

**FINDING OF NO SIGNIFICANT IMPACT
FOR THE
BIG SKY REGIONAL CARBON SEQUESTRATION PARTNERSHIP
PHASE III: KEVIN DOME CARBON STORAGE PROJECT
TOOLE COUNTY, MONTANA**

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

ACTION: Finding of No Significant Impact (FONSI)

SUMMARY: DOE completed the final environmental assessment (EA) for the *Big Sky Regional Carbon Sequestration Partnership (BSCSP)-Phase III; Kevin Dome Carbon Storage Project, Toole County, Montana (DOE/EA-1886)*. Based on the analysis in the EA, DOE determined that its proposed action of providing approximately \$63.8 million (with a total cost of \$81.4 million) in financial assistance in a cost-sharing arrangement to Montana State University (MSU) would not result in any significant adverse impacts. MSU would demonstrate the injection of 1 million metric tons of carbon dioxide (CO₂) over a four-year period into the Duperow formation of Kevin Dome.

BACKGROUND: DOE established the Carbon Sequestration Program (currently named the Carbon Storage Program) in 1997 with the focus of conducting research and development activities for carbon storage technologies. Carbon storage involves capturing and storing CO₂ emissions prior to release into the atmosphere, as well as enhancing natural carbon uptake and storage processes. The proposed action would extract up to 1 million tons of naturally-occurring CO₂ from the upper gas-filled portion of Kevin Dome, a geologic structural trap in Toole County, Montana. These same volumes would be re-injected over a four-year period into the lower brine filled portion of the Duperow formation of Kevin Dome to characterize the ultimate storage capacity for future study.

DOE's proposed action of providing funding for this project requires compliance with the *National Environmental Policy Act (NEPA) of 1969*, as amended (NEPA; 42 U.S.C. Section 4321 et seq.), Council of Environmental Quality regulations (40 CFR Parts 1500 to 1508), and DOE NEPA implementing regulations (10 CFR Part 1021). DOE prepared an EA to evaluate the potential environmental consequences of providing financial assistance for MSU's proposed project under the Carbon Storage Program.

PURPOSE AND NEED: The overall purpose and need for DOE's proposed action is to test the application of large volume utilization and storage of CO₂ in regionally significant geological formations in North America. The principal goal of the Carbon Storage Program is to gain a scientific understanding of carbon utilization and storage techniques and to provide cost-effective, environmentally-sound technology options that ultimately may lead to a reduction in atmospheric concentrations of CO₂.

DESCRIPTION OF THE PROPOSED ACTION: DOE's proposed action is to provide financial assistance to MSU to inject 1 million metric tons of CO₂ over a four-year period into the Duperow formation of Kevin Dome. MSU would drill up to five production wells, one injection well, and four wells for monitoring. The project would also involve construction of a compressor station, five miles of roads, and six-to-ten miles of stainless steel pipeline, as well as various monitoring activities. DOE's proposed action would provide approximately \$63.8 million in financial assistance in a cost-sharing arrangement to MSU. The estimated total cost of the entire project is \$81.4 million.

ALTERNATIVES CONSIDERED: In addition to the proposed project, DOE considered the no action alternative as required under NEPA. Under the no action alternative, DOE would not provide funds for the proposed project. For the purposes of the analyses in the EA, DOE

assumed 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 nineteen 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 higher potential for impacts were evaluated in greater detail than those that have little potential for impact. The areas DOE evaluated in detail include: air quality; geology and soils; water resources; wetlands; wildlife; land use; infrastructure; visual resources; human health and safety; cultural resources; and waste management. For these resource areas, DOE determined there would not be significant environmental impacts during the construction and operation phases of the proposed project. Seismic crews inadvertently disturbed cultural resources while conducting preliminary activities in February 2012. Currently, DOE is seeking to comply with Section 106 of the National Historic Preservation Act, separate and apart from the NEPA process, through the development of a programmatic agreement (PA). The PA will be among: DOE and the Montana State Historic Preservation Office (SHPO), as required signatories; and MSU, the Montana Native American Tribes (Montana Tribes), and various other agencies, as invited signatories. The PA is currently under development.

MITIGATIONS: By mutual agreement between MSU and DOE the following mitigations shall be implemented: With regard to migratory birds and other wildlife, during breeding and nesting season (extending from approximately March 15-August 31): 1) MSU shall use netting on all well reserve pits; 2) avoid migratory bird nesting sites where possible; and 3) conduct pre-

construction migratory bird surveys, if construction or well drilling activities are expected to occur during this season.

PUBLIC AVAILABILITY: DOE issued the draft EA on August 31, 2012, and advertised its release in *The Great Falls Tribune* from August 31 to September 2, 2012. In addition, DOE sent copies of the draft EA to the Toole County Library, Shelby, Montana, for public review. DOE established a 30-day public comment period that began August 31, 2012, and ended October 1, 2012. DOE announced it would accept comments by mail, e-mail, or fax.

DOE distributed the draft EA to the applicable federal, state, and local agencies and to the Montana Tribes. DOE received comments from the U.S. Fish and Wildlife Service (USFWS), the Bureau of Land Management (BLM), the U.S. Army Corps of Engineers (USACE), the Montana Department of Natural Resources (MDNR), and the Montana Department of Environmental Quality (MDEQ) during the public comment period. DOE re-opened the draft EA for comment to all of the Montana Tribes for a second review period from January 15 to February 15, 2013. This was done following a request for additional time for review made by tribal attendees at a DOE/MT tribal consultation meeting in Great Falls, Montana, in November 2012.

DOE conducted consultations by mail with the responsible USFWS field office, the BLM field office, the USACE, SHPO, MDNR, MDEQ, and the Montana Tribes. A review of the federally-listed threatened and endangered species for this project area concluded that species and critical habitat are not present for MSU's proposed project site and no further consultation is needed. The USFWS concurred with this finding. Compliance with Section 106 of the National Historic Preservation Act will be addressed in the forthcoming PA.

DOE considered all comments that were received. Changes were made in the EA in response to many of the requests of the consulting agencies and tribes.

The final EA and this FONSI will be sent to stakeholders and resource agencies that provided comments or consultation, and the documents will be made available at DOE's National Energy Technology Laboratory (NETL) web site at

<http://www.netl.doe.gov/publications/others/nepa/ea.html>. Copies of the final EA and FONSI

can also be obtained by sending a request to:

Mr. Bill Gwilliam
U.S. Department of Energy
National Energy Technology Laboratory
3610 Collins Ferry Road
P.O. Box 880
Morgantown, WV 26507-0880
Email: william.gwilliam@netl.doe.gov

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 \$63.8 million in the form of cost-shared federal funding and MSU's construction and operation of the Big Sky Regional Carbon Sequestration Partnership Phase III: Kevin Dome Carbon Storage 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 19 day of April, 2013.



Anthony V. Cugini, Director
National Energy Technology Laboratory