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): March 11, 2010 (March 11, 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 March 11, 2010, Arch Coal, Inc. issued a press release announcing its acquisition of an equity interest in the Trailblazer Energy Center. A copy of the press release is attached hereto as Exhibit 99.1.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

The following exhibit is attached hereto and filed herewith.

Exhibit No.		Description	
99.1	Press release dated March 11, 2010.		
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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: March 11, 2010

Arch Coal, Inc.

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

Description

99.1 Press release dated March 11, 2010.



FOR FURTHER INFORMATION: Deck S. Slone, Arch Coal, 314/994-2717 Jana M. Martin, Tenaska, 402/691-9595

FOR IMMEDIATE RELEASE

Arch Coal Acquires Stake in Trailblazer Energy Center

ST. LOUIS (March 11, 2010) — Arch Coal, Inc. (NYSE:ACI) and Tenaska, Inc. announced today that Arch has acquired a 35% equity interest in the Trailblazer Energy Center, which is being developed by Tenaska near Sweetwater, Texas. Arch's investment will be staged over time as the development of the project reaches key milestones.

The Trailblazer Energy Center will rank among the world's cleanest fossil-fuel-based power plants and act as a strategic source of carbon dioxide for enhanced oil recovery (EOR) applications in West Texas. Moreover, Trailblazer will supply the Texas economy with an additional 600 megawatts of clean, secure, reliable electric generating capacity.

"We are enthusiastic about partnering with Tenaska — a successful and highly respected leader in power plant development — to make the Trailblazer Energy Center a reality," said David B. Peugh, Arch's vice president of business development. "Trailblazer will harness the most advanced coal-based technologies to supply secure, low-carbon production of electricity to the rapidly growing Texas marketplace. Furthermore, Trailblazer's success could set the stage for a new generation of power plants fueled with America's most abundant, reliable and cost-competitive fuel."

Tenaska Business Development President David Fiorelli said the partnership with Arch will bring a number of strategic benefits to the Trailblazer project. "The agreement is another indication of the significant progress Tenaska, as managing partner, is making in the development of the pioneering Trailblazer Energy Center," said Fiorelli. "As one of the largest suppliers of low-sulfur Powder River Basin coal, Arch brings its 40 years of experience in the energy and coal industries. By working together, we will help lead the way to using our nation's most abundant energy resource in an environmentally responsible manner."

In capturing 85 to 90 percent of the carbon dioxide emissions from the plant, Trailblazer will emit 70 percent less carbon dioxide than the cleanest natural gas-based power plants. Moreover, Trailblazer will ship the captured carbon dioxide to the nearby Permian Basin, where it will be used to boost oil production and extend the life of that critically important domestic energy resource.

As part of the agreement, Arch will supply the plant's fuel needs for the first 20 years of operation from its Powder River Basin operations in Wyoming.

A recent Electric Reliability Council of Texas (ERCOT) report projects that Texas will need to add more than 55 gigawatts of new and replacement powergenerating capacity over the next two decades to meet projected demand growth.

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Today's announcement is consistent with Arch's ongoing strategy of making small but strategic investments in technology companies focused on making coal use cleaner. In addition to Trailblazer, Arch's technology portfolio includes an equity interest in DKRW Advanced Fuels, which is planning to convert coal into clean-burning transportation fuel on Arch reserves in southern Wyoming, and ADA-ES, a leading-edge emissions control company.

Tenaska, Inc. is one of the largest privately-owned energy companies in the United States, with revenues of approximately \$8 billion in 2009. Forbes and Fortune magazines rank Tenaska 16th and 25th, respectively, among the largest privately-held U.S. companies. Headquartered in Omaha, Nebraska, it develops, constructs, owns and operates non-utility generation and cogeneration plants. The company also markets natural gas, biofuels and electric power, and provides risk management services. Tenaska is involved in asset acquisition, fuel supply, natural gas exploration, production and transportation systems, and electric transmission development. Tenaska has developed approximately 9,000 megawatts (MW) of electric generating capacity across the United States. Tenaska's affiliates operate and manage eight power plants in six states totaling more than 6,700 MW of generating capacity owned in partnership with other companies. In 2008, Tenaska was listed in benchmarking studies by the Natural Resources Defense Council as having the best fleet-wide record in the United States for controlling emission of CO2 and as one of the top performing companies for controlling emissions of nitrogen oxides and sulfur dioxide. For more information about Tenaska and the Trailblazer Energy Center, visit <u>www.tenaska.com</u> and <u>www.tenaskatrailblazer.com</u>.

St. Louis-based Arch Coal is the second largest U.S. coal producer, with revenues of \$2.6 billion in 2009. Through its national network of mines, Arch supplies cleaner-burning, low-sulfur coal to U.S. power producers to fuel roughly 8 percent of the nation's electricity. The company also ships coal to domestic and international steel manufacturers as well as international power producers.

Forward-Looking Statements: This press release 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.

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