



MESCC

OFFICE OF MANUFACTURING AND ENERGY SUPPLY CHAINS

Manufacturing Opportunities

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**Acting Deputy Director, Manufacturing &
Workforce Deployment Office**

MESC is focused on the "how" of the energy transition.



PURPOSE

To deliver the *how* of the energy transition quickly, securely, and equitably



MISSION

The Office of Manufacturing and Energy Supply Chains (MESC) serves as the frontline of clean energy capital deployment to accelerate America's transition to a resilient, equitable energy future via \$20B+ of direct investment in manufacturing capacity and workforce development.



VISION

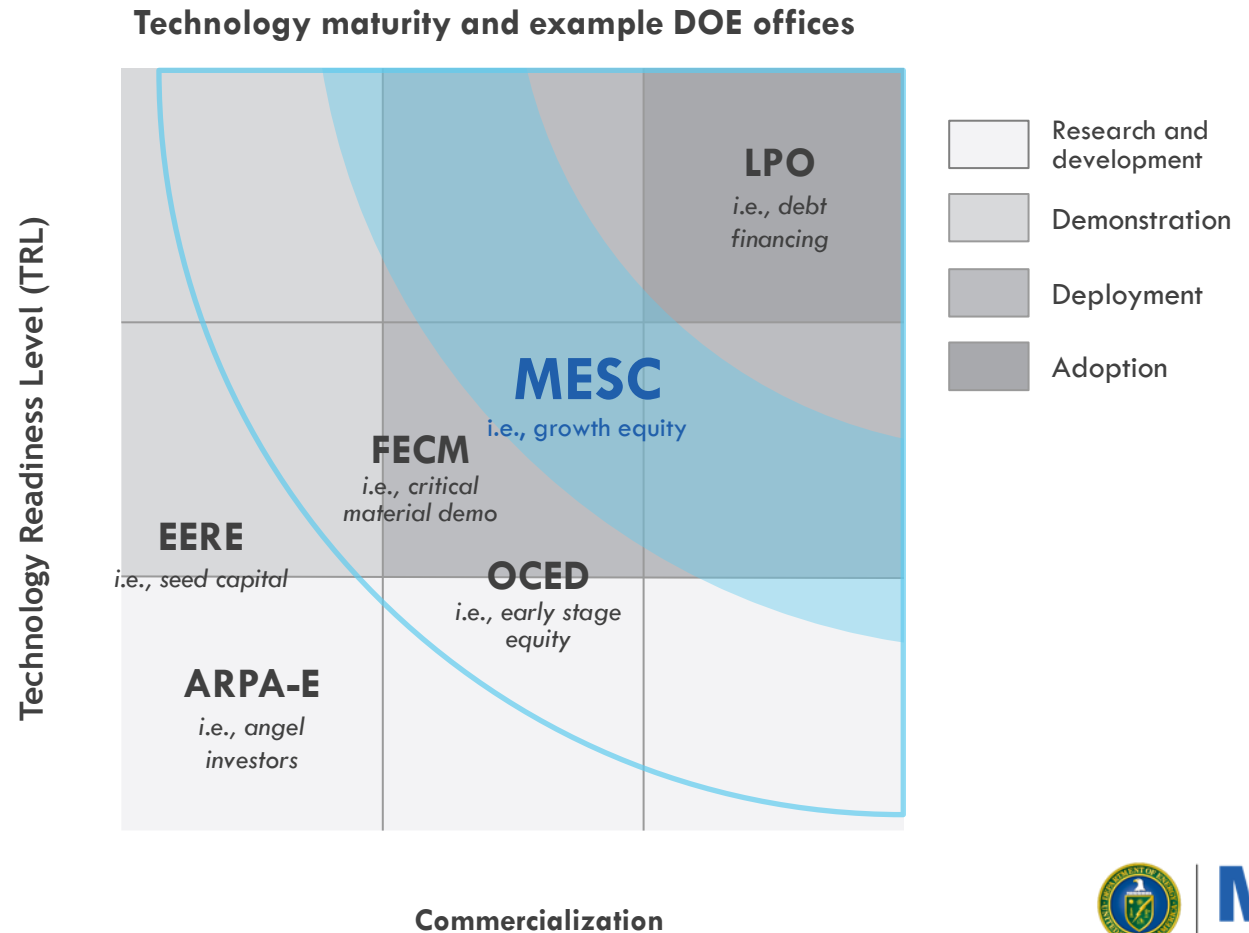
To eliminate vulnerabilities in US Clean Energy supply chains, while driving unparalleled social, economic, and environmental impact through our programs & awards

MESC operates in late-stage technology development, driving large-scale deployment of new technologies

The Office of Manufacturing and Energy Supply Chains is working alongside private capital to be a force multiplier to secure American supply chains domestically.

All DOE and MESC investments follow a data-driven approach, building on modeling, mapping, and analysis foundational from MESC experts.

MESC is supporting workforce through direct funding of cutting-edge energy manufacturing programs at universities, community college, and trade-schools to proven entry-level and mid-career support.



Manufacturing and Workforce Deployment Office

Mission: To increase U.S. manufacturing capacity and workforce, through building or retrofitting factories to make clean energy products and reduce facility emissions, with an emphasis on small and medium sized manufacturers.

3 Focus Areas



Manufacturing Investments



Workforce Deployment & Technical Assistance



Deployment of Low Emissions Solutions

\$1.4 Billion in federal funds; team of 15 and growing!



Manufacturing and Workforce Deployment Office

Manufacturing Investments



Advanced Energy Manufacturing and Recycling Grants (BIL 40209): \$750M for Small and Medium Manufacturers in coal communities to requip facilities to reduce GHG emissions or reequip them for clean energy manufacturing; Round 2 in 2024



State Manufacturing Leadership Program (BIL 40534): \$50M for state-level efforts to accelerate the deployment of smart manufacturing tech and access to high-performance computing (\$22M & 12 states – Round 1)

Workforce Deployment & Technical Assistance



Industrial Assessment Centers (IAC) Program (base): Long-running program, operates 37 university centers that train energy-savvy engineers while providing no-cost energy technical assistance to SMMs



IAC Expansion (BIL 40521): \$150M to expand IACs to skilled trades training (e.g., community colleges, technical schools, apprenticeships) and strengthen IAC innovation via Centers of Excellence, expand assessments to include decarbonization focus & resiliency



IAC Implementation Grants (BIL 40521): \$400M for SMMs to implement the facility improvements recommended by IACs and others

Advanced Industrial Decarbonization



Industrial Technologies Joint Strategy: Chair the DOE-wide effort to identify decarbonization challenges in key industrial sectors (e.g., metals, chemicals) to inform programs like 48C and develop a joint strategy; coordinate work across DOE



Overview: Advanced Energy Manufacturing and Recycling Grant Program

Appropriations of \$750 million over FYs 22-26

Grants to small- and medium-sized manufacturing firms

- Gross annual sales of less than \$100 million
- Fewer than 500 employees at the plant site of the manufacturing firm; and
- Annual energy bills that total more than \$100,000, less than \$2.5 million








Priority to firms that are minority-owned

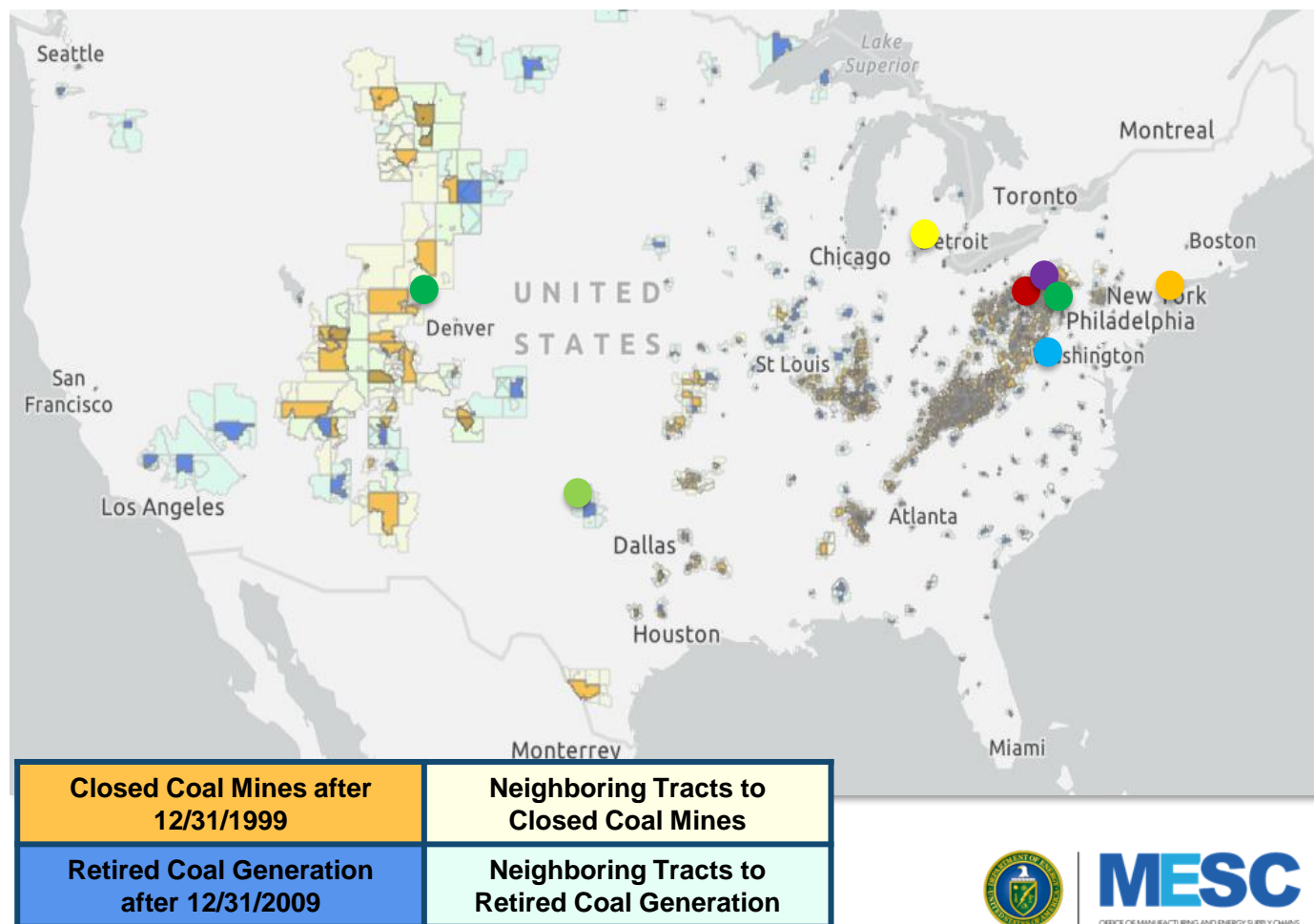
Projects in communities that have experienced coal mine or coal-fired power plant unit closures



Advanced Energy Manufacturing and Recycling Grants Program Selections

Round 1: 7 Projects, \$275M in Federal Funds

| Organization | Description | Federal \$ |
|------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|----------------|
|  Boston Metal | Critical Materials: Ultrapure chromium metal, alloys & parts for clean power, fuel cells & green steel | \$50 million |
|  CorePower Magnetics, Inc | Critical Materials: Melting and casting of advanced magnetic amorphous alloys for transformers and motors | \$20 million |
|  FastCAP Systems d/b/a Nanoramic Laboratories | Grid/Stationary Storage: Lithium Iron Phosphate (LFP) Battery Electrodes | \$47.5 million |
|  MP Assets Corporation | EV Battery Components: Lithium-Ion Separators | \$100 million |
|  Alpen High Performance Products, Inc. | Energy Conservation: Ultra-thin, triple and quad-pane insulated glass units (IGUS) for windows | \$5.8 million |
|  LuxWall Inc | Energy Conservation: Vacuum insulated glass (VIG) window units | \$31.7 million |
|  Carter Wind Turbines, LLC | Onshore Wind: Mid-Sized 300 kW turbines | \$20 million |



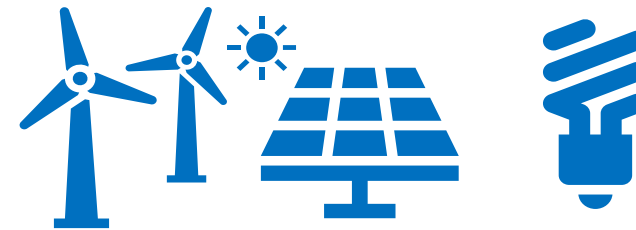
DOE is moving quickly on another investment round!

MESC is eager to continue supporting SMMs and accelerating domestic clean energy manufacturing



Advanced Energy Manufacturing and Recycling Projects

Projects to re-equip, expand, or establish a manufacturing or recycling facility for the production or recycling of advanced energy property



'Industrial Decarbonization' Projects

Projects to re-equip industrial or manufacturing facilities with equipment designed to reduce the greenhouse gas emissions of the facilities substantially below the greenhouse gas emissions under current best practices



Eligible type of Projects under [BIL 40209 Statute](#), \$750 Million total appropriated to DOE



Overview: Industrial Assessment Center (IAC) Expansion

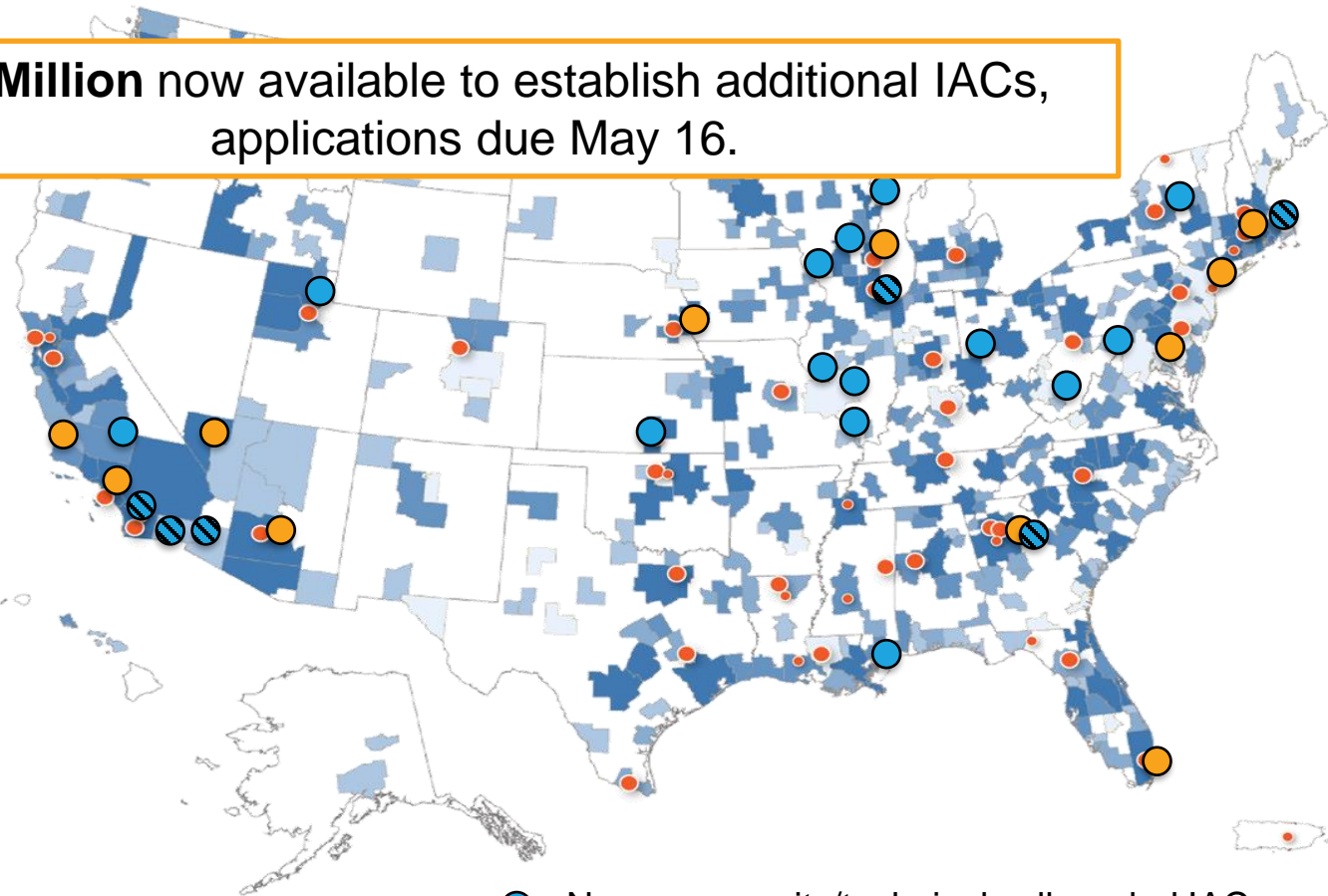
\$24 Million now available to establish additional IACs, applications due May 16.



Manufacturing Employment, 2021



Source: BEA



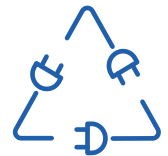
- New community/technical college-led IAC
- New union-led IAC
- New Minority-Serving Institution IAC
- Existing 4-year university-based IAC

- **MESC announced 17 new IACs end of 2023** at community/technical colleges and union training programs – many operating in several states
- **These selectees will receive ~\$32M** to train clean energy and manufacturing workers and strengthen manufacturers (e.g., via energy audits)
- **Selectees will train at least 3000 professionals** – with a strong focus on students from, and manufacturers in, historically underserved communities

Overview: IAC Implementation Grants



\$80M in funding available in the first year (\$400 million available until expended)



Grants awards of up to **\$300,000 per project per manufacturer**, at a 50% cost share¹;
Criteria: 50% impact/feasibility; 25% financial need + cost share; 25% community benefits



Eligibility exclusively for **small- and medium-sized manufacturing firms**,² and water and wastewater treatment facilities



To **address energy assessment recommendations** by IACs, DOE Combined Heat and Power/Onsite Energy Technical Assistance Partnerships, or other third-party assessors deemed equivalent by DOE

1. 50% cost share means that the applicant must cover at least 50% of the project cost. So, for instance, if an implementation project or projects costs \$100k, DOE can make a \$50k grant. Because \$300k is the maximum grant size per entity, applicants will need to cover 100% of costs over \$600k.

2. Small and medium-sized manufacturer (an entity that engages in the mechanical, physical, or chemical transformation of materials, substances, or components; or, a water or wastewater treatment facility) is a firm with: gross annual sales of less than \$100M, fewer than 500 employees at the plant site, and annual energy bills of \$100,000 - \$3,500,000. **If the manufacturer/facility is an individual LLC that pays separate taxes from the parent company, then eligibility is based on the LLC.**



IAC Implementation Grants Program Process

Working through a “Partnership Intermediary” enables a much more **streamlined grant process**

1

Receive a Free Qualified Assessment

Manufacturer reaches out to qualified assessors (e.g., IACs, CHP/Onsite Energy TAPs, or other third-party* qualified assessor) to receive an energy assessment



2

Apply for Grant Funding

Manufacturer applies for IAC Implementation Grant funding to implement project recommendations from qualified assessments



3

Review of Application for Grant Funding

DOE reviews application for grant funding



4

Get Selected for an Award

DOE selects manufacturer’s application and works with manufacturer to finalize award size and sign award documents



5

Receive Grant Funding

Manufacturer begins implementation of projects and submits invoice(s) of incurred costs to DOE to receive grant funding



To learn more about the grants program, including FAQs and how to apply, visit <https://www.energywerx.org/opportunities/iacimplementationgrants>

*DOE cannot guarantee that third-party assessments will be free



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Getting a Qualified Assessment

Option 1: Industrial Assessment Centers (IACs)

Receive a no-cost comprehensive assessment from one of 37 IACs located at four year-universities around the country. To locate the closest IAC and apply, visit: <https://www.energy.gov/mesc/locations-industrial-assessment-centers>



Option 2: Onsite Energy Technical Assistance Partnerships (TAPs)

Receive a no-cost screening assessment for onsite clean energy technology deployment from one of 10 regional TAPs. To locate the closest Onsite Energy TAP and apply, visit: <https://betterbuildingsolutioncenter.energy.gov/onsite-energy/taps>



Option 3: Third-Party Assessors

Receive an assessment* from a third-party assessor qualified as "IAC-equivalent:"

- Alternative Energy Systems Consulting, Inc.
- Cascade Energy
- CLEAResult
- eSai LLC
- Go Sustainable Energy, LLC
- Michaels Energy
- New York State Energy Research and Development Authority
- North Carolina Advanced Energy Corporation
- PennTAP - Pennsylvania Technical Assistance Program
- Utah DEU StepWise Program



*DOE cannot guarantee that third-party assessments will be free



Additional Programs of Interest

Extended Product Systems
48C Investment Tax Credit
IEDO's Onsite Energy TAPs



Extended Product System Rebate Program

- **Rebates for variable speed motors and their control systems, \$10 million available in total.**
- Rebates equal the motor horsepower + control horsepower multiplied by \$25.
- Entities may apply for as many systems as qualify, receiving up to \$25,000 per calendar year.
- There are two distinct classes of eligible entities for the EPS program.
 - The first includes entities that purchased a qualifying EPS and completed its installation between October 1, 2021, and September 30, 2023.
 - The second includes owners of equipment that was redesigned to newly incorporate an EPS if that upgrade was completed between January 1, 2021, and December 31, 2022.



Please contact the program manager, Benjamin Carlson (benjamin.carlson@hq.doe.gov) for more information, materials, and for scheduling virtual or in-person briefings and Q&A.

The application portal is live at <https://doerebates.my.site.com/rebates/s/> or via the QR code here.

48C Investment Tax Credit – Overview of Round 1 (2023)

What is the Qualifying Advanced Energy Project 48C Credit?

- **Competitively-awarded Investment Tax Credit (ITC)** established in 2009 and functions very similar to a U.S. DOE Funding Opportunity Announcement (FOA)
- Expanded by IRA with **\$10B for (1) clean energy manufacturing & recycling, (2) critical materials, and (3) industrial GHG emissions reduction projects**
- Projects receive 30% ITC (or 6% if prevailing wage and apprenticeship requirements not met)
- DOE opened a **first round of applications in 2023 to allocate up to \$4B, with additional competitive application rounds in future years**
- Approximately **40% of credits (\$1.6B) will be allocated to projects in coal communities** (if sufficient meritorious applications are received)

Legend

- Scope defined by ARRA in 2009
- Scope added by IRA

\$6B remaining funds for future round(s)

Clean Energy Manufacturing and Recycling

- Re-equip, expand, or establish Industrial or manufacturing facility for production or recycling of clean energy and energy efficiency technologies

Critical Materials Processing, Refining, and Recycling

- Re-equip, expand, or establish an industrial facility to process, refine, or recycle critical materials (50 USGS minerals + DOE critical materials)

Industrial GHG Emissions Reductions

- Re-equips industrial or manufacturing facility to reduce greenhouse gas emissions by at least 20%

Review Process

DOE will evaluate proposals against technical review criteria reflecting four major priority measures, and pass recommendations to Treasury:

1. Commercial Viability
2. Greenhouse Gas Emissions Impacts
3. Strengthening U.S. Supply Chains and Domestic Manufacturing for a Net-Zero Economy
4. Workforce and Community Engagement

With merit review scores plus program policy factors DOE will rank all meritorious projects into a final list for up to \$4 billion in allocations for IRS

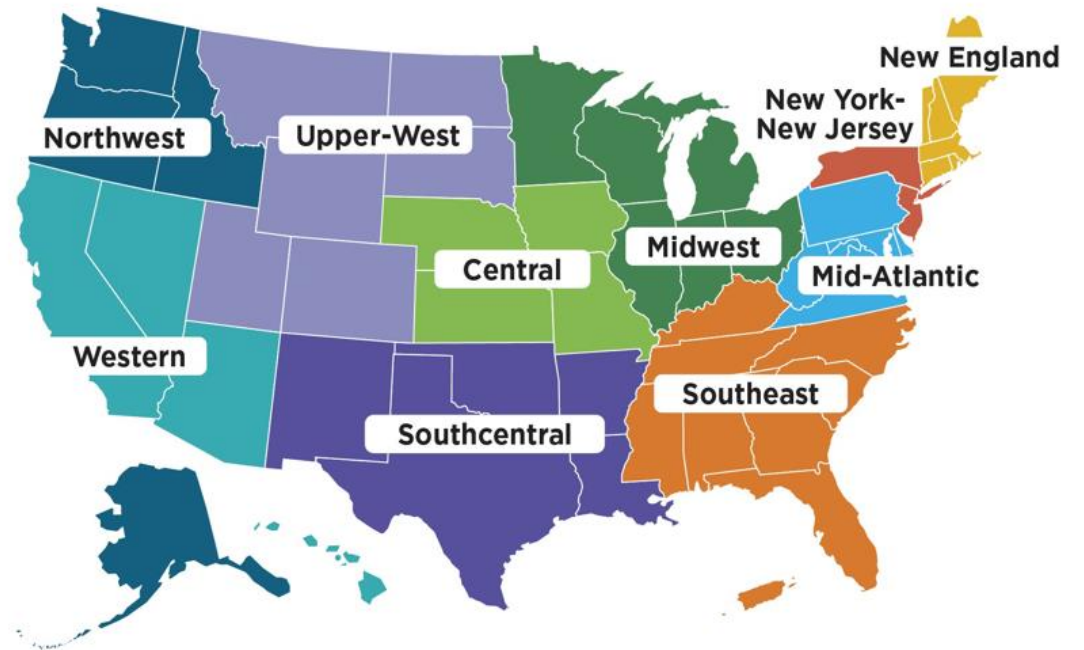
Allocation Decisions: No later than March 31, 2024



Overview: Onsite Energy TAPs (formerly Combined Heat and Power Technical Assistance Partnerships, or CHP TAPs)

Onsite Energy TAP Program

- **10 regional CHP TAP entities** around the country conducted **>1000 technical screenings** over the past 5 years
- Partnered with manufacturers to identify cost effective & resilient ways to deploy combined heat & power (CHP)
- CHP TAPs transitioned into Onsite Energy TAPs in 2024 – focused on technical assistance for industrial facilities and other large energy users to increase the adoption of a broad range of onsite clean energy technologies, including CHP



To learn more, visit <https://www.energy.gov/eere/iedo/onsite-energy-program>

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