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Clean Coal Most Viable Option

By Jim Constantopoulos

Economic reality — not arguments about fostering sustainable energy with solar towers and wind turbines — is generating renewed interest in coal, the source of more than half of the nation's electricity and 77 percent of the power produced in New Mexico.

The basic attraction of coal is its low cost and abundance, especially at a time when our nation is in the throes of an economic crisis. Electricity produced at coal plants is less than one-third the cost of electricity that comes from power plants fueled with natural gas. And the United States has a 250-year supply of coal, with reserves that are the largest in the world.

Despite all the recent hoopla surrounding renewable energy sources, they can't compare with coal when it comes to cost and reliability. Even with tax credits and other government subsidies, solar and wind energy — which currently account for less than 4 percent of the electricity produced in New Mexico — would remain noncompetitive as sources of large amounts of "base-load" generating capacity.

And electricity companies are demonstrating that coal can be burned cleanly. Disdain for coal from environmental advocates of renewable energy is unwarranted, given that overall U.S. coal emissions since 1970 have been cut in half, even as coal-based electricity production has tripled.

Clean-coal technologies — a result of cooperation between government and industry — use less water, produce smaller quantities of undesirable waste products, and, through greater efficiency, emit less carbon dioxide into the atmosphere. These new technologies also minimize sulfur dioxide, nitrogen oxides and mercury.

The coal industry's goal is to cut emissions virtually to zero while improving plant efficiency. Paramount among the strategies for achieving this is a process known as carbon capture-and-storage. Researchers in the United States and abroad are working on three different technologies for capturing carbon dioxide emissions at coal plants, then liquefying the gas and injecting it into deep geological formations.

Recently, one of the technologies was successfully tested at a small power plant in Germany. The goal is to build as many as 12 carbon capture-and-storage projects at coal plants in different parts of the world by 2015.

Storing carbon underground in depleted oil and gas fields or salt formations would shatter several myths. It will disprove the notion that coal should not be burned because of climate change. It destroys the argument that government regulation is necessary in order to reduce emissions. It puts an end to the idea that clean coal is an oxymoron.

And, if carbon dioxide is injected into oil and gas fields, as planned in the United States, it would enhance oil and gas production and thereby help reduce the cost.

Anything the U.S. government can do to kick carbon mitigation technologies out of the laboratory and into the marketplace would be a step in the right direction. It's estimated that research and development of carbon capture-and-storage technology, along with several large-scale demonstrations of the technology, will require an annual government expenditure of $2 billion for the next decade.

To help kick-start carbon capture-and-storage development, the Department of Energy recently announced that it will make available $6 billion in loan guarantee authority for incorporating the process into new coal plants. The loan guarantees could also be used to reduce carbon emissions from major industries such as oil refining, steel and concrete.

Carbon mitigation at coal plants promises to help the United States become more energy self-sufficient, because less natural gas would be needed for electricity production, freeing up gas supplies for residential use and industries.

This is a smart approach to the greenhouse-gas problem, not a command-and-control government mandate that would have serious economic consequences and no chance at solving its root causes. Coal is an important and necessary contributor to New Mexico's energy supply now and it will continue to be so well into the future. It's time to drop the taboo against coal and start supporting the development and demonstration of technologies for carbon capture-and-storage.

Dr. Constantopoulos is chair of the Department of Physical Sciences at Eastern New Mexico University.