Notice of Intent No.: DE-FOA-0003079

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This is a Notice of Intent to issue
Funding Opportunity Announcement No.: DE-FOA-0002966

Carbon Dioxide Transportation Infrastructure Finance and Innovation (CIFIA) Program: Future Growth Grants

The Department of Energy (DOE) National Energy Technology Laboratory (NETL) intends to issue a Funding Opportunity Announcement (FOA) for CIFIA Future Growth Grants on behalf of the Office of Fossil Energy and Carbon Management's (FECM) Carbon Transport and Storage Program. The FOA is anticipated to be issued in the 1st quarter of Fiscal Year 2024 and will be funded by the Bipartisan Infrastructure Law (BIL).

BACKGROUND

On November 15, 2021, President Joseph R. Biden, Jr. signed the Infrastructure Investment and Jobs Act (Public Law 117-58), also known as the Bipartisan Infrastructure Law (BIL)[1]. The BIL is a once-in-a-generation investment in infrastructure, designed to modernize and upgrade American infrastructure to enhance United States competitiveness, drive the creation of good-paying union jobs, tackle the climate crisis, and ensure stronger access to economic, environmental, and other benefits for disadvantaged communities[2]. The BIL appropriates more than $62 billion to the Department of Energy (DOE)[3] to invest in American manufacturing and workers; expand access to energy efficiency and clean energy; deliver reliable, clean and affordable power to more Americans; and demonstrate and deploy the technologies of tomorrow through clean energy demonstrations.

As part of and in addition to upgrading and modernizing infrastructure, DOE's BIL investments will support efforts to build a clean and equitable energy economy that achieves a carbon pollution-free electricity sector by 2035, and to put the United States on a path to achieving net-zero emissions economy-wide by no later than 2050[4] for the benefit of all Americans.

Section 40304 of the BIL authorizes a total of $2.1 billion for the five (5) year period encompassing fiscal years (FYs) 2022 through 2026 for carbon dioxide transportation infrastructure finance and innovation

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[1] Infrastructure Investment and Jobs Act, Public Law 117-58 (November 15, 2021). https://www.congress.gov/bill/117th-congress/house-bill/3684. This NOI uses the more common name "Bipartisan Infrastructure Law."

[2] Pursuant to Executive Order (E.O.) 14008, "Tackling the Climate Crisis at Home and Abroad," January 27, 2021, and the Office of Management and Budget's Interim Justice40 Implementation Guidance M-21-28 and M-23-09 (whitehouse.gov), DOE recognizes disadvantaged communities as defined and identified by the White House Council on Environmental Quality's Climate and Economic Justice Screening Tool (CEJST), located at https://screeningtool.geoplatform.gov/. DOE's Justice40 Implementation Guidance is located at https://www.energy.gov/sites/default/files/2022-07/Final%20DOE%20Justice40%20General%20Guidance%20072522.pdf.

[3] U.S. Department of Energy. November 2021. "DOE Fact Sheet: The Bipartisan Infrastructure Deal Will Deliver For American Workers, Families and Usher in the Clean Energy Future." https://www.energy.gov/articles/doe-fact-sheet-bipartisan-infrastructure-deal-will-deliver-american-workers-families-and-0

[4] Pursuant to E.O. 14057, "Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability," December 8, 2021.

(CIFIA) program. CIFIA will support shared infrastructure projects, including pipelines, rail transport, ships and barges, and ground shipping, that connect anthropogenic sources of carbon dioxide with endpoints for its storage or utilization. Carbon management technologies such as carbon capture from industry and power generation, direct air capture, carbon conversion, and CO_2 transportation and storage technologies must be deployed at a large scale in the coming decades to meet the United States' net-zero greenhouse gas goals by 2050.

Investments to finance projects that build shared transport infrastructure to move CO_2 from points of capture to utilization facilities and storage wells will help form a domestic interconnected carbon management ecosystem. Robust investments will be required to overcome barriers associated with deploying large common carrier CO_2 transport infrastructure, including high capital costs and uncertain near-term utilization and returns as demand comes online.

Section 999D of Title IX of the Energy Policy Act of 2005 as amended in BIL (42 U.S.C. § 16374) authorizes the Secretary of Energy to provide grants (referred to herein as Future Growth Grants (FGG)) as part of the CIFIA program. Approximately $500 million of CIFIA program funding will be used to support FGG.

The CIFIA legislation authorizes FGG to pay a portion of the cost differential with respect to a projected and probable future increase in demand for CO_2 transportation by a large-capacity, common carrier infrastructure project. The cost differential is defined as the difference between:

1) the cost of constructing the infrastructure asset with the capacity to transport an increased flow rate of CO_2, as made practicable under the project; and
2) the cost of constructing the infrastructure asset with the capacity to transport CO_2 at the flow rate initially required, based on commitments for the use of the asset[5].

On December 1, 2022, DOE-NETL issued a request for information (RFI)[6] on the implementation of FGG under the CIFIA program to determine how best to support expansion of systems that increase flow rate or capacity to meet future demand. Responses to the RFI generally supported the concept of the FGG effort.

The purpose of this Notice of Intent is to provide potential Applicants with information that may be useful in determining whether to consider applying for a FGG if a FOA is issued.

TECHNICAL OBJECTIVES

FGG are intended to provide financial assistance for developing and building CO_2 transport capacity that is reasonably likely to become available when CO_2 suppliers such as carbon capture and direct air capture (DAC) facilities come online and/or when CO_2 sinks such as CO_2 storage or utilization facilities come online, but is capacity that may not be contracted or utilized in the initial years of operation of the CO_2 transport system. Significant economies of scale can be achieved if additional up-front investments are made to "oversize" CO_2 transport infrastructure capacity to accommodate potential CO_2 supplies that are not yet under contract. However, financing for CO_2 transport infrastructure investments is often difficult or impossible to obtain unless firm contractual commitments are in place for both CO_2 supply and offtake. Investments in additional capacity provided by FGG could help avoid future construction of additional transport infrastructure (e.g., separate redundant transport networks) and associated environmental impacts. Also, the additional transport capacity made available under FGG may incentivize CO_2 emitters to make the capital investments required to capture CO_2 at their facilities by providing assurance that the captured CO_2 can be moved safely and reliably to geologic storage or other end-use locations.

The FOA, if issued, would require Applicants to describe:

[5] 42 U.S.C. § 16374
[6] https://netl.doe.gov/node/12224

- a *Base Project* consisting of large-capacity, common carrier infrastructure that would transport quantities of anthropogenic and/or ambient air CO_2 for which firm commercial contractual commitments are in place for CO_2 supply and offtake; and
- an *Expanded Project* consisting of a large-capacity, common carrier infrastructure with the capacity to transport an **increased** flow rate of CO_2 compared to the Base Project.

CO_2 transport systems described in the Base and Expanded projects must comprise a transport network that is physically connected by way of pipeline, rail, road, and/or body of water. Applicants may propose projects that use one or multiple modes of CO_2 transport infrastructure (e.g., pipelines, rail, truck, barge, and ship). Existing infrastructure that is currently transporting CO_2 does not qualify as a Base Project; however, re-purposing existing infrastructure for CO_2 service does qualify as a Base Project. Examples of projects for which Applications for FGG may be accepted include but are not limited to:

Example 1

- *Base Project* is a transport system that includes a trunk pipeline 24 inches in diameter and 600 miles long.
- *Expanded Project* follows the same route as the Base Project but includes a 30-inch diameter trunk pipeline (in place of the 24-inch pipeline) or a looped 18-inch pipeline and any additional infrastructure (e.g., pumping stations) necessary to accommodate future CO_2 receipt or delivery points along the length of the trunk line.

Example 2

- *Base Project* is a transport system that includes multiple interconnected pipelines across a 4-state area.
- *Expanded Project* includes the same pipeline network, but also includes additional pipelines connected to the network to accept CO_2 from new sources and/or deliver CO_2 to new geologic storage facilities.

Example 3

- *Base Project* is a transport system that includes a trunk pipeline 24 inches in diameter and 600 miles long.
- *Expanded Project* includes the same trunk pipeline, but also includes a combination of rail spur(s), intermodal transfer facilities, and associated transport vehicles (rail cars or trucks) that can deliver CO_2 to the trunk line and/or offload delivery by truck or rail to CO_2 utilization or geologic storage facilities.

Example 4

- *Base Project* is a transport system that delivers CO_2 to a geologic storage site located onshore near a U.S. seaport.
- *Expanded Project* includes the same transport system, but also includes infrastructure at the seaport that has the capacity to load the CO_2 from the Base Project and additional volumes of CO_2 from other transport systems onto marine vessels for delivery to offshore geologic storage or utilization locations, along with the infrastructure on those vessels (tanks, compressors, etc.) needed to accommodate CO_2.

Applicants to the FOA should structure the timing of the work under the Expanded Project such that work will be completed within five years of the date on which costs for such work are authorized by DOE. Applicants to the FOA would be required to demonstrate that the infrastructure can reasonably be expected to be used during the 20-year period beginning on the date of substantial completion of the Expanded Project. The term "substantial completion" means the date (a) on which the project commences transportation of CO_2; or (b) of a comparable event to the event described in (a) as determined by the Secretary and specified in the Financial Assistance agreement.

This FOA, if issued, will be run with an initial closing date which will be specified in the initial FOA release. After applications received prior to the first closing are selected for award, it is anticipated that multiple additional FOA releases, followed by closings and additional selections for award, will occur through quarter

4 of fiscal year 2026, with the frequency of releases based upon the number of applications received and selected for award per closing and the availability of funding.

ELIGIBILITY

To be eligible to receive a Future Growth Grant, an entity shall[7]:

1. be eligible to receive credit assistance under the CIFIA program;
2. carry out, or propose to carry out, a project for large-capacity, common carrier infrastructure with a probable future increase in demand for CO_2 transportation; and
3. submit to the Secretary an application at such time, in such manner, and containing such information as the Secretary determines to be appropriate.

Requirements to become eligible for credit assistance or grants under the CIFIA program (requirement 1 above) are specified in BIL Section 999B(b) (42 U.S.C. § 16372) and summarized in the CIFIA Program Guide that has been published by the DOE Loan Program Office (LPO). Potential Applicants seeking eligibility for the CIFIA program must first submit a Letter of Interest to DOE in accordance with 42 USC § 16372 (b)(1)(A) and the CIFIA Program Guide. DOE will review Letters of Interest to determine if the Project appears eligible for CIFIA. Potential Applicants that submit Letters of Interest to DOE that are favorably reviewed will be notified, in writing, that they are eligible to submit an Application to the FOA. Letters of Interest that are not favorably reviewed will receive written notification from DOE along with an explanation of why the project was determined not to be eligible to submit an Application to the FOA, and information on options for the potential Applicant to withdraw the Letter of Interest or potentially submit a revised Letter of Interest.

Applicants are strongly encouraged to consult LPO's CIFIA Program Guide for specific information pertinent to CIFIA Loans and eligibility for the CIFIA Program.

Technology research, development, and deployment will likely be more successful if equity and justice principles and community and labor engagement and partnership development are integrated into funding opportunities. For example, failing to meaningfully engage with communities and labor stakeholders has been a contributing factor to delays or cancellations of energy and carbon management projects in the past. However, with meaningful engagement, communities and labor stakeholders can be project partners whose questions and concerns can improve overall project outcomes. This is clear from feedback obtained from FECM stakeholders,[8,9] requests for information,[10] published research, and information obtained from FECM project work.

To support the goal of building a clean and equitable energy economy, CIFIA FGG projects are expected to (1) support meaningful community and labor engagement; (2) invest in America's workforce; (3) advance diversity, equity, inclusion, and accessibility (DEIA); and (4) contribute to the President's goal that 40% of the overall benefits of certain federal investments flow to disadvantaged communities (the Justice40 Initiative). To ensure these goals are met, projects will be required to include a Community Benefits Plan that describes how the proposed project would incorporate the four objectives stated above. Additional guidance on specific application and reporting requirements associated with Community Benefits Plans will be included in the program FOA.

In keeping with the administration's goals, and as an agency whose mission includes strengthening our country's energy prosperity, DOE intends to use this program to support the creation of good-paying jobs with the free and fair choice to join a union, the incorporation of strong labor standards, and high-road

[7] 42 U.S.C.A. § 16374(b)
[8] https://usea.org/event/department-energy-public-community-listening-session-regarding-carbon-management
[9] Virtual Carbon Management Applicant Education Workshop | USEA | United States Energy Association
[10] Request for Information; FedConnect: Opportunity Summary

workforce development, especially registered apprenticeship, and quality pre-apprenticeship. DOE will require projects to track and report on outcomes and outputs related to societal considerations and impacts throughout the life of the project. Guidance on specific application and reporting requirements will be included in the program FOA.

DOE will **not** accept questions at this time regarding issuance of the potential FOA. Details on how to submit questions and comments will be provided in the FOA, if issued.

SUBMISSION AND REGISTRATION REQUIREMENTS FOR FULL APPLICATION

If the 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 for awards under the FOA are strongly encouraged to register at these sites to receive notification of announcements regarding the FOA. If DOE decides to issue the FOA, applications can only be submitted through Grants.gov.

There are several one-time actions that must be completed before submitting an application in response to this Funding Opportunity Announcement (FOA) (e.g., obtain a Unique Entity Identifier (UEI), register with the System for Award Management (SAM), register with Grants.gov, and register with FedConnect.net to submit questions). It is vital that applicants address these items as soon as possible. Some may take several weeks, and failure to complete them could interfere with an applicant's ability to apply to this FOA. Applicants who are not registered should allow up to **44 days at a minimum to complete these requirements.**

- **UEI** - Applicants must obtain an UEI from the SAM to uniquely identify the entity. The UEI is 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.

- **SAM** - Applicants must register with the SAM at https://www.sam.gov/ prior to submitting an application in response to this FOA. 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 your organization from applying through Grants.gov. The applicant must maintain an active SAM registration with current information at all times during which it has an active Federal award or an application under consideration. More information about SAM registration for applicants is found at: https://www.fsd.gov/gsafsd_sp?id=gsafsd_kb_articles&sys_id=650d493e1bab7c105465eaccac4bcbcb.

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

- **Grants.gov** - Applicants must register with Grants.gov and set up your WorkSpace. You cannot submit an application through Grants.gov unless you are 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

  In addition:

- Add a Profile to a Grants.gov Account: A profile in Grants.gov corresponds to a single applicant organization the user represents (i.e., an applicant) or an individual applicant. If you work for or consult with multiple organizations and have a profile for each, you may log in to one Grants.gov account to access all of your grant applications. To add an organizational profile to your Grants.gov account, enter the UEI for the organization in the UEI field while adding a profile. For more detailed instructions about creating a profile on Grants.gov, refer to: https://www.grants.gov/web/grants/applicants/registration/add-profile.html
- *EBiz POC Authorized Profile Roles*: After you register with Grants.gov and create an Organization Applicant Profile, the organization applicant's request for Grants.gov roles and access is sent to the EBiz POC. The EBiz POC will then log in to Grants.gov and authorize the appropriate roles, which may include the AOR role, thereby giving you permission to complete and submit applications on behalf of the organization. You will be able to submit your application online any time after you have been assigned the AOR role.

  ***NOTE**:* When applications are submitted through Grants.gov, the name of the organization applicant with the AOR role that submitted the application is inserted into the signature line of the application, serving as the electronic signature. The EBiz POC **must** authorize people who are able to make legally binding commitments on behalf of the organization as a user with the AOR role; **this step is often missed and it is crucial for valid and timely submissions.**

  For more detailed instructions about creating a profile on Grants.gov, refer to: https://www.grants.gov/web/grants/applicants/registration/authorize-roles.html

  To track your role request, refer to: https://www.grants.gov/web/grants/applicants/registration/track-role-status.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. FedConnect website: www.fedconnect.net.

DISCLAIMER

This NOI is issued so that interested parties are aware of the DOE's intention to issue a FOA in the near term. Any information contained in this NOI is subject to change.

No Full Applications are being accepted at this time.