

**FINDING OF NO SIGNIFICANT IMPACT  
FOR THE  
UTAH COAL AND BIOMASS FUELED PILOT PLANT PROJECT  
KANAB, UTAH**

**AGENCY:** U.S. Department of Energy (DOE)

**ACTION:** Finding of No Significant Impact (FONSI)

**SUMMARY:** DOE completed the *Final Environmental Assessment for the Utah Coal and Biomass Fueled Pilot Plant Project, Kane County, Utah (DOE/EA-1870)*. Based on the analyses in the Environmental Assessment (EA), DOE determined that its proposed action of providing financial assistance to Viresco Energy, LLC, (Viresco) for construction and operation of a coal and biomass gasification pilot plant would not result in any significant adverse impacts. Viresco would use its pilot plant to evaluate the technical feasibility of using steam hydrogasification to convert coal and biomass (such as agricultural or wood waste) into synthesis gas (syngas) that could be suitable for production of clean fuels such as substitute natural gas, sulfur-free Fischer-Tropsch diesel, jet fuel, dimethyl ether, and methane. Viresco would not demonstrate the production of such fuels at its project site.

**BACKGROUND:** The Fiscal Year 2010 Appropriations Act for Energy & Water Development and Related Agencies (Public Law 111-85) included a \$2.5 million earmark sponsored by then Senator Bennett of Utah for the “Utah Coal and Biomass Fueled Pilot Plant.” In accordance with the legislation, DOE was to provide financial assistance to Viresco to support its design, construction, and testing of a pilot-scale steam hydrogasification facility. Under a cost-sharing agreement, DOE would provide \$2,404,000 (approximately 80 percent of the total cost of the research and development project) and Viresco would contribute the remaining \$601,000. The plant would be constructed, owned and operated by Viresco. Viresco is responsible for obtaining the permits and other authorizations needed for the project; DOE would have no regulatory authority over the project or its operation. Under the cooperative agreement, Viresco would operate the plant and collect data for a series of test runs totaling 30 days of operation over a period of months; after DOE’s financial assistance ends, Viresco plans to seek additional funding for continued operations.

**PURPOSE AND NEED:** The purpose and need for DOE’s action is to comply with the direction in the Fiscal Year 2010 Appropriations Act. Viresco’s technology could contribute to DOE’s goal of producing fuels using domestic renewable energy resources. The objective of the proposed project is to conduct a pilot-scale operation that would evaluate the technical feasibility of using steam hydrogasification to convert coal and biomass into syngas. If the demonstration is successful, this gasification technology would provide engineering information needed to develop a commercialization pathway for this process.

**DESCRIPTION OF THE PROPOSED ACTION:** DOE’s proposed action is to provide financial assistance, pursuant to a Congressional earmark, to Viresco for construction and operation of a coal and biomass gasification pilot plant that would convert carbonaceous feedstocks such as coal and lignocellulosic biomass into syngas suitable for further processing to liquid fuel or to substitute natural gas. Because the pilot plant would operate on an intermittent basis (i.e., performing test runs) there are no plans to demonstrate the production of clean fuels from syngas at the site. The syngas produced would be combusted properly in a shielded flare system. No fuel products or electricity would be produced by the project. The successful operation of this gasification technology at the planned scale would achieve the goal of acquiring engineering information to develop a commercialization pathway to produce liquid/gaseous fuels, and/or electric power from domestic resources such as coal and biomass.

The project would be located in Kanab, Utah, on land that is administered by the State of Utah, School & Institutional Trust Lands Administration. The proposed site is 1.5 acres of a 10-acre parcel to be leased by Viresco. Viresco has no plans to commercialize the proposed pilot plant at the Kanab site in the future; it would remain a research and development facility.

**ALTERNATIVES CONSIDERED:** In addition to the proposed project, DOE considered the No Action Alternative as required under the National Environmental Policy Act (NEPA). Under the No Action Alternative, DOE would not provide funding for the construction and operation of the Pilot Plant. The DOE decision that the NEPA process informs is limited to either accepting or rejecting the project as proposed by the proponent and specified by Congress, including its proposed technology and selected site. For the purposes of the analyses in the EA, DOE assumed that the project would not proceed without federal funding. This assumption establishes a baseline against which the potential environmental impacts of the proposed project can be compared.

**ENVIRONMENTAL CONSEQUENCES:** DOE evaluated the potential environmental consequences of the proposed project and the No Action Alternative. DOE considered fifteen environmental resource areas in the EA. However, not all areas were evaluated at the same level of detail. A “sliding-scale” approach was used so that those actions with greater potential effect were evaluated in greater detail than those that have little potential for impact. To this end, those resource areas with the higher potential for impacts and greater potential need for mitigation measures were given more emphasis. The areas DOE evaluated in detail include: aesthetics; air quality and climate; biological resources including vegetation and wildlife; cultural resources; geology and soils; groundwater; land use; materials and waste; noise; public health and safety; socioeconomics and environmental justice; utilities; and water resources. For these areas, DOE determined there would be negligible to moderate adverse environmental impacts during the construction and operation phases of the proposed project.

The other environmental areas DOE evaluated for potential impacts were surface water, transportation and traffic, wetlands and floodplains. DOE determined that there would be no potential for adverse impacts for these resource areas or that the impacts would be minimal, temporary, or both.

DOE is issuing a Mitigation Action Plan (MAP), which will be posted on DOE’s NETL website at <http://www.netl.doe.gov/publications/others/nepa/ea.html>. The MAP identifies mitigation measures, other than those required by permit conditions, that DOE requires as a condition of its decision to provide funds for this project. This MAP explains how mitigation measures will be implemented, who is responsible for their implementation, and at what time during the project they must be implemented.

**NO ACTION ALTERNATIVE:** Under the No Action Alternative, the project would not proceed unless other funding were obtained. If the project did not proceed, there would be no impacts, whether beneficial or adverse, on the resource areas evaluated in the EA.

**PUBLIC AVAILABILITY:** DOE issued the draft EA on August 12, 2011, and advertised its release in the *Southern Utah News* on August 17 and August 24, 2011, and *The Spectrum & Daily News* on August 21, 2011. In addition, DOE sent a copy of the draft EA to the Kanab Public Library in Kanab, Utah, and to the Fredonia Public Library in Fredonia, Arizona. DOE conducted a public hearing on August 30, 2011, at the Kanab Middle School, and a tribal community hearing on August 31, 2011, at the Kaibab-Paiute Community Center. DOE established a 35-day public comment period on the draft EA that began August 12, 2011, and ended on September 16, 2011. DOE also considered late comments received after the end of the comment period.

DOE distributed the draft EA to various stakeholders including federal, state, and local agencies. DOE conducted formal consultations by mail with the responsible U.S. Fish and Wildlife Service (USFWS) field

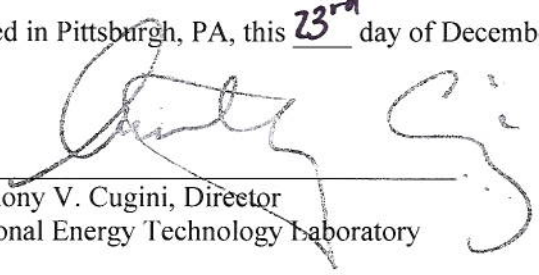
office, the Utah State Historic Preservation Officer (SHPO), Native American Tribes in Utah and Arizona, and the Utah Department of Natural Resources (DNR). DOE received comments on the draft EA from the USFWS suggesting that Viresco implement procedures to avoid the potential “take” of migratory birds and raptors and/or their nests and eggs by undertaking initial land clearing outside of the raptor/migratory bird nesting season of March 1 through August 31 for applicable species. Viresco would also perform surveys for migratory birds and raptors and their nests on site and in the vicinity, if required as a result of consultation with USFWS and Utah DNR prior to initial land clearing. The SHPO concurred with DOE’s determination that no historic properties would be affected by the proposed project. The Utah DNR concurred that there were no threatened, endangered, or sensitive species within the project area. DOE also engaged in government-to-government consultation with the Kaibab Band of the Paiute Indians to hear its concerns about the proposed project and obtain the Band’s comments.

Through the public involvement process, DOE received comments within the following resource areas: aesthetics, air quality, alternatives, cultural resources, land use, materials and waste, socioeconomics and utilities. DOE also received comments on cumulative impacts, Viresco’s decommissioning plans, the NEPA process, adequacy of the project description, and DOE’s definition of purpose and need. DOE revised the EA and updated information as appropriate in response to these comments. The final EA includes, as an appendix, all comments received on the draft EA and DOE’s response to each comment.

Copies of the final EA and this FONSI have been sent to individuals and organizations that provided comments or participated in the consultation process. Copies are available at DOE’s NETL web site at <http://www.netl.doe.gov/publications/others/nepa/ea.html>.

**DETERMINATION:** Based on the findings of this EA, and after careful consideration of all public and agency comments, DOE has determined that its proposed action of providing Congressional earmark funding and Viresco’s construction and operation of the Utah Coal and Biomass Fueled Pilot Plant Project would not significantly affect the quality of the human environment. Therefore, preparation of an environmental impact statement is not required and DOE is issuing this FONSI.

Issued in Pittsburgh, PA, this 23<sup>rd</sup> day of December 2011.

  
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National Energy Technology Laboratory