# ConocoPhillips Peabody

Kentucky NewGas



# Project Overview

At a time when energy is among the top concerns in America, Peabody and ConocoPhillips are developing a project to produce clean energy from secure, domestic sources. The Kentucky NewGas Energy Center would use proven technology, which would minimize environmental impacts and comply with regulatory standards to protect the environment.

Kentucky NewGas combines the strengths of Peabody and ConocoPhillips to produce pipeline quality natural gas, just like we use to heat our homes, prepare our meals and power our lives. The ConocoPhillips E-Gas<sup>TM</sup> technology creates natural gas from coal through a conversion process called "gasification." Coal gasification is a proven process that has been used by a number of industries for more than 100 years.

During the gasification process, coal is ground into small particles and mixed with water. This mixture is injected into a pressurized vessel along with a controlled amount of pure oxygen. The heat inside the gasifier converts the coal, water and oxygen into synthesis gas comprised primarily of hydrogen and carbon monoxide. After removing any sulfur and carbon dioxide from the synthesis gas, the hydrogen and carbon monoxide react to create methane, or substitute natural gas (SNG).

## Benefits of the project:

- **Energy solutions.** This project would directly contribute to America's energy security and will increase our domestic supply of clean natural gas by 60-70 billion cubic feet per year.
- **Economic progress.** This multi-billion dollar project would create 1,200 construction and 500 long-term jobs and provide a major economic benefit to the region and the state.
- **Environmental Care.** Kentucky NewGas will meet regulatory standards to protect the environment and would produce less than 5 percent of the emissions of a comparably sized coal plant.





The Kentucky NewGas Energy Center would be developed on a site in Muhlenberg County near Central City, Kentucky

- Peabody has large coal reserves adjacent to the site
- Local labor available for construction and operations
- Close to natural gas pipelines
- Near geological formations with potential for CO<sub>2</sub> sequestration
- Recent polling (Oct. 10-12, 2008) shows very strong support among Kentuckians
- Favorable regulatory process



# **Economic progress**

Kentucky NewGas is a multi-billion dollar project in Western Kentucky that would create new jobs and provide a major economic benefit to the region and the state. A project like this is important in a state where Kentuckians cite jobs and the economy as the most pressing issues.

- The project would create 1,200 jobs during the four-year construction period and over 500 long-term, high paying jobs.
- It will provide up to \$100 million annually in local and state economic impact through wages, taxes and other benefits.
- The success of this facility may lead to additional projects that could combine the capabilities of ConocoPhillips and Peabody.
- Jobs and the economy rank as the most important issues facing the state by a three-to-one margin.

### **Environmental Care**

Using ConocoPhillips' proven E-Gas<sup>TM</sup> technology, Kentucky NewGas will minimize environmental impacts and comply with all regulatory standards.

- The process can cost-effectively remove 90-95 percent of the mercury in coal.
- Over 99 percent of the sulfur can be recovered and marketed for use in the fertilizer industry.
- The gasification process produces no ash and recycles byproducts into useful products including road construction materials.
- The project will be 'carbon storage ready,' and the companies are committed to working together with elected officials, regulators and other stakeholders to develop a legal and regulatory framework that will make long-term carbon storage viable.

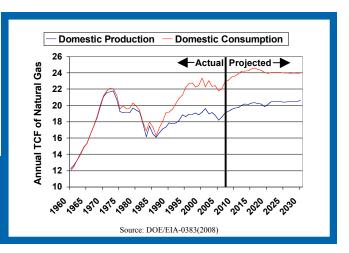
According to the U.S. Energy Information Administration in 2007, U.S. natural gas production stood at 19.3 trillion cubic feet (Tcf) and net imports were 3.8 Tcf.



# **Energy solutions**

At a time when energy security is among the top concerns in America, Peabody and ConocoPhillips are creating a model to produce clean energy from secure, domestic sources.

- ConocoPhillips' proprietary E-Gas<sup>TM</sup> technology would create a clean natural gas from Peabody's abundant coal resources in the state of Kentucky.
- The plant would produce pipeline quality natural gas, just like we use to heat our homes, prepare our meals and power our lives. And it will help meet the growing demand for natural gas in the U.S.
- The project would produce 60-70 billion cubic feet of natural gas annually, enough natural gas to serve over three quarters of a million families.
- Kentucky consumption in 2006 was 211 Bcf and U.S. consumption in 2007 was 23,054 Bcf.



## Working Toward a Carbon Solution

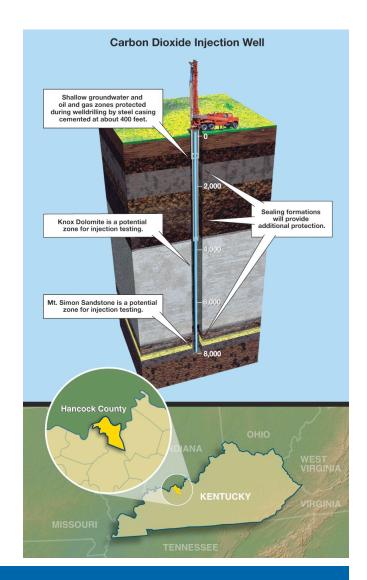
Kentucky is playing a major role in advancing permanent carbon capture and storage, and Kentucky NewGas would serve as a new model for coal development. The development of this project will include evaluation of technologies to lower the project's carbon footprint. Kentucky NewGas would be 'carbon storage ready'. The process captures carbon dioxide that ultimately could be permanently stored or used for enhanced oil recovery.

#### Regulation

Regulations are in place for using carbon dioxide for enhanced oil recovery and the oil industry has decades of experience in moving carbon dioxide by pipeline and using it for that purpose. Regulations for storing carbon dioxide permanently underground, however, are still under development. ConocoPhillips and Peabody are working with a diverse group of industry, academic, governmental and non-governmental organizations to advance development of a regulatory, legal and economic frame that makes carbon storage viable.

#### Research

ConocoPhillips and Peabody are also supporting research to evaluate storage options for carbon dioxide. The companies helped create the Western Kentucky Carbon Storage Foundation, which is working together in a public/private partnership with the University of Kentucky and the Kentucky Geologic Survey to progress the understanding of carbon storage potential in Western Kentucky.



# Western Kentucky CO<sub>2</sub> Injection Test Well

The Kentucky Geological Survey and the Western Kentucky Carbon Storage Foundation have begun research to better understand the geology for deep carbon storage in Western Kentucky. The project will evaluate  $\mathrm{CO}_2$  storage in deep formations under the Western Kentucky Coal Field through the drilling and testing of an 8350 ft. well in east-central Hancock County. The goal is to increase understanding of the costs and technical issues associated with carbon management and storing  $\mathrm{CO}_2$  produced by commercial-scale projects.

For more information, please visit www.kentuckynewgas.com or contact: Beth Sutton at 928-699-8243 or bsutton@peabodyenergy.com
Bill Graham at 281-293-1978 or w.l.graham@conocophillips.com