

“Clean” Coal Energy -- 1/2016

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The term “clean coal” has been used for decades by politicians and industry to advance the argument that technological advances will mitigate or eliminate emissions caused by the use of coal. Despite this rhetoric, carbon emissions from coal continue to increase.

Federal efforts

The Federal Government has attempted to control emissions through regulation and by supporting development of such innovations as coal gasification and carbon capture and storage [CCS]. Coal gasification and capture technology is designed to reduce the amount of carbon emitted into the atmosphere from coal combustion. That technology does not address other serious issues e.g., environmental and health consequences caused by coal mining.

Billions of dollars have been granted by the Department of Energy (DOE) to fund demonstration projects as part of a clean power initiative. The latest projects were funded by federal Economic Recovery funds, beginning in 2010. Unfortunately, the federally supported coal gasification initiatives will actually increase and prolong the use of coal. Coal gasification will also *extend the life of old oil fields* through a process called “enhanced oil recovery” (EOR).

For example, the largest coal gasification project, Petra Nova W.A. Parish Project in Texas received \$167 million from DOE. The project which is about half completed, is designed to capture 90% of CO₂ from a coal power plant using a “high performance solvent”, then transport it through an 80 mile pipeline to an almost depleted oil field where it will be used to multiply the yield of the oil wells, after which it will be ultimately sequestered. The original scale of the project has been increased because the original was “*too small to induce significant oil production*”.

Mixed results under Clean Power Initiative

So far, DOE has announced one successful sequestration project under the initiative: Air Products and Chemicals at Port Arthur, Texas operates a hydrogen production facility which concentrates CO₂ from steam methane and delivers the CO₂ to an underground geologic formation for eventual use in enhanced oil recovery (EOR). The project received \$284 million from DOE. DOE announced that in 2014, more than one million tons of CO₂ had been stored at that facility. In 2015, DOE suspended funding to two coal gasification projects: FutureGen 2.0 in Morgan County, Illinois and Hydrogen Energy California (HECA). Another project, Summit Texas Clean Energy, was still working on financial arrangements as of June, 2015.

DOE is considering extending funding for the HECA project in California. That plant is slated to convert blended coal and petroleum coke into hydrogen and CO₂. The hydrogen gas will be used to fuel a power station. The captured CO₂-

approximately 2 million tons per year - will be transported by pipeline for eventual use in EOR.

Effect of Falling Gas Prices

Gas prices have fallen dramatically since these projects were first envisioned, and as a result the industry has attempted to raise utility rates to cover project costs. A number of projects have been discontinued due to resistance and unfavorable court action holding that the cost could not be passed on to consumers.

For example, American Electric Power, the largest Electricity generating utility in the U.S., tabled its W.Va. CCS project in 2011, despite the fact that DOE had pledged to cover half of the costs of the project. Leucadia Energy discontinued its plan to gasify petroleum coke residue in Illinois in 2012 after Governor Quinn vetoed legislation which would have required Illinois utilities to buy Leucadia's gas at greater than current market price, resulting in higher costs for consumers. Leucadia has abandoned plans for gasification projects in Indiana, Louisiana and Mississippi for similar reasons.

The Mississippi Supreme Court ruled in February, 2015 that Mississippi Power must refund the rate increases which it had levied to cover the costs of constructing a gasification plant in Kemper County, MS. The company has delayed commission of that plant until April, 2016.

Gasification Technology *is not a substitute for traditional pollution control devices*. Duke Energy constructed its Edwardsport, Indiana facility at a cost of \$31.5 billion, without the traditional technology to capture carbon. Since the Edwardsport plant came on line in 2013 it has emitted more

carbon than Duke's 4 other traditional plants in Indiana. Duke is currently in litigation over its effort to pass the costs incurred at Edwardsport to its consumers.

Gasification does not address other pollutants resulting from Coal Combustion

Gasification technology does not address toxic pollutants other than CO2 resulting from coal combustion. The resulting emissions, effluent discharge, ash and sludge create serious hazards to our air and water quality and are the subject of continuing federal regulation and efforts to enforce EPA regulations through court action.

Conclusion

Gasification actually prolongs the destructive practices of the coal mining industry and of coal combustion and literally pumps new life into defunct oil fields. Despite billions of dollars from public and private investment, coal gasification remains prohibitively expensive and largely untested. Currently, there is a bi-partisan effort to authorize tax-exempt CCS bonds to attract more private investment.

The federal government projects that coal-fired generation will remain the largest single source of electricity in the US through 2040. It remains to be seen how long the federal government will remain willing to invest in the quest for clean coal energy

Sources: www.energy.gov , www.epa.gov , www.ucsusa.org , www.sourcewatch.org , www.sierraclub.org

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