



OCED
Office of Clean Energy Demonstrations

THE OFFICE OF CLEAN ENERGY DEMONSTRATIONS



Office of Clean Energy Demonstrations Introduction

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Office of Clean Energy Demonstrations

U.S. Department of Energy

October 17, 2024

OCED Mission

Deliver clean energy technology **demonstration projects at scale** in partnership with the **private sector to accelerate deployment, market adoption**, and the **equitable transition** to a decarbonized energy system.”



OCED Mandate



SCALE EQUITABLE, CLEAN ENERGY

Help enable 100% clean electricity by 2035 & net-zero emissions by 2050 through an equitable energy transition



UNLOCK NEW INVESTMENT

Unlock and scale trillion-dollar clean energy follow on investment from the private sector and other sources of capital



DE-RISK TECHNOLOGY

Maintain risk-based, balanced, and defensible portfolio of investments



PROVIDE PROJECT OVERSIGHT

Serve as primary DOE office to deliver full scale clean energy demonstration projects and project management oversight excellence

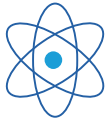


ENGAGE & COLLABORATE

Leverage private sector and broader energy ecosystem to inform OCED and DOE technology commercialization efforts



OCED Scope



Advanced Nuclear
(\$3.3 billion)



Carbon Management
(\$7 billion)



Clean Energy Demonstrations on Mine Land (\$500 million)



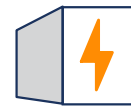
Distributed Energy Systems Demonstrations (\$50 million)



Energy Improvements in Rural or Remote Areas (\$1 billion)



Industrial Demonstrations
(\$6.3 billion)



Long-Duration Energy Storage (\$505 million)



Regional Clean Hydrogen Hubs
(\$8 billion)



Liftoff Enabling Programs
(\$133 million)



Industrial Demonstrations

Demonstrate transformational technologies to decarbonize energy-intensive industries

- Drive a U.S. competitive edge in low- and net-zero carbon manufacturing
- Help build a market for green products through high-impact, replicable solutions

Current Status

- Aug 2024: Awards are being made on an ongoing basis, starting in August 2024
- Mar 2024: Selected 33 projects across more than 20 states for award negotiations
- Mar 2023: Issued \$6B funding announcement



Regional Clean Hydrogen Hubs

Build 6-10 regional clean H2Hubs across the country to create networks of clean hydrogen producers, consumers, and local connective infrastructure to accelerate use of clean hydrogen.

- Feedstock diversity
- End use diversity
- Geographic diversity
- Employment and training

Current Status

- Funding Opportunity Announcement
 - Jul 2024: Awards are being made on an ongoing basis, starting in July 2024
 - Oct 2023: Selected seven regional H2Hubs across the nation for award negotiations
 - Sep 2022: Issued \$7B funding announcement
 - Spring 2022: Issued RFI



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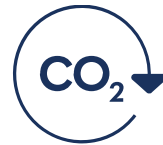
Current Status

- Demand-Side Support
 - Jun 2024: Agreement finalized for the Design Phase of demand-side hydrogen initiative
 - Jan 2024: Selected a consortium for demand-side hydrogen initiative
 - Sep 2022: Issued RFP
 - July 2022: Issued NOI



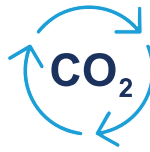
Carbon Management

Three programs



Carbon Capture Demonstration

Projects: Develop six carbon capture facilities to improve costs, emissions reductions, and environmental effects from coal and natural gas



Carbon Capture Large-Scale Pilot Projects:

Establish and test innovative carbon capture pilot projects large enough to support new processes and technology improvements at scale



Regional Direct Air Capture

Hubs: Develop four regional direct air capture hubs to capture and sequester, utilize, or sequester and utilize at least 1,000,000 metric tons of CO₂ annually from a single unit or multiple interconnected units



Carbon Management

Three programs

Current Status

Carbon Capture Demonstration Projects

- Front-end engineering design (FEED) studies
 - Oct 2023: Awards being made on an ongoing basis, starting in October 2023
 - May 2023: Selected FEED studies for award negotiation
 - Sep 2022: Announced \$189M funding for FEED studies

- Funding Opportunity Announcement
 - Jul 2024: Awards being made on an ongoing basis, starting in July 2024
 - Dec 2023: Selected three projects for award negotiations in TX, ND, and CA
 - Feb 2023: Issued \$1.7B funding announcement to demonstrate commercial-scale carbon capture technologies integrated with CO₂ transportation and geologic storage infrastructure



Carbon Management

Three programs

Current Status

Carbon Capture Large-Scale Pilot Projects

- Aug 2024: Awards are being made on an ongoing basis, starting in August 2024
- Feb 2024: Selected four projects for award negotiations in KY, MS, TX, and WY
- Feb 2023: Issued \$820M funding announcement

Regional Direct Air Capture Hubs

- Mar 2024: Awards being made on an ongoing basis, starting in March 2024
- Feb 2024: Issued RFI for mid-scale commercial direct air capture demonstration facilities
- Aug 2023: Selected two projects for award negotiations in TX and LA
- Dec 2022: Issued \$3.5B funding announcement



Advanced Nuclear

Two programs



Advanced Reactor Demonstrations:

Support domestic nuclear industry in design, licensing, construction, and operation of two advanced nuclear reactors



Generation III+ Small Modular Reactor Program:

Support up to two first-mover teams of utility, reactor vendor, constructor, and end-users or power off-takers committed to deploying a first plant while at the same time facilitating a multi-reactor, Gen III+ SMR orderbook



Clean Energy Demonstrations on Mine Land

Carry out up to five clean energy projects on current and former mine land to show technical and economic feasibility

- Eligible technologies: solar (at least two projects); micro-grids; geothermal; direct air capture; fossil generation with CCUS; energy storage; advanced nuclear
- Focus on local economic development and environmental justice

Current Status

- Mar 2024: Selected five projects for award negotiations in AZ, KY, NV, PA, and WV
- Apr 2023: Issued \$450M funding announcement
- Jun 2022: Issued RFI



Distributed Energy Systems

Develop reliable, resilient and cost-effective energy systems to better support our rapidly changing electric grid and the growth of electric vehicles, energy storage, and the electrification of buildings and industry

- Projects will demonstrate aggregated approaches that integrate utility planning, sensors, communications and control infrastructure, and solutions to long-term operations.

Current Status

- Apr 2024: Deadline for full applications
- Sep 2023: Issued \$50M funding announcement
- Jul 2023: Issued NOI & RFI for anticipated \$50M funding announcement



Energy Improvements in Rural or Remote Areas

**Rural or remote areas are defined as cities, towns, or unincorporated areas with fewer than 10,000 inhabitants*

Improve resilience, safety, reliability, and availability of energy in rural or remote areas and increase environmental protection from adverse impacts of energy use

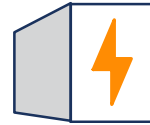
Current Status

Developing focused Technical Assistance through national labs and EPA TCTACs

- NOI
 - Aug 2024: NOI issued to fund up to \$400M
- Funding Opportunity Announcement
 - Aug 2024: Awards are being made on an ongoing basis, starting in August 2024
 - Feb 2024: Selected 17 projects for award negotiations across 20 states and 30 tribal nations and communities
 - Mar 2023: Issued \$300M funding announcement
 - Oct 2022: Issued RFI



Long-Duration Energy Storage *Three programs*



Long-Duration Energy Storage

(LDES) Demonstrations: These projects will help effectively demonstrate the commercial viability of innovative LDES technologies and facilitate wider commercial adoption.



DOE/DOD Long-Duration Energy

Storage Joint Program: These projects will demonstrate LDES technologies on government facilities through collaboration between DOE and Department of Defense (DOD).



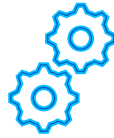
Long-Duration Energy Storage Pilot

Program: These projects will advance a diverse set of LDES technologies towards commercial viability and utility-scale demonstrations.



Liftoff Enabling Programs

A suite of programs designed to be flexible and responsive to current and future needs around technology commercialization



Manufacture of Advanced Key Energy Infrastructure Technologies (MAKE IT)

Prize: To boost domestic manufacturing and ensure a robust, secure supply chain of critical clean energy technology components.



Voucher Program: To provide free assistance to companies for commercialization and pre-demonstration services, and to local governments for siting and permitting needs.



Collaborative Alignment for Clean Technology Industries (CACTI): For DOE National Laboratories to establish two industry working groups to increase communication across entities working within clean energy technology industries.



Liftoff Enabling Programs



Designing Optimized Contract

Standards (DOCS): To provide standardized CDR contract templates to the CDR industry to jumpstart legal work and promote equitable terms.



GREET User Interface: To develop an industry-friendly and easy-to-use interface to access this standard life-cycle analysis modeling tool (GREET) and facilitate viability of new industrial projects.



CO₂ Removal Measurement, Reporting, and Verification Removal (MRV) Lab Call:

To establish industry-accepted framework for measurement, reporting, and validation of carbon removal through mineralization, cement/concrete, biomass, and direct air capture pathways.



Solutions for Lasting, Viable Energy Infrastructure Technologies (SOLVE IT):

To support organizations with a demonstrated history of community-based initiatives to help communities find innovative solutions to their energy challenges.

Engage with Us!



- For more information, please visit: energy.gov/OCED
- For questions regarding the program, please email: OCED_Industrial@hq.doe.gov
- For questions regarding the Pathway to Commercial Liftoff Reports, please email: liftoff@hq.doe.gov
- Find OCED on [LinkedIn](#)