

Notice of Intent No.: DE-FOA-0003232

DISCLAIMER: The “Notice of Intent to Issue” is for informational purposes only; the Department of Energy is not seeking comments on the information in this notice and applications are not being accepted at this time. Any information contained in this notice is subject to change.

**This is a Notice of Intent to Issue
Funding Opportunity Announcement No. DE-FOA-0002614
Title: Carbon Management (Round 5)**

The Department of Energy (DOE) National Energy Technology Laboratory (NETL) intends to issue Funding Opportunity Announcement (FOA) No.: DE-FOA-0002614 on behalf of the Office of Fossil Energy and Carbon Management (FECM) early in the 2024 calendar year.

TECHNICAL OBJECTIVES

In support of Executive Order 14008 (dated January 27, 2021), “Tackling the Climate Crisis at Home and Abroad,” and to further past decades of DOE-supported carbon management research, development and demonstration (RD&D) done in cooperation with industry and academia to solve climate change challenges, DOE-FECM anticipates issuing an FOA, seeking applications for financial assistance awards that support research and development (R&D) for a variety of carbon management technologies. If released, this FOA is expected to focus on several areas of interest (AOI) responsive to the Carbon Management programmatic priorities. The FOA will be both a multi-programmatic and multi-year FOA potentially soliciting work in any, or all, of the following topic areas: carbon conversion; carbon dioxide removal (CDR); point source carbon capture; and carbon transport and storage. This suite of carbon management technologies must be developed and deployed in a just and equitable manner to help the nation achieve its climate ambitions and promote its overall energy, environmental and economic progress.

Additionally, potential applicants are hereby put on notice that a minimum of 20% non-Federal cost sharing will be required for all AOIs. This advanced notice of the non-Federal cost sharing requirement is intended to give prospective applicants ample time to obtain the required non-Federal resources and adequately address such in any potential application(s) submitted in response to the intended FOA.

If released, this amendment of the FOA is expected to focus on two areas of interest (AOIs).

AOI 1. Carbon Conversion Technology

The objective of AOI-1 is to support R&D investigating the conversion of carbon dioxide (CO₂) into environmentally responsible and economically feasible products. The Carbon Conversion Program will support technologies which utilize CO₂ from point sources such as power/industrial flue gas and direct air capture to yield valued-added products while simultaneously reducing CO₂ emissions. Supported R&D will validate results through rigorous product testing, life cycle analysis, and techno-economic analysis.

AOI-1C. Non-Photosynthetic Biological Conversion of CO₂

AOI 1C will support R&D for the non-photosynthetic biological conversion of anthropogenic CO₂. Proposed R&D may include but is not limited to; microbe selection, fermentation, reactor design, electrolyzer integration, and gas recycling. Supported R&D will identify an end use for the biomass and quantify product performance through relevant standard testing methodologies and will validate environmental benefits and economic feasibility through rigorous life cycle and techno-economic analyses, respectively.

AOI-1D. Conversion of CO₂ to Plastics

AOI 1D will support R&D for the conversion of anthropogenic CO₂ to plastics. Proposed R&D may utilize any pathway; whether biological or catalytic (including thermal, plasma, microwave, or electrochemical). Proposed R&D should identify the plastic produced, the intended end-use application, and the conversion process. Supported R&D will quantify plastic performance in its intended end-use application through relevant standard testing methodologies. Supported R&D will also validate environmental benefits and economic feasibility through rigorous life cycle and techno-economic analyses, respectively.

AOI-1E. Conversion of CO₂ to Solid Carbon Products

AOI 1E will support R&D for the conversion of anthropogenic CO₂ to solid carbon products. Proposed R&D may utilize any pathway, whether biological or catalytic (including thermal, plasma, microwave, or electrochemical). Proposed R&D should identify the solid-carbon product produced, the intended end-use application, and the conversion process. Supported R&D will quantify solid carbon product performance in its intended end-use application through relevant standard testing methodologies. Supported R&D will also validate environmental benefits and economic feasibility through rigorous life cycle and techno-economic analyses, respectively.

AOI-3. Point Source Carbon Capture Technology

The objective of AOI-3 is to solicit applications that are specifically focused on developing lower cost, highly-efficient technologies for point source carbon capture from fossil fuel power plants and industrial point sources capturing CO₂ that is suitable for secure geologic carbon storage,

including in situ mineralization or CO₂ conversion into long-lasting products (e.g., synthetic aggregates, concrete, durable carbon products).

AOI-3E. Development of Enabling Technologies for Carbon Capture Systems Installed at Natural Gas, Coal, or Industrial Facilities

The objective of AOI-3E is to support the development of enabling technologies that support the BIL large pilot scale testing and demonstrations of carbon capture. These enabling technologies will focus on: a) capture media degradation and reclaiming; b) engineering controls addressing emissions - both flue gas pre-treatment and capture system emissions; and c) monitoring, reporting, and verification (MRV) approaches/techniques.

SUBMISSION AND REGISTRATION REQUIREMENTS

If an FOA is released, it will be posted at Grants.gov (<http://www.grants.gov>) and at FedConnect (<http://www.fedconnect.net>). Entities interested in applying are strongly encouraged to register at these sites to receive notification of announcements regarding the FOA. Applications can only be submitted through Grants.gov.

There are several one-time actions an applicant must complete to submit a Full Application in Grants.gov (e.g., register with the System for Award Management (SAM), obtain a Unique Entity Identifier (UEI), register with Grants.gov, and register in FedConnect.net to submit questions). Applicants who are not registered with SAM and Grants.gov, should allow at least 44 days to complete these requirements. It is suggested that the process be started as soon as possible.

SAM - Applicants must register with SAM at <http://www.sam.gov> prior to submitting a Full Application in response to an FOA. NOTE: Designating an Electronic Business Point of Contact (EBiz POC) and obtaining a special password called an MPIN are important steps in SAM registration. Failure to register with SAM will prevent an organization from applying through Grants.gov. More information about SAM registration for applicants is found at:

[https://www.sam.gov/sam/transcript/Quick Guide for Grants Registrations v1.7.pdf](https://www.sam.gov/sam/transcript/Quick%20Guide%20for%20Grants%20Registrations%20v1.7.pdf).

NOTE: If clicking the SAM links do not work, please copy and paste the link into your browser.

Due to the high demand of SAM registrations and UEI requests, entity legal business name and address validations are taking longer than expected to process. Entities should start the SAM and UEI registration process as soon as possible. If entities have technical difficulties with the SAM registration or UEI validation process, they should utilize the HELP feature on SAM.gov. SAM.gov will work entity service tickets in the order in which they are received and asks that entities not create multiple service tickets for the same request or technical issue. Additional entity validation resources

can be found here: [GSAFSD Tier 0 Knowledge Base - Validating your Entity](#).

- **UEI** – Applicants must obtain an UEI from the SAM to uniquely identify the entity. The UEI is already available in the SAM entity registration record.

NOTE: Subawardees/subrecipients at all tiers must also obtain an UEI and provide the UEI to the Prime Recipient before the subaward can be issued.

- **Grants.gov** - Applicants must register with Grants.gov and set up a WorkSpace. An applicant cannot submit a Full Application through Grants.gov unless it is registered. Please read the registration requirements carefully and start the process immediately.

1. The Authorized Organizational Representative (AOR) must register at: <https://apply07.grants.gov/apply/OrcRegister>
2. An email is sent to the E-Business (E-Biz) POC listed in SAM. The E-Biz POC must approve the AOR registration using their MPIN from their SAM registration.

More information about the registration steps for Grants.gov is provided at:

<https://www.grants.gov/web/grants/applicants/registration.html>

Questions relating to the **registration process, system requirements, or how an application form works** must be directed to Grants.gov at 1-800-518-4726 or support@grants.gov.

- **FedConnect.net** - Applicants must register with FedConnect to submit questions to an FOA. FedConnect website: www.fedconnect.net.

DISCLAIMER

This is a Notice of Intent (NOI) only. DOE may issue an FOA as described herein, may issue an FOA that is significantly different than the FOA described herein, or may not issue an FOA at all.

This NOI is issued so that interested parties are aware that DOE may issue an FOA as described herein. Any information contained in this NOI is subject to change without notice.

No Concept Papers or Full Applications are being accepted at this time.

DOE will **not** entertain questions at this time. Details on how to submit questions will be provided in the FOA (if issued).