

# Hycomp Wet CO<sub>2</sub> Burial (Sequestration)

The following article highlights an interesting “green” compressor application. Hycomp manufactured an oil free gas compressor for FirstEnergy’s Burger Station, located in Shadyside, OH (location “3” in the graphic included in the following article). This compressor was built to handle the corrosive nature of wet carbon dioxide. The customer required both a higher pressure and flow through an industrial gas compression system tailored to their application, and Hycomp met those needs.

Carbon sequestration is a process that involves drilling up to 7,000 ft. into the earth and compressing industrial by-product CO<sub>2</sub> into the geological substrata. The result is permanent containment of this harmful waste gas.

Hycomp engineered and manufactured a compressor specifically for this application. This Hycomp compressor is currently at work providing continuous duty compression while supplying the required pressure and flow necessary to get the job done. Please read the following newspaper article to learn about the practical application of this Hycomp Oil Free Gas Compressor in carbon capture and storage.



**Model: 2WN137F1-G221**

Gas: Wet carbon dioxide

Suction Pressure: 19 psig

Discharge Pressure: 95 psig

Flow: 130 scfm

# The Columbus Dispatch

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THURSDAY, OCTOBER 29, 2009

BATTELLE PROJECT

## AEP plant's CO2 slated for burial in W.Va.

By Spencer Hunt  
THE COLUMBUS DISPATCH

The push to reduce carbon dioxide emissions will take a step forward today at a coal-fired power plant along the Ohio River.

Officials with Columbus-based American Electric Power and Battelle will announce a \$120 million project to capture as much

as 110,000 tons of carbon dioxide annually at the Mountaineer Power plant near New Haven, W.Va., and bury it 1.5 miles underground.

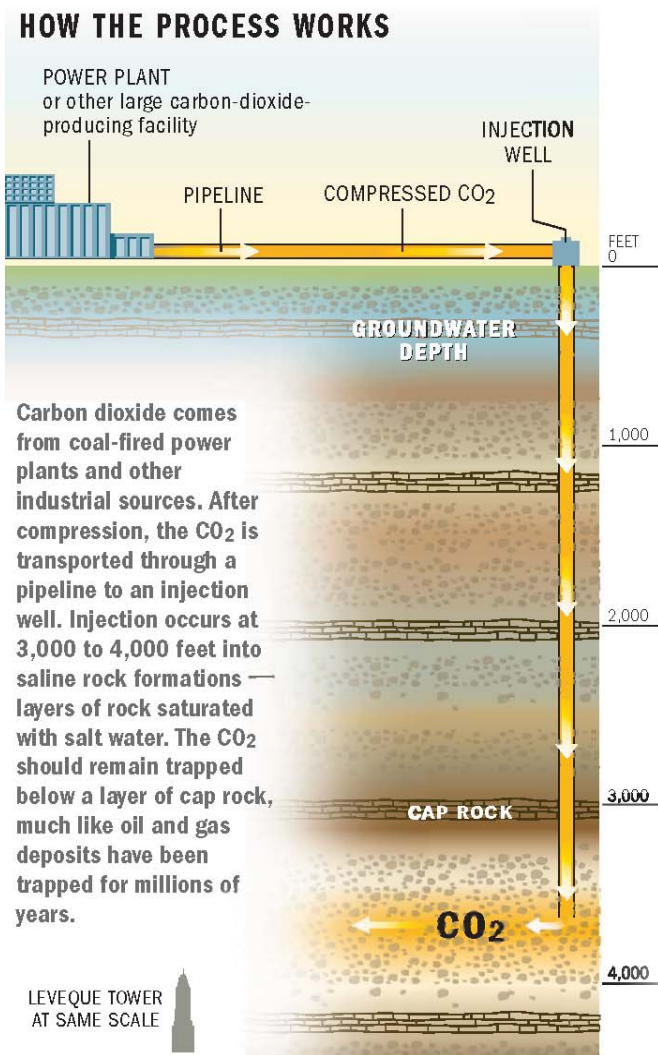
Carbon dioxide is a key gas blamed for climate change. The amount officials plan to capture at Mountaineer is a fraction of the

plant's carbon footprint. The plant spewed 9.8 million tons of carbon dioxide in 2007.

Melissa McHenry, an AEP spokeswoman, said the experiment marks the first time that a U.S. power

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### Burying carbon



### REGIONAL PROJECTS

Columbus-based research giant Battelle has led, or has helped lead, several projects to bury carbon dioxide in Ohio, surrounding states and across the United States.

#### 1. TURTLE LAKE NATURAL GAS PROCESSING FACILITY

Bury 10,000 tons of carbon dioxide.  
START DATE: February 2008  
COST:\*

#### 2. TUSCARAWAS COUNTY

Drill 8,700-foot test well to search for potential carbon-dioxide storage sites.  
START DATE: May 10, 2007  
COST: \$2.3 million

#### 3. FIRSTENERGY'S BURGER STATION

Bury 3,000 tons of carbon dioxide.  
START DATE: September 2008  
COST:\*

#### 4. AEP'S MOUNTAINEER STATION\*\*

Capture and bury 110,000 tons of carbon dioxide a year.  
START DATE: September 2009  
COST: \$120 million

#### 5. DUKE ENERGY'S EAST BEND STATION

Bury 1,000 tons of carbon dioxide.  
START DATE: September 2009  
COST:\*

NATIONAL CARBON SEQUESTRATION FIELD TEST SITES

\* Funds for these three projects were allocated from a pool of \$24 million in public and private money and services.

\*\* First project to capture CO<sub>2</sub> and bury on site.



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Source: Midwest Regional Carbon Sequestration Partnership

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## AEP

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plant's carbon dioxide has been captured and injected underground. "There are folks who have captured it and folks who have injected carbon dioxide at power plants, but not both," McHenry said.

As Congress debates restrictions to reduce global warming, officials, researchers and companies nationwide are trying to develop an efficient method to trap the gas. The only system that exists now would drain one-third of a plant's electricity and double the cost of electricity to consumers, the U.S. Department of Energy estimates.

McHenry said the Mountaineer system could lower the power drain to 15 percent. Anything that cuts costs is vital for Columbus and Ohio, where nearly

90 percent of the electricity comes from burning coal. The project is expected to show how efficient the system is and what happens after the gas is injected underground. If successful, AEP hopes to expand the system to capture 1.65 million tons a year.

Battelle will help run and monitor the system for AEP, said Chuck McConnell, the research group's vice president of carbon management.

Battelle is a major player in a \$500 million, Energy Department-backed effort to test carbon burial in Ohio and other states.

Battelle has overseen four other projects in Ohio, Michigan and Kentucky to examine underground sandstone formations and bury a total of 14,000 tons of carbon dioxide.

A four-year project to bury as much as 1 million tons of carbon dioxide from a Greenville ethanol

plant was scrapped in August, after neighbors complained. McConnell said he's working with federal energy officials to name a new site for that \$93 million project.

The Mountaineer project is funded by AEP and business partner Alstom Power, a French company that developed the carbon-capturing system.

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Source: "AEP plant's CO2 slated for burial in W.Va." Hunt, Spencer. (2009, October 29). The Columbus Dispatch, METRO Section, p. A1 & A4

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**Click the following button for the Hycomp case study on this compressor.**