

**U.S. Department of Energy
Office of Fossil Energy**

Request for Information

**“R&D aimed at Green House Gas (GHG) emissions reductions and cost competitiveness of
Mil-Spec jet fuel production using Coal-to-Liquid (CTL) fuels technologies”**

Issue Date: August 30, 2013

Program Area: Office of Fossil Energy (FE); U.S. Department of Energy (DOE); U.S. Air Force; U.S. Department of Defense (DOD)

Purpose: The purpose of this request for information (RFI) is to seek information on new and innovative technologies and concepts for coal-to-liquid (CTL) fuels. It is the intent of the DOE FE National Energy Technology Laboratory (NETL) to issue a Funding Opportunity Announcement (FOA), wherein the Areas of Interest could be developed based in part on the responses to this Request. The NETL, on behalf of the U.S. Air Force, intends to issue a FOA in 2013 that would solicit for the most promising research and development projects on advanced concepts for and/or unit operations within a CTL fuels plant:

1. To support advances in technology aimed at meeting the requirements of the Energy Independence and Security Act of 2007 (EISA 2007), Section 526 titled “Procurement and Acquisition of Alternative Fuels,” through reduced GHG emissions and lowered costs for coal-to-liquid (CTL) fuels production¹;
2. Consistent with guidance provided in the Department of Defense (DOD), Military Construction and Veterans Affairs, and Full-Year Continuing Appropriations Act of 2013; and,
3. For secure, clean and cost-competitive CTL-based jet fuel for military applications.

The DOE and U.S. Air Force anticipates the need for projects no less than \$3 million and that would have duration of not more than 3-years.

No FOA Applications will be accepted through this RFI.

Background

The DOD, Military Construction and Veterans Affairs, and Full-Year Continuing Appropriations Act of 2013 (Public Law 113-6) provided \$20.0 million in Air Force Research, Development, Test and Evaluation (RDT&E) funding for research that would reduce emissions and lower the costs of CTL fuel production technologies to enable CTL fuel to be a competitive alternative energy resource. The Secretary of Defense, in consultation with the Secretary of Energy, is directed to report to Congress on the feasibility of potential technologies that could enable coal-based liquid fuels to meet the requirements of the DOD consistent with the Energy Independence and Security Act of 2007 Section 526 (EISA 2007 §526, Public

¹ EISA §526 states: "No Federal agency shall enter into a contract for procurement of an alternative or synthetic fuel, including a fuel produced from nonconventional petroleum sources, for any mobility-related use, other than for research or testing, unless the contract specifies that the lifecycle greenhouse gas emissions associated with the production and combustion of the fuel supplied under the contract must, on an ongoing basis, be less than or equal to such emissions from the equivalent conventional fuel produced from conventional petroleum sources."

Law 110-140). The report shall also include a proposal for joint research on those technologies that are most promising for the capture of carbon, reduction of GHG emissions, and other approaches that could enable coal-based liquid fuels to be procured under the EISA 2007 §526.

Information Request

The DOE, on behalf of the U.S. Air Force, seeks information and ideas where the responses to this Request could be used, in part, in establishing content in a FOA that would solicit for the most promising research and development projects on advanced concepts for and/or unit operations within a CTL fuels plant. The overall CTL plant would be expected to meet the following objectives/goals:

- Produce products that meet military specifications for jet fuel (JP-8 MIL-DTL-83133);
- Make significant progress toward compliance with the EISA 2007 §526 lifecycle GHG emission requirements; and,
- Make significant progress toward being cost competitive with conventional petroleum-based jet fuel.

Specifically, information and ideas are sought for the best short-term (5-15 years out) technology solutions and longer-term (20-30 years out) technological paths forward leading to the commercial production of coal-derived mil-spec jet fuel with GHG emissions equal to or lower than conventional petroleum-based jet fuel production while also achieving cost-competitiveness with conventional petroleum-based jet fuel.

Although the specific Areas of Interest for this FOA have not yet been developed, it is important to note that direct, indirect, and other novel transformational coal and coal/biomass conversion technologies and approaches for the conversion of our Nation's domestic coal resources to jet fuels (for example, Jet-A or JP-8) are of interest. Responses should provide a technical description/discussion of the technology/concept envisioned along with a justification as to why and how the suggested approach will result in a jet fuel product that is competitive (cost and environmentally) with conventional crude oil derived products.

Responses Due

Responses to this RFI are due no later than 8:00 PM ET on September 30, 2013. Responses are to be submitted electronically in Adobe Acrobat PDF, minimum font size 11, to the National Energy Technology Laboratory (NETL) at the following e-mail address: CTL-RFI@NETL.DOE.GOV. Please limit responses to 3-pages or less.

The DOE and the U.S. Air Force will treat all responses as confidential business sensitive information, unless otherwise indicated by the Respondent. Responses should be marked accordingly.

Information about the 2-Step FOA Process

It is planned that a FOA will be issued in November 2013.

Step 1 – Request for Concept Papers

The FOA will request Concept Papers from each potential interested Party. Concept Papers will:

- ✚ Outline the research area and planned approach and the technical risks;
- ✚ Briefly describe the outcomes and benefits to be achieved;
- ✚ Identify the principal investigator, qualifications and experience;

- ✚ List key participating team member organizations and their roles; and,
- ✚ Address the availability and suitability of facilities.

Concept Papers will be evaluated by subject matter experts based on established criteria and a determination will be made by the Government to either solicit or not solicit a Comprehensive Application as described in Step 2 below. The Government reserves the right to request a Comprehensive Application of all, a subset, or none of the organizations that submit a Concept Paper. Examples of “representative criteria” that may be used to evaluate Concept Papers include:

1. Technical merit;
2. Degree to which the proposed RDT&E makes progress towards emissions and cost goals, while maintaining military jet fuel standards; and,
3. Commercialization potential.

Step 2 – Request for Comprehensive Applications

Those organizations who receive a formal request based on the Concept Paper evaluation will be encouraged to submit a Comprehensive Application. Comprehensive Applications will be subject to a detailed evaluation process. The Government reserves the right to select all, a subset, or none of the Comprehensive Applications for negotiation leading to award.

Applicant Information

In anticipation of the Funding Opportunity Announcement (FOA) being released, there are several one-time actions prospective Applicants must complete in order to submit an Application. Therefore, all potential Applicants lacking a Dun and Bradstreet Data Universal Number, or not yet registered with the System for Award Management (SAM) or FedConnect should complete those registrations as soon as possible. To this end, the following information is provided:

- Obtain a DUNS number (including the plus 4 extension, if applicable) at <http://fedgov.dnb.com/webform>.
- Register with SAM at <https://www.sam.gov>. Designating an Electronic Business Point of Contact (EBiz POC) and obtaining a special password called an MPIN are important steps in SAM registration. Please update your SAM registration annually.
- Register in FedConnect at <https://www.fedconnect.net/>. To create an organization account, your organization’s SAM MPIN is required. For more information about the SAM MPIN or other registration requirements, review the FedConnect Ready, Set, Go! Guide at https://www.fedconnect.net/FedConnect/PublicPages/FedConnect_Ready_Set_Go.pdf.
- Register in Grants.gov at <http://www.grants.gov/> to receive automatic updates when FOA Amendments are issued.

DISCLAIMER AND IMPORTANT NOTES

This RFI is issued solely to request information that will be used by DOE, on behalf of the U.S. Air Force, to develop and issue a FOA. The RFI is for information and FOA planning purposes only; it does not constitute a formal announcement for comprehensive Applications. All responses to this RFI will be treated as informational only. In accordance with the Federal Acquisition Regulations, 48 C.F.R. 15.201(e), responses to this RFI are not offers and cannot be accepted by the Government to form a binding award. DOE will not provide reimbursement for costs incurred in responding to this RFI.

DOE reserves the right to change the requirements of any proposed FOA, issue a FOA as described herein, issue a FOA involving only a portion of the elements listed, or not issue a FOA at all. Any information contained in this RFI is subject to change.