



PFBC ENVIRONMENTAL ENERGY TECHNOLOGY, INC.

1200 Maronda Way, Suite 400 · Monessen, PA 15067



December 1, 2020

RE: Opposed to Proposed Rulemaking CO2 Budget Trading Program

To Whom It May Concern:

I write in opposition to Governor Tom Wolf's proposed regulation, CO2 Budget Trading Program as published in the Pennsylvania Bulletin on November 7, 2020 (50. Pa.B. 6212), which will join Pennsylvania to the Regional Greenhouse Gas Initiative (RGGI). I urge the Independent Regulatory Reform Commission (IRRC) to reject Governor Wolf's proposed RGGI tax.

Our Pennsylvania-based company, PFBC Environmental Energy Technology worked with the Rendell Administration and supported the Alternative Energy Portfolio Standards Act, which included waste coal clean-up and today Consol Energy is ready to move forward on the first demonstration of a Zero-Carbon Emissions Coal Plant in America to be fired with up to 100% waste coal and biomass. See attached.

"Things get done with a carrot, not a switch" to quote Katie McGinty the then Secretary of the Department of Environmental Protection of Pennsylvania.

We need legislation in Pennsylvania, just like Illinois that allows Carbon sequestration so the coal-fired plants can help clean-up the mountains of waste coal in Pennsylvania without a huge burden to the taxpayers, not shut them down!

It is the wrong time for approving the CO2 Budget Trading Program and joining Pennsylvania to RGGI. It does nothing to reduce carbon dioxide emissions, it merely exports the production of affordable, reliable and resilient electricity to Ohio and West Virginia, where fossil fueled power plants aren't taxed, and exports Pennsylvania jobs and our economy too.

Thank you for considering my comments. Please reject the RGGI tax regulation and protect the jobs of thousands of Pennsylvanians struggling to make ends meet during this terribly difficult pandemic recession.

Regards,

PFBC Environmental Energy Technology, Inc.

Douglas B. Farnham
President

DBF/alh
Enclosure



Jessie Wardarski/Post-Gazette

A conveyor at Consol Energy's Bailey Mine in Greene County in 2018. Consol, whose underground coal mining complex in Greene and Washington counties is the largest in North America, is attempting to design an ambitious coal-fired power plant that would run on wet waste coal.

A BURNING QUESTION

Consol proposes an ambitious next-generation power plant to counter coal's dim outlook

By Laura Legere
Pittsburgh Post-Gazette

It has been seven years since the last major new coal-fired power plant started making electricity in the United States.

The U.S. Energy Information Administration, in its most recent annual outlook, forecast that zero new coal plants will be built in the country through 2050.

But Consol Energy Inc., whose underground coal mining complex in Greene and Washington counties is the largest in North America, is working to design a power plant and have it operating by 2027.

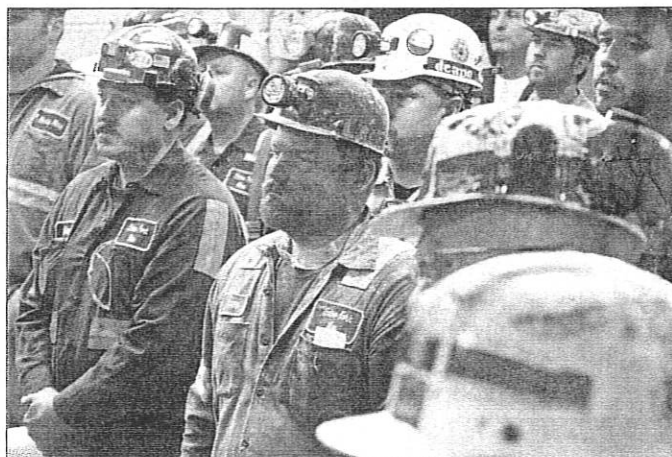
Not just any coal-fired power plant. One that can run on wet waste coal from Consol's mining operation, capture its climate-warming emissions and spur the development of a deep underground carbon dioxide storage hub in southwestern Pennsylvania.

The Cecil-based company said it could begin construction by 2024.

"We're not inclined to stand still in light of the trends that you are seeing," said Daniel Connell, Consol's senior vice president of strategy. "We're inclined to get out in front of it and innovate and transform. We know that we need to do that in an overall sustainable way."

The proposed plant is far from certain, but the ambitious — some say unrealistic — vision is laid out in detail in early design studies that Consol has performed with federal grants meant to boost the outlook for coal.

The company's project is one of four that will split an estimated \$80 million in federal funding, the U.S.



Gene J. Puskar/Associated Press

A group of coal miners listens to Environmental Protection Agency Administrator Scott Pruitt speak during his visit to Consol's Harvey Mine in Sycamore, Greene County, on April 13, 2017. Cecil-based Consol is working to create a drastically different kind of coal-fired power plant.

Department of Energy announced in late October, to advance the design to a stage where an investment decision is possible.

Consol's idea is to build a 300-megawatt plant in the vicinity of the Pennsylvania Mining Complex using a modular, high-efficiency, low-air pollution technology called pressurized fluidized bed combustion.

The system could run on low-quality fuel — including the 3 million tons of fine wet waste coal that Consol sends to disposal ponds each year after it washes and processes its mined coal at its central preparation plant in Greene County.

For the company, using coal waste means turning an environmental liability into free fuel.

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manent storage.

No such transportation and storage network exists in the region — or any nearby state — at the moment.

But Consol says in the project studies that "several parties are interested in exploring options for establishment of a 'regional sequestration hub' " in southwestern Pennsylvania, including an undisclosed "major company" that could accept CO2 from the region's concentration of industrial facilities with Consol's power plant potentially serving as the anchor tenant.

Mr. Connell said Consol's geological research as part of its design study will provide a broader public benefit by helping to define the possibilities for underground carbon storage in the region.

Those environmental attributes — carbon capture and storage, biomass fuel, beneficial reuse of waste — would put Consol in a position to qualify for substantial state and federal subsidies that would be

Consol planning ambitious new coal-fired plant

CONSOL, FROM G-1

necessary if the plant is to make any financial sense.

A federal carbon storage tax credit, known as 45Q for its section in the tax code, is worth \$50 per ton of CO₂ sequestered underground if the plant can begin construction prior to Jan. 1, 2024. Consol expects the plant to capture — and need to store — 2.5 million metric tons of CO₂ per year.

Consol could also be a major buyer of the on-site electricity the plant generates. The mining complex has an energy demand worth about half of the plant's proposed output, and the rest would be fed into the regional grid.

Still, Consol acknowledges, "Capital costs are expected to present the greatest commercial hurdle." The plant's "overnight" price tag is estimated at \$2 billion.

There is another reason the company is in a hurry: Two-thirds of Consol's current coal output goes to feed domestic power plants, and the fleet of U.S. coal-fired power plants is retiring.

In Pennsylvania, six power plants still burn conventional coal — down from 23 in 2004, according to the state Public Utility Commission. The youngest of the plants is 48 years old. Two of the six have already committed to switching to cheaper, cleaner natural gas, and the others are expected to retire by the end of the decade.

As the world moves to zero out greenhouse gas emissions by midcentury in an attempt to avert the most catastrophic effects of climate change, Consol has a strong incentive to come up with ideas to preserve a role for its product.

A new generation of coal-fire power plants "must

have a relatively fast timeline to commercialization," the company said, "so that new plants can be brought online in time to enable a smooth transition from the existing coal fleet without compromising the sustainability of the coal supply chain."

Edward Rubin, an engineering professor at Carnegie Mellon University and a prominent expert on carbon capture and storage, called Consol's proposal "a foot in the door" for future coal development.

The Department of Energy funds a wide array of research and development so the future electricity system has plenty of fuel and technology options to ensure it is both cost-effective and resilient.

"We're basically building an insurance policy, a portfolio of things that may or may not be useful in the future — though they try to choose things that look most promising," Mr. Rubin said.

Consol's proposal "certainly looks as interesting and credible as lots of other things that have been done in the past," he said.

Still, a defining feasibility factor for any carbon capture project is cost, and unless government policy establishes a price on carbon emissions, it will be hard for the technology to take root.

"There is no market for any carbon capture technology without a policy driver to reduce carbon emissions," Mr. Rubin said. "No matter how cheap you can make a carbon capture system, it will always be more expensive than not having to use one at all."

Rob Altenburg, director of the statewide environmental nonprofit PennFuture's Energy Center, was more

Capturing and storing CO₂

Companies are increasingly working to deploy technology to capture carbon dioxide from fossil fuel power plants and other industrial sources and store it in the ground to prevent the most severe damage from climate change.

CO₂ EMISSION SOURCE

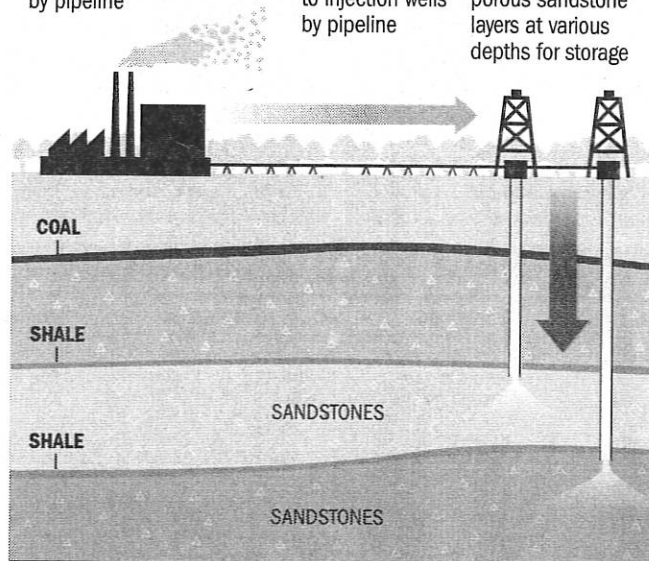
CO₂ pulled from power plant emissions and condensed to prepare for transport by pipeline

CO₂ PIPELINE

CO₂ transported to injection wells by pipeline

CO₂ INJECTION WELLS

CO₂ injected into porous sandstone layers at various depths for storage



Source: Pennsylvania Department of Conservation and Natural Resources

Post-Gazette

skeptical about Consol's proposal.

"My bet is this plant never gets built, not without serious government subsidies," he said. "Investors are not going to line up behind this deal."

The capital costs are exorbitant compared to competing energy sources, Mr. Altenburg said, and other financial projections are unrealistically optimistic. For example, Consol expects that once it is up and running, the plant will operate at full capacity 85% of the time. But existing coal plants with proven technology generally only run about 65% of the time.

Even assuming that one demo plant could be built in a Goldilocks spot where all of the pieces fall into place, he doubted the technology could be scalable.

"The thing is, there just isn't any need," Mr. Altenburg said. "In a lot of places in the nation, it is cheaper to build new solar than run existing gas, and gas is already

cheaper than coal."

Consol's next step is to develop a detailed front-end engineering and design study. The recently announced federal funding will cover about 80% of the cost, Consol CEO Jimmy Brock said during the company's most recent call with investors.

The study will take 2½ years and focus on both honing the design of the power plant and better characterizing the geological opportunities for storing carbon nearby, said Mr. Connell, the senior vice president.

Part of the process will include selecting a site for the plant and preparing the volumes of environmental information that will be necessary for permits.

At the end of the 30 months, the company hopes to have enough definition of the project and its economics to decide whether it is worth an investment.

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