Experts: Pennsylvania’s future relies on clean coal technology.

COAL MIGHT NOT BE THE MOST GLAMOROUS form of electricity, but some experts say Pennsylvania’s future depends on it.

“Unless we can develop clean coal technology, and if other sources are substituted, it’s going to have a material impact on Pennsylvania’s economy and certainly on maintaining our rather enviable position of net exporter (of coal),” said David Biden, president of the Harrisburg-based Electric Power Generation Association.

Fifty-six percent of Pennsylvania’s electricity comes from coal; the state is the fourth-leading coal producer in the U.S., according to the Pennsylvania Coal Association. Sixty-eight millions tons of coal were produced in the state in 2008.

Coal-fired plants are engines of development, creating jobs not only in coal mines but in transportation, insurance and related fields, Biden said. Almost 50,000 jobs were related to the state’s coal industry in 2008.

Increasing coal-fueled electricity generation in the state by one- to two-thirds could produce an additional $42 billion in economic output and create more than 250,000 jobs, according to the Washington-based American Coalition for Clean Coal Electricity.

Cathy Coffey, northeastern regional director who covers Pennsylvania, said a carbon capture and storage plant in West Virginia that opened Sept. I would lay the path for Pennsylvania, which does not have a similar plant.

Pennsylvania is home to bituminous coal, which accounted for almost 90 percent of the coal mined in the state in 2006, and anthracite coal. Both are used to produce electricity; bituminous coal is easier to ignite, Schobert said. Burning anthracite coal in power plants produces more carbon dioxide than burning bituminous coal because of the higher fixed carbon content in anthracite. Northeastern Pennsylvania is one of the only places in the U.S.
where anthracite coal is found.

The inspiration to research the coals exists in the state. The problem is funding, experts said.

Harold Schobert, professor of fuel science at Penn State University and past president of the Earth and Mineral Sciences Energy Institute, has been instrumental in researching clean coal technology, including his creation of an anthracite-based product effective for use in commercial power plants.

“The work we did on anthracite showed you could use anthracite to replace the current raw material for synthetic graphite, petroleum coke, which sells at somewhere around $400 a ton,” he said. “Anthracite is on the market right now for around $100 (per ton). There is a huge potential markup available for this industry.”

But state government won’t fund clean coal research in the near future, said George Ellis, executive director of the Pa. Coal Association. Funding comes from private institutions like the Electric Power Research Institute in California or from the U.S. Department of Energy.

The federal government’s stimulus bill provides $3.4 billion for fossil energy research and development, with $1.5 billion allocated for industrial projects demonstrating carbon capture and storage research. Though Pennsylvania received $455 million in energy-related funds, none are allocated specifically for clean coal research.

Most often, clean coal funding is from individual companies investing in energy research.

Funding is typically given to companies investing in power plants near areas where captured carbon dioxide—the result of burning coal for fuel—can be sequestered underground in a stable geological cavern. The concern with carbon sequestration is the cost of pumping carbon dioxide underground when the emitting plant is not in an environment conducive to underground storage. Costs skyrocket when companies have to build a pipeline to send the carbon dioxide elsewhere.

In Pennsylvania, the ideal locations for carbon sequestration are the same places ideal for storing natural gas, said. Competition for the land inevitably follows.

“The Department of Conservation and Natural Resources is currently inventorying the state for places suitable for sequestration,” he said. “I know they’ve been working with folks in the industry trying to find potential sites in the state with an eye towards eventually using them.”

Clean coal is a worthwhile

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The U.S. Department of Energy in August calculated the loss to GDP under the bill between 2012 and 2030. Those raw numbers were then adjusted for their present value. The idea is that money is more valuable in the present than in the future, so future figures must be adjusted downward to reflect that. The loss fell between about $566 billion and $1.9 trillion.

The present-value adjustment is known as discounting. It’s an appropriate and common technique for studies looking at values far into the future, Morris said.

The technique is usually used to compare costs with benefits or to make an investment decision, Kreutzer said. To describe the costs of Waxman-Markey in terms of today’s purchasing power, it’s better to simply adjust the numbers downward for inflation rather than to discount them, he said. The EIA study also makes unrealistic assumptions about the expansion of nuclear power and other points, Kreutzer said.

Meanwhile, the American Petroleum Institute and National Association of Manufacturers have issued studies warning the bill would do severe damage to their industries.

Allentown-based PPL Corp. runs power plants and delivers electricity in Central Pennsylvania. The company supports the overall thrust of the bill, spokesman George Lewis said. Predicting the cost at this point is premature, with so many moving parts in the legislation; but one thing is for sure, he said: “We can say with certainty that it will cost customers more.”

Consol Energy, headquartered in Canonsburg, Washington County, is one of the few companies in Pennsylvania to have constructed its own research and development site, Schobert said. “There are some ideas floating around, and it’s very speculative they might not work, but somebody ought to try them out,” he said. “Maybe only two or three out of 100 ever pay off, but the ones that (do) pay off big time.”