

DOE Issues Funding Opportunity for Front-End Engineering Design Studies for Carbon Capture Systems at Industrial Facilities and Natural Gas Plants

Key Highlights

- The U.S. Department of Energy has announced a funding opportunity for full scale Front End Engineering and Design Studies which will allow for a natural gas fired power station to complete detailed engineering and cost estimates for retrofitting post combustion CO₂ capture technology on an existing unit.
- NRECA is available to support cooperatives' applications. Interested cooperatives are asked to contact [Dan Walsh](#) or [Will Morris](#) by **June 1, 2021**.

What has changed?

The U.S. Department of Energy's (DOE) Office of Fossil Energy (FE) has issued a Funding Opportunity Announcement (FOA) entitled, "*Carbon Capture R&D for Natural Gas and Industrial Point Sources, and Front-End Engineering Design Studies for Carbon Capture Systems at Industrial Facilities and Natural Gas Plants.*" The full funding announcement is available [online](#).

According to the FOA, the program's purpose relevant to generation cooperatives is "to accelerate the demonstration of the lower cost Generation 2 carbon capture technologies at existing industrial manufacturing sites and power plants to prove their commercial viability at higher capture efficiencies (e.g., 95% or greater) and leverage the 45Q tax credits legislation. To that end, DOE-FE is supporting front-end engineering and design (FEED) studies for power plants integrated with carbon capture systems."

The FOA states, "By developing innovative clean energy technologies capable of capturing at least 95% of CO₂ emissions from point sources, and by supporting their commercial deployment into the power and industrial sectors, this FOA will enable the U.S. to achieve a carbon pollution-free power sector by 2035 and a net-zero carbon pollution economy by 2050, while promoting creation of jobs located in power plant or industrial communities that are economically distressed and/or have been disproportionately harmed by adverse environmental impacts of the energy industry.

NRECA is willing to assist member cooperatives who may be interested in pursuing funding for a full-scale FEED study at a natural gas combined cycle unit (NGCC) by:

- Introducing cooperatives to potential capture technology partners and universities.
- Providing support and expertise in evaluating post combustion capture technology.
- Supporting cooperatives by providing available information for CO₂ storage potential.

- Providing guidance on the FOA application process.

What is the impact on cooperatives?

Cooperatives may be interested in applying for funds under the FOA or partnering with other entities. Area of Interest (AOI) 3b is titled: *Front-End Engineering Design Studies for Carbon Capture Systems at Existing (Retrofit) Domestic NGCC Power Plants* and is of interest to cooperatives utilizing existing NGCC generation.

Projects under AOI 3b should have the following elements:

➤ Project approach must include:

1. **Carbon Capture Technology Description and Technology Readiness Level (TRL) Evaluation.** In the case of this FEED study, capture technology partners must have achieved a TRL of at least 6.
2. **Host Site Selection.** The applicant must select and propose a specific existing NGCC plant located in the United States.
3. **NGCC Plant Description and Carbon Capture System Integration.** The applicant must describe the existing NGCC plant, including, but not limited to, process diagrams, hardware sketches and emissions profiles and include how the carbon capture system will be integrated into the NGCC plant.
4. **CO₂ Storage options.** Applications should identify plausible options for CO₂ storage. CO₂ pressure, quality, and quantity should match the requirements of the intended transport and storage solution.
5. **Summary of the Preliminary Techno-economic Analysis (TEA) or Pre-FEED Study and Preliminary Business Case Analysis.** The Preliminary TEA should provide the cost of the proposed capture system to achieve 95% carbon capture efficiency.
6. Applicants will be required to prepare and submit a preliminary **Environmental Justice Analysis**.
7. Applicants are required to submit a **preliminary economic revitalization and job creation outcomes analysis** associated with the proposed carbon capture system.

What do cooperatives need to know or do about it?

The Department of Energy has established a 20% cost share for AOI 3b. That means that winning teams will have to cover at least 20% of the projects cost with their own funds.

Additionally, DOE plans on awarding one (1) contract under AOI 3b. The DOE has anticipated maximum award of \$6,000,000, not including cost share.

Anticipated project length will be 18 months.

Proposal timeline:

Submission Deadline for Full Applications:	06/21/2021 11:59pm ET
Expected Date for Selection Notifications:	09/27/2021
Expected Date for Award:	11/19/2021

Co-ops interested in exploring NRECA support for their application to this DOE FOA are asked to contact:

[Dan Walsh](#) or [Will Morris](#) by June 1, 2021.

Additional Resources

- **Carbon Capture Technology Spreadsheet** (*NRECA Members who are interested in receiving this spreadsheet, please contact Dan or Will at the emails below and they will provide it to you.*)

Contacts for Questions

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