



# U.S. Department of Energy

## Categorical Exclusion Determination Form



**Program or Field Office:** Advanced Research Projects Agency - Energy (ARPA-E)

**Project Title:** 25A2115 - Pilot Scale Testing of Carbon Negative, Product Flexible Syngas Chemical Looping

**Location:** Ohio, Alabama

**Proposed Action or Project Description:**

American Recovery and Reinvestment Act:

The Syngas Chemical Looping (SCL) process developed at the Ohio State University (OSU) can efficiently convert coal and biomass into electricity, hydrogen, and/or liquid fuel with zero or negative net CO<sub>2</sub> emission. Independent process analyses indicate that SCL is a transformational, carbon negative technology with significantly higher efficiency than the state-of-the-art processes. SCL has been successfully demonstrated at bench and sub-pilot scales. In this project, a pilot scale SCL plant will be constructed and demonstrated at the National Carbon Capture Center (NCCC) operated by Southern Company. Biomass and coal blend will be converted with 100% CO<sub>2</sub> capture. OSU is working with an industrial team composed of leading companies including Air Products, Babcock and Wilcox, CONSOL Energy, Clearskies Consulting, General Electric, IWI, PSRI, Shell/CRI, to address all the industrial concerns and get the technology ready for commercialization. The successful implementation of SCL will drastically reduce greenhouse gas emissions while promoting the efficient usage of indigenous energy sources throughout all economic sectors.

**Categorical Exclusion(s) Applied:**

X - B3.6 Siting/construction/operation/decommissioning of facilities for bench-scale research, conventional laboratory operations, small-scale research and development and pilot projects

\*-For the complete DOE National Environmental Policy Act regulations regarding categorical exclusions, see Subpart D of 10 CFR 1021 [Click Here](#)

This action would not: threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, including DOE and/or Executive Orders; require siting, construction, or major expansion of waste storage, disposal, recovery, or treatment facilities, but may include such categorically excluded facilities; disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that pre-exist in the environment such that there would be uncontrolled or unpermitted releases; or adversely affect environmentally sensitive resources (including but not limited to those listed in paragraph B.(4)) of Appendix B to Subpart D of 10 CFR 1021). Furthermore, there are no extraordinary circumstances related to this action that may affect the significance of the environmental effects of the action; this action is not "connected" to other actions with potentially significant impacts, is not related to other proposed actions with cumulatively significant impacts, and is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211.

Based on my review of information conveyed to me and in my possession (or attached) concerning the proposed action, as NEPA Compliance Officer (as authorized under DOE Order 451.1B), I have determined that the proposed action fits within the specified class(es) of action, the other regulatory requirements set forth above are met, and the proposed action is hereby categorically excluded from further NEPA review.

NEPA Compliance Officer: /s/ William J. Bierbower

Digitally signed by William J. Bierbower  
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 Date: 2010.01.15 14:55:59 -05'00'

Date Determined: 01/15/2010

Comments:

Webmaster:

