East of MS

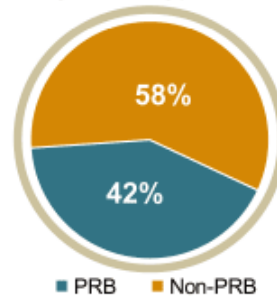
Burn by Coal Type circa 1990



- **Eastern border state** power plants in Wisconsin, Illinois, Tennessee and Mississippi historically burned a small mix of PRB coal

### Border States East of MS

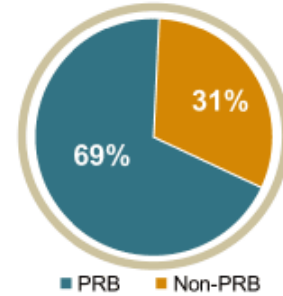
Burn by Coal Type circa 1995



- By 1995, power plants in these four states increased their mix of **PRB coal** from 22 percent to 42 percent in just five years

### Border States East of MS

Burn by Coal Type circa 2007

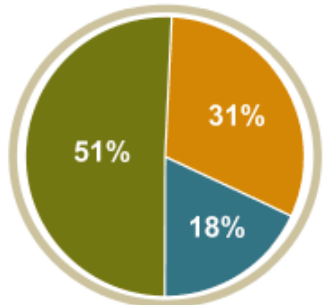


- Current 69 percent mix of PRB coal has been achieved with relatively **modest capital investment**

## We foresee increased PRB market expansion opportunities further east of the Mississippi River

### Non-Border States East of MS

Burn by Coal Type circa 2007



■ PRB  
■ PRB switching opportunity  
■ Non-PRB

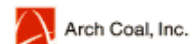


- Eastern power plants in non-border states are **generally comparable** to plants in the border states of WS, IL, TN and MS
- These non-border state plants could theoretically **increase their mix of PRB** coal as plants in the border states have done
- If plants in non-border states were to switch to PRB coal, the **equivalent PRB volume opportunity** would represent a potential of 300 million tons

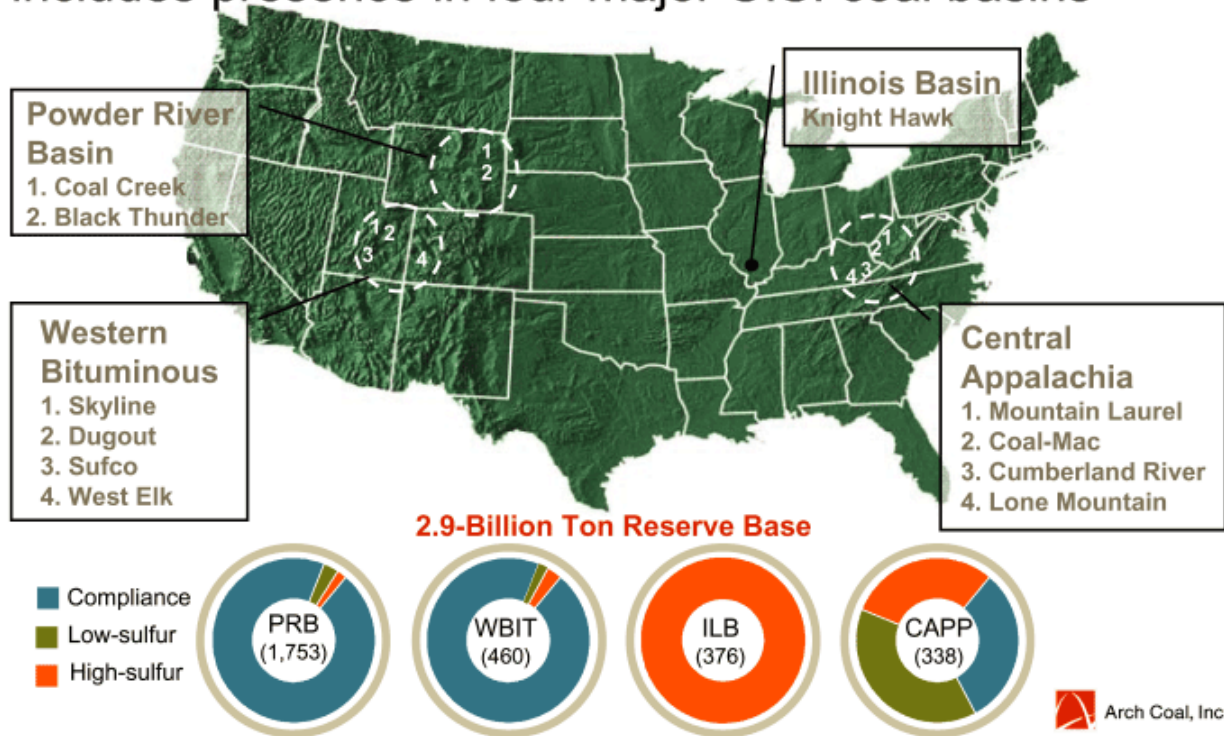
## Arch Coal is positioned for the future



- One of the **largest** coal producers in the U.S.
- Core business is **providing U.S. power generators** with cleaner-burning, low-sulfur coal for electric generation
  - Supplies roughly 12% of U.S. coal needs
  - Provides source fuel for roughly 6% of U.S. electricity
- Talented **workforce** operates large, modern mines
- Industry **leader** in mine safety, productivity and reclamation



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



## Arch is continuing to enhance reputation as a responsible energy company



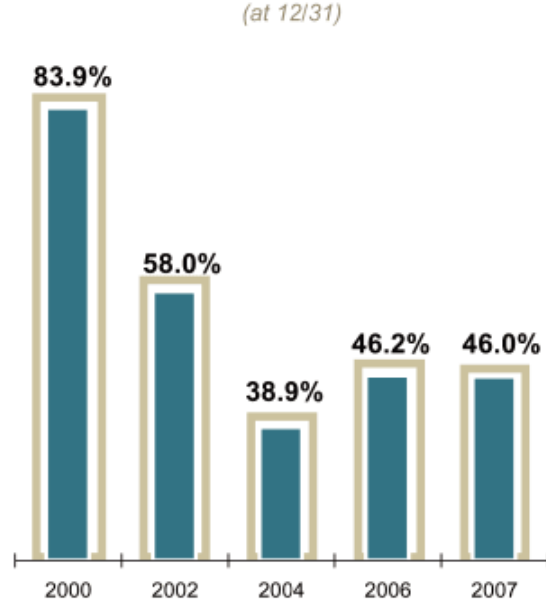
- Operating the world's **safest** coal mines
  - Awarded MSHA's Sentinels of Safety honor for operating the nation's safest underground coal mines in 2006 and 2007
  - Ranked first among coal industry peers for safety performance last year
- Acting as **responsible** citizens and good **environmental stewards**
  - Inaugural 2007 social responsibility report elevates awareness of Arch's environmental programs
  - Earned 3 National Good Neighbor Awards in 4 years
- Achieving superior **financial performance**
  - *Forbes* recognized Arch as one of the 100 most trustworthy U.S. companies of 2008
  - Expect 2008 to be a record earnings year for Arch



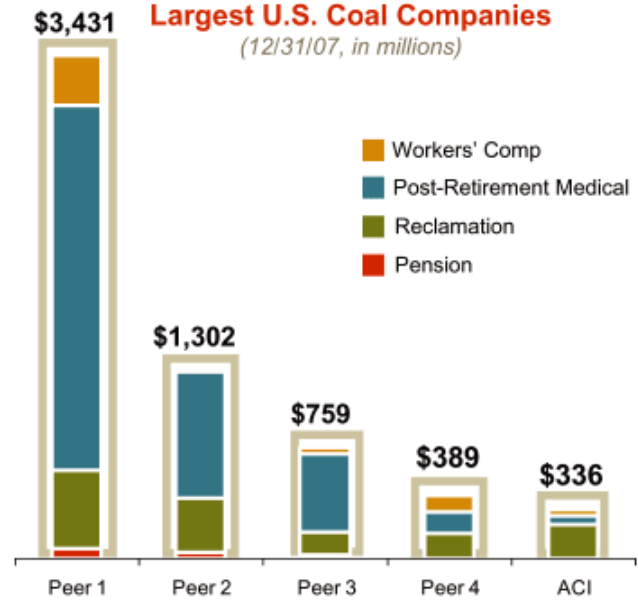


## Arch has one of the industry's strongest and cleanest balance sheets

### Net Debt as Percentage of Capitalization (at 12/31)



### Legacy Liabilities of Largest U.S. Coal Companies (12/31/07, in millions)



## Arch's mines are strategically positioned to respond to dynamic trends in coal markets

### Central Appalachia



- Customers span five continents
- Expect to ship 4.5 million tons into global and domestic met markets in 2008; 5-6 million in 2009
- Pursuing incremental margin opportunities

### Western Bituminous



- Export growth and supply pressures in eastern U.S. are boosting demand
- Arch benefits as largest producer
- Have signed significant export business

### Powder River Basin

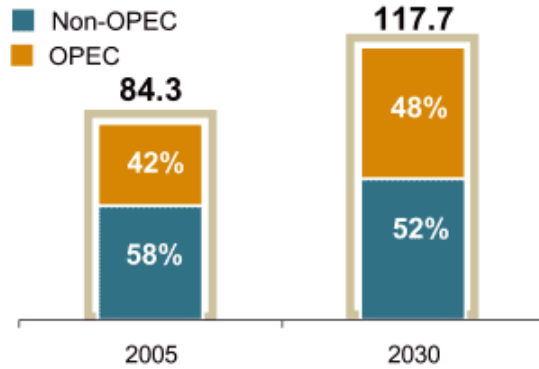


- Supply constraints in other regions and sufficient PRB rail capacity should pull coal east
- Arch will benefit from rising domestic prices
- In discussions to export PRB coal

# Arch is advancing clean-coal technology development via a proposed coal-to-liquids plant in Wyoming

## World Total Liquids Production

(in million barrels per day, per EIA)



- World oil consumption needs are growing, and increasingly will be supplied by OPEC
- CTL can have a positive impact on the U.S. economy, security and environment

## Mine-Mouth CTL Plant



## Transportation Fuel



## Chemical Feedstock



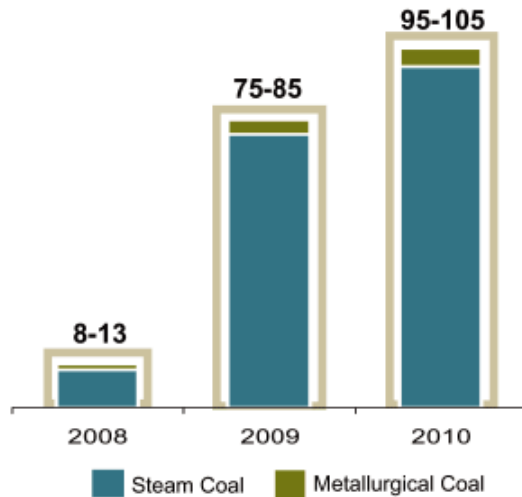
- Arch owns an equity interest in DKRW Advanced Fuels
- Proposed plant would capture CO<sub>2</sub> to enhance recovery in domestic oil fields



## Arch's selective approach to signing new contracts retains future upside potential

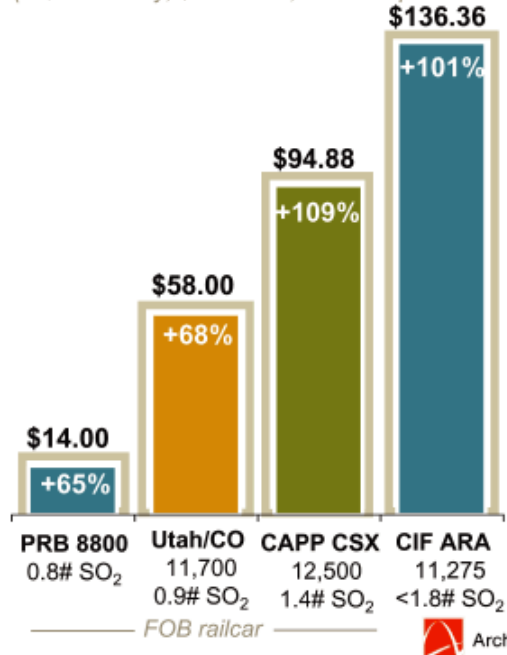
### Arch Unpriced Volume

(in millions of tons at 3/31/08)



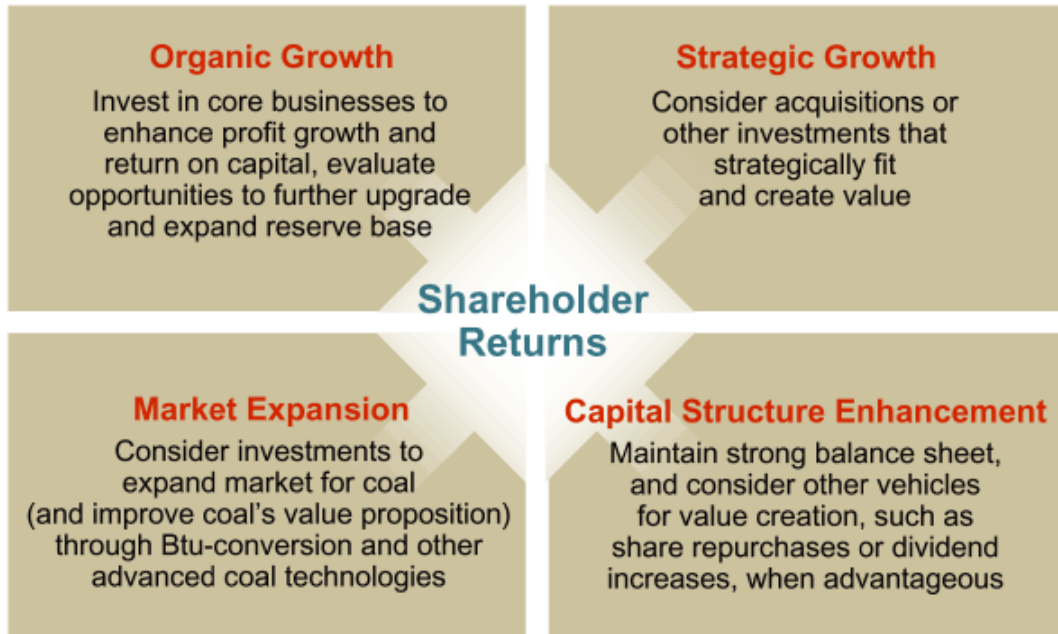
### Benchmark Coal Index Prices

(3Q08 delivery, \$/short ton, 52-wk % price change)



Arch Coal, Inc.

## Arch continuously evaluates all avenues for value creation





Arch Coal, Inc.



## Merrill Lynch Global Metals, Mining & Steel Conference

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