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## Local invention may help clean up coal plants

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February 10, 2008 - 3:42PM

By PAM ZUBECK  
 THE GAZETTE

A local scientist has teamed up with Colorado Springs Utilities to test an invention that could revolutionize the power industry and save the planet at the same time.

[Air Force Academy](#) graduate David Neumann, who holds a doctorate in physics, has developed a process he says he believes will scrub 90 percent of pollutants spewed by the city's coal-fired electric plants for a fraction of the cost of other processes under development.

Neumann won't discuss details of the method because patents are pending and competition in the potentially explosive market is fierce.

If successful, the new chemical treatment would mean thousands of coal-burning plants worldwide could sharply curtail carbon emissions — one of the biggest contributors to global warming.

That, in turn, would make the future of energy less complicated and uncertain in the arena of renewables. Renewables can't provide the lion's share of the world's power because they provide intermittent electricity that is impossible to store.

The Department of Energy's 2008 energy outlook estimates the use of renewables will increase by only 2.5 percent in the next 23 years.

By 2030, the use of coal will constitute 55 percent of the nation's fuel, up from 49 percent last year.

The chief reason: There's an estimated 300-year supply of coal in known reserves in the United States alone, the Energy Department said.

But with that growth will come a surge of roughly 500 million metric tons of emissions, the Energy Department predicts.

That's why Neumann said it's essential to develop a way to make coal plants burn cleaner. It's also why Springs Utilities wants to give his invention a try.

"I would like to contribute to solving the global warming problem," Neumann said. "It's not realistic to eliminate fossil fuels in the next 50 years. We have this huge investment in infrastructure. Unless you want to shut down the world economy, we will be burning fossil fuels."

Drew Rankin, Springs Utilities general manager for energy supply, said a method of removing carbon emissions would "liberate" coal as an acceptable long-term fuel source.

"We're not doing this for fun," Rankin said of testing Neumann's device. "I believe there's a high potential for impact to our customers."

Standards for sulfur dioxide, nitrogen oxide and particulate emissions will be toughened in coming years. Control technology is in place for nitrogen oxide and particulates, but not for sulfur. Removing sulfur dioxide will require massive investment in scrubbers.

Installing equipment at one unit alone at the Martin Drake Power Plant will cost an estimated \$65 million, plus \$5 million a year in operational costs.

Neumann's device is estimated to cost less than \$20 million. No operational costs were provided.

A potentially more expensive problem is carbon. While not yet regulated, many in the industry say carbon emissions soon will be subject to limits, carbon taxes and other measures designed to force coalplant owners to find ways to lower their contribution to global warming.

Those taxes could total roughly \$150 million a year for Springs Utilities, or about 16 percent of the city-owned

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