



## DEPARTMENT OF ENERGY

### Notice of Availability

#### Hydrogen Energy California's Integrated Gasification Combined Cycle Project

#### Preliminary Staff Assessment and Draft Environmental Impact Statement

**AGENCY:** Department of Energy.

**ACTION:** Notice of Availability and Public Hearing.

**SUMMARY:** The U.S. Department of Energy (DOE) announces the availability of the *Hydrogen Energy California's Integrated Gasification Combined Cycle Project Preliminary Staff Assessment/Draft Environmental Impact Statement (PSA/DEIS)(DOE/EIS-0431D)* for public review and comment. This document is the draft environmental impact statement for DOE's purpose of complying with the National Environmental Policy Act. This document is also the Preliminary Staff Assessment for the California Energy Commission's (CEC) purpose of complying with the California Environmental Quality Act (CEQA). This combined document is hereafter referred to as the Preliminary Staff Assessment/Draft Environmental Impact Statement (PSA/DEIS). The PSA/DEIS analyzes the potential environmental impacts associated with the Hydrogen Energy California's (HECA) Integrated Gasification Combined Cycle Project, which would be designed, constructed, and operated by HECA, LLC. HECA's proposal was selected by DOE for financial assistance under the Clean Coal Power Initiative (CCPI) Program.

The PSA/DEIS was prepared in accordance with the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321 et seq.), the Council on Environmental Quality (CEQ) regulations that implement the procedural provisions of NEPA (40 CFR Parts 1500-1508), DOE's procedures for compliance with floodplain and wetland review requirements (10 CFR

Part 1022), and DOE's procedures implementing NEPA (10 CFR Part 1021). DOE's proposed action is subject to the Clean Air Act's General Conformity rule (GCR) set forth in section 176(c) of the Act and 40 CFR Part 93. DOE's *Draft General Conformity Analysis* is incorporated into the PSA/DEIS. DOE is coordinating its compliance with the GCR requirements for public participation in 40 CFR § 93.156 with the public comment period for the PSA/DEIS.

**DATES:** DOE invites the public to comment on the PSA/DEIS during the public comment period, which ends September 3, 2013. DOE will consider all comments postmarked or received during the public comment period in preparing the final EIS and will consider late comments to the extent practicable.

DOE and CEC will hold a public hearing(s) during the public comment period. The date(s), time(s), and location(s) of these public hearings will be published in *The Bakersfield Californian* at least 14 days prior to the hearing(s). This information will also be posted on CEC's website at [http://www.energy.ca.gov/sitingcases/hydrogen\\_energy/](http://www.energy.ca.gov/sitingcases/hydrogen_energy/).

**ADDRESSES:** Requests for a paper copy or information about this PSA/DEIS should be directed to: Mr. Fred Pozzuto, U.S. Department of Energy, National Energy Technology Laboratory, 3610 Collins Ferry Road, P.O. Box 880, Morgantown, WV 26507-0880. Additional information may also be requested by electronic mail: [fred.pozzuto@netl.doe.gov](mailto:fred.pozzuto@netl.doe.gov) or by telephone at (304) 285-5219, or toll-free at: 1-(800)-432-8330, extension 5219. The PSA/DEIS may be viewed at <http://www.energy.gov/nepa>. Copies of the PSA/DEIS are also available for review at the locations listed in the **SUPPLEMENTARY INFORMATION** section of this Notice.

Written comments on the PSA/DEIS can be mailed or sent electronically to Mr. Pozzuto at the addresses noted above. Comments may also be submitted by fax to: (304) 285-4403.

Oral comments on the PSA/DEIS will be accepted during the public hearing(s).

**FOR FURTHER INFORMATION CONTACT:** For further information on the proposed project, please contact Mr. Pozzuto (see **ADDRESSES**). For general information regarding DOE NEPA process, please contact: Ms. Carol M. Borgstrom, Director, Office of NEPA Policy and Compliance (GC-54), U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585-0103; telephone: (202)-586-4600.

**SUPPLEMENTARY INFORMATION:** DOE proposes to provide limited financial assistance through a cooperative agreement to HECA, LLC. Approximately \$275 million would be provided through the American Recovery and Reinvestment Act (ARRA) and \$133 million through the Clean Coal Power Initiative (CCPI) program for a total Federal share of approximately \$408 million. Total project cost is estimated to be over \$4 billion.

The HECA project would demonstrate integrated gasification combined cycle (IGCC) and carbon capture technology on a commercial-scale in a new power plant. The power plant would consist of a single gasifier with gas cleanup systems, a gas combustion turbine, a heat recovery steam generator, a steam turbine, and associated facilities.

The IGCC technology would turn a fuel blend consisting of 75 percent western sub-bituminous coal and 25 percent petroleum coke (petcoke) into a synthesis gas (syngas). The facility would gasify the fuel blend to produce hydrogen-rich syngas which would be used to generate electricity in a combined cycle power block; manufacture nitrogen-based products in an integrated fertilizer manufacturing complex; and capture and transport carbon dioxide (CO<sub>2</sub>) via pipeline to a neighboring oil field for enhanced oil recovery (EOR) and sequestration. At full

capacity, the plant is expected to use about 4,600 short tons of coal and about 1,140 short tons of petcoke per day.

The combined power block consists of gas combustion and steam turbines that would have the capacity to generate 416-megawatts (gross) of low-carbon electricity. This combined-cycle approach of using gas and steam turbines in tandem increases the amount of electricity that can be generated from the feedstock. Because of its multiple production capabilities, the plant is referred to as a poly-generation (or polygen) plant. The project could generate urea, ammonia, and perhaps other nitrogenous compounds for sale. The project's urea production unit would use pastillation technology, which converts urea melt into high-quality urea pellets.

The polygen plant would be built on 453-acres of the 1,106-acre site in south-central California near the unincorporated community of Tupman, located approximately 17-miles west of the city of Bakersfield. The site and surrounding areas are currently used for agricultural purposes, including cultivation of cotton, alfalfa, and onions. HECA would design and construct the plant to capture approximately 90 percent of the CO<sub>2</sub>, equivalent to approximately 3.4 million tons per year. During the demonstration phase of the plant's operations, the project would sequester about 2.6 million tons of CO<sub>2</sub> per year in EOR operations. The compressed CO<sub>2</sub> would be transported approximately 4-miles via a new 12-inch diameter pipeline to the existing Elk Hills oil field for use in EOR operations by a third-party buyer. The oil field is majority owned and operated by Occidental of Elk Hills which would be responsible for the EOR operation. Approximately 0.4 million tons per year of CO<sub>2</sub> would be utilized in fertilizer production. Following the demonstration phase, the polygen plant would continue commercial operation for 30 to 50 years and would continue to capture its CO<sub>2</sub> for EOR.

The PSA/DEIS evaluates the potential impacts of the proposed project, connected actions (EOR, utility, rail spur), and reasonable alternatives. The PSA/DEIS includes an assessment of

impacts to wetlands in accordance with DOE regulations for Compliance with Floodplains and Wetlands Environmental Review Requirements (10 CFR Part 1022) and the Draft General Conformity Analysis required under the Clean Air Act.

DOE analyzed two alternatives in the draft PSA/DEIS: the Proposed Action and the No Action Alternative. Under the Proposed Action, DOE would provide approximately \$408 million in cost-shared funding under the CCPI program to the proposed project. Under the No Action Alternative, DOE would not continue funding the proposed project. DOE assumes that the project would not proceed without DOE funding. This option would not contribute to the goal of the CCPI program, which is to accelerate commercial deployment of advanced coal technologies that provide the United States with clean, reliable, and affordable energy. As required by NEPA, DOE analyzes this option as the No Action Alternative in order to have a meaningful comparison between the impacts of DOE providing financial assistance and withholding that assistance. DOE recognizes that it is possible for the project to proceed without DOE funding. However, for purposes of this draft PSA/DEIS, DOE assumes that the project would not be built under the No Action Alternative.

The PSA/DEIS considers the environmental consequences that may result from the proposed project and describes additional mitigation that might be used to reduce various impacts.

**AVAILABILITY OF THE PSA/DEIS:** Copies of the PSA/DEIS have been distributed to Members of Congress; Native American tribal governments; federal, state, and local officials; and agencies, organizations, and individuals who previously requested a copy. The PSA/DEIS is available on the internet at <http://www.energy.gov/nepa> or on the CEC electronic docket site at [http://www.energy.ca.gov/sitingcases/hydrogen\\_energy/](http://www.energy.ca.gov/sitingcases/hydrogen_energy/). Copies of the PSA/DEIS are available for public review at the following locations: Beale Memorial Library, 701 Truxtun Avenue,

Bakersfield, CA 93301; Holloway-Gonzales Branch Library, 506 E. Brundage Lane, Bakersfield, CA 93307; and Southwest Memorial Library, 8301 Ming Avenue, Bakersfield, CA 93301. Additional copies can also be requested (see **ADDRESSES**).

**PUBLIC HEARING:** DOE and CEC will hold a public hearing(s) during the public comment period. The date(s), time(s), and location(s) of these public hearings will be published in *The Bakersfield Californian* at least 14 days prior to the hearings. This information will also be posted on CEC's website at [http://www.energy.ca.gov/sitingcases/hydrogen\\_energy/](http://www.energy.ca.gov/sitingcases/hydrogen_energy/).

Dated: July 17, 2013

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Mark J. Matarrese  
Director  
Office of Environment, Security, Safety & Health  
Office of Fossil Energy

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