

DEC 5 • 10.30AM-1PM • BALLROOM C



NORTH STAGE

DOE SPARKS

Liftoff Enabling Programs to Remove Commercialization Barriers



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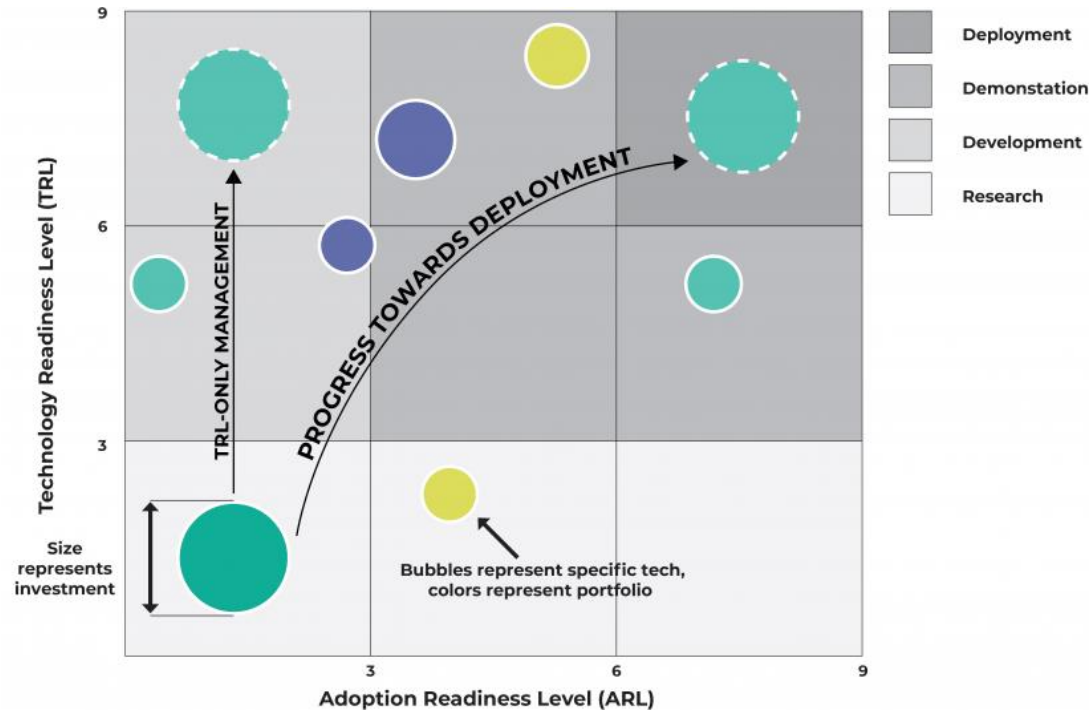
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Mission of Liftoff Enabling Programs

Support the replication, market liftoff, and deployment of clean energy infrastructure technologies by removing commercialization barriers to increase technology and adoption readiness.



Support Adoption Readiness to Achieve Industry Liftoff

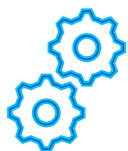


- Enabling deployment of technologies and replication of projects requires retiring both technology and adoption risks.
- While some of these risks are addressed by OCED's large-scale demonstration projects, other risks require a systemic approach of industry-wide solutions.
- OCED's portfolio of Liftoff Enabling programs are designed to be nimble and responsive in addressing both existing and future risks hindering technology deployment and adoption.

Current Liftoff Enabling Programs:

~\$300M in Total Funding

\$60M



MAKE IT Prize

(Manufacture of Advanced Key Energy Infrastructure Technologies)

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

\$15M*



MRV Lab Work

(Measurement, Reporting, and Verification for CO2 Removal)

To establish industry-accepted frameworks for the measurement, reporting, and validation of mineralization, cement, biomass, and direct air capture pathways

\$45M



Voucher Program

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

\$3M



SOLVE IT Prize

(Solutions for Lasting, Viable Energy Infrastructure Technologies)

To empower communities to identify and implement innovative clean energy solutions in a way that works for their unique needs and challenges

\$30M*

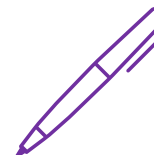


CACTI Industry Collaborations

(Collaborative Alignment for Clean Technology Industries)

To increase collaboration of entities advancing clean energy technology industries with industry working groups convened by DOE National Laboratories

\$2M



DOCS Lab Work

(Designing Optimized Contract Standards)

To provide standardized CDR contract templates to the CDR industry to jumpstart legal work and promote equitable terms

\$2M



GREET User Interface Lab Work

To develop a friendly and easy-to-use interface to the established GREET life-cycle analysis modeling tool to facilitate viability of new industrial projects

\$.3M



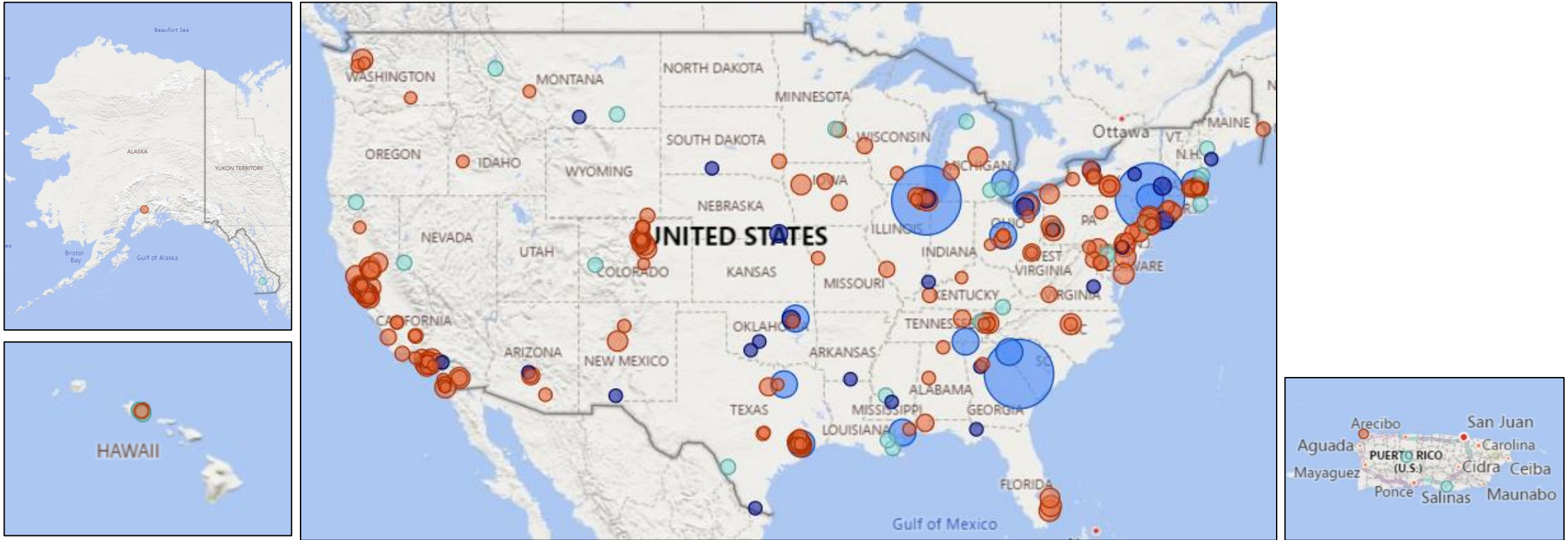
INSURE IT

(Innovating New Strategies for Underwriting Risk in Energy Infrastructure Technologies)

Market research to build coalitions that will propose critical infrastructure policies that have financial impact, address a market gap, and are replicable.

*Does not include additional cost share contribution

Projects Map



*Size of bubble reflects amount of funding

MAKE IT - Facilities



MAKE IT - Strategies



Vouchers








SOLVE IT



OCED
Office of Clean Energy Demonstrations

Voucher Opportunities

	Title	Services	Recipient Organizations	Max Amount
VO-1 	Pre-Demonstration Commercialization Support	Bankability studies, manufacturing / supply chain assessments, community benefits assessments, TEAs, QA/QC analysis, cybersecurity analysis, accounting systems support.	Technology Development Companies	\$50,000
VO-2 	Performance Validation, Modeling, and Certification Support	Evaluation of technology performance under certification-relevant operating conditions (including N-stamp and environmental and sustainability standards), accelerated lifetime testing to test for failure modes, and advanced test bed facilities access.	Technology Development Companies	\$250,000
VO-3 	Clean Energy Demonstration Project Siting/Permitting Support	Evaluate siting and permitting best practices, develop streamlined permitting processes, understand new clean energy technology benefits and challenges, support community engagement on permitting issues.	Local governments, Tribes, and other Jurisdictions	\$100,000
VO-9 	Planning and Validation of Industrial Decarbonization Projects	Support independent assessment and validation of industrial decarbonization plans and projects; third-party assessment and validation of industrial decarbonization claims; and performance validation support.	Industrial & Manufacturing Companies	\$250,000
VO-10 	Facility Retrofits for Critical Component Manufacturing	Support domestic manufacturers with feasibility and engineering studies to convert, retool, or retrofit their existing facility to produce components that are necessary for clean energy technologies.	Small to medium manufacturers	\$250,000





MAKE IT Facilities Track

Track Overview

This track will support a robust domestic supply chain for critical components for the clean energy industry.

Eligibility

Entities interested in establishing a manufacturing plant for:

- A. Clean hydrogen
- B. LDES
- C. Upgrades to the electric grid
- D. Industrial decarbonization
- E. Carbon capture
- F. DAC
- G. Advanced nuclear

Prize

Up to \$5M for shovel-ready facilities (site access secured, permits obtained, blueprints finalized, financing secured). Total prize pool: \$60M.

Measurement, Reporting, and Verification (MRV) for CDR

Best Practices and Capabilities

Problem: The lack of robust MRV practices to quantify and compare carbon dioxide removal (CDR) solutions, including direct air capture, in an apples-to-apples manner is a market formation bottleneck impeding the ability to commercialize promising new CDR technologies.

Solution: National lab expertise can accelerate commercialization of the emerging CDR industry by making contributions in the following areas:

- 1 Measuring carbon
- 2 Quantifying net carbon removal
- 3 Increasing transparency
- 4 Developing best practices for protocols and procedures

Participating Labs:



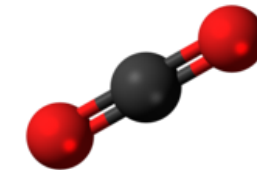
Pathways:



Cement & Concrete



BiCRS (Biomass)



CDR –Umbrella



Mineralization

Collaborative Alignment for Clean Technology Industries (CACTI)



The Clean Hydrogen Technology Alignment Cooperative

National Labs:



Industry Participants

150+ partners including all parts of the supply chain, utilities, and industry trade groups



THE NATIONAL CONSORTIUM FOR THE
ADVANCEMENT OF LONG DURATION
ENERGY STORAGE TECHNOLOGIES

The National Consortium For the Advancement of Long
Duration Energy Storage technologies

National Labs:



Industry Participants

300+ partners including corporate, industry organization, utility, and project partners

Adoption Tools



GREET User Interface Lab Work

- The program supports the development of web-based user-friendly interface for GREET
- Greenhouse gases, Regulated Emissions, and Energy use in Technologies (GREET) has been developed by ANL as an R&D, Excel-based LCA tool mostly for the research community.
- The tool is now being used to determine tax credit eligibility as required by the Inflation Reduction Act
- The improved user-interface will allow a wider community to use the tool and be ready to take advantage of incentives, therefore accelerating technology deployment.



DOCS Standardized CDR Contracts (Designing Optimized Contract Standards)

DOCS will build consensus among sellers, buyers, and other market stakeholders for the standardization of carbon removal contract (CDR) templates to ensure they are:

- **Bankable**, providing sufficient terms to demonstrate assurance of revenue to attract project finance capital
- **Risk mitigating**, protecting from risks such as failure-to-deliver or storage reversal
- **Accountable**, in the oversight from the standards bodies and MRV firms to ensure trust
- **Unbiased**, ensuring that terms are beneficial to all parties involved

The improved procurement resources will result in:

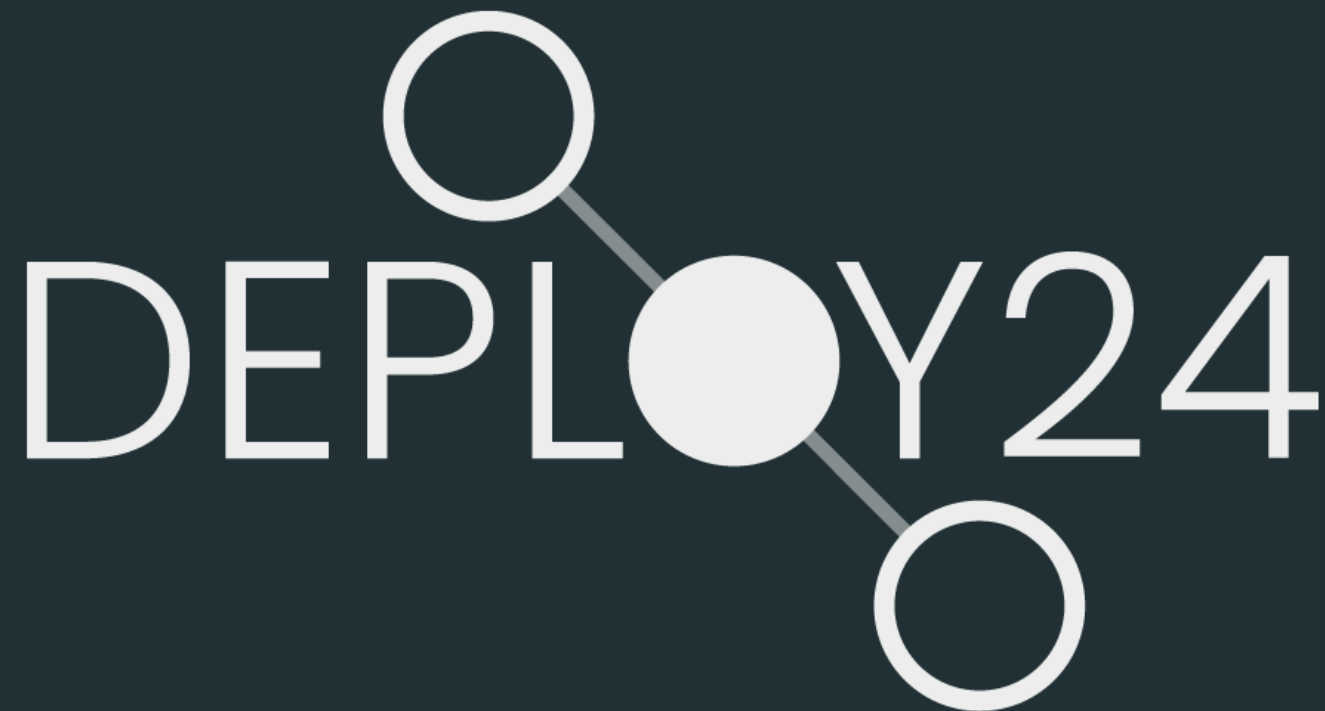
- A reduction in the amount of time and resources it takes to sign carbon removal offtake agreements
- An expansion of the market for CDR
- Fairer terms for less resourced companies and organizations
- An increase in capital available for CDR projects

Liftoff Enabling Programs Contact List

www.energy.gov/oced/liftoff-enabling-programs

Program	Website
MAKE IT Prize (Round 2 launching soon!)	www.herox.com/make-it-round-2
SOLVE IT Prize	www.herox.com/SOLVEIT
Voucher Program (Ongoing opportunities!)	www.energywerx.org/opportunities
CACTI - H2	cleanh2alignment.lbl.gov/
CACTI - LDES	ldesconsortium.sandia.gov/
GREET Tool User Interface	greet.anl.gov/net
All other LEP programs	www.energy.gov/oced/liftoff-enabling-programs
• MRV	or
• DOCS (Available soon!)	oced.lep@hq.doe.gov
• INSURE IT (Launching soon!)	





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