



SCEP
STATE & COMMUNITY ENERGY PROGRAMS

State Energy Program Office Hours

**November 15th, 2024
12 – 2 p.m. ET**



Today's Agenda

- Updates and Announcements
 - Upcoming Engagements and Events
 - SEP BIL TA Quarterly Report
 - RLF Program Update
- New Braiding and Stacking Resources from SEP
- Navigating TA Opportunities: DOE EERE and GDO + EPA Office of Policy
- Tool Updates
 - SLOPE Tool Updates
 - Wastewater Energy Management Toolkit
 - Workforce Technical Assistance Tools
- Open Q&A and Discussion

Upcoming Engagements and Events

Date & Time	State Energy Program Engagement
November 19th 1:00pm – 2:00pm ET	<u>Advancing Equity in Financing Programs: Best Practices</u>
November 21st 2:00 – 3:00pm ET	<u>ESPC Campaign Webinar: Benefits of ESPC for Finance and Leadership in the MUSH Market</u>
December 12th 3:00 pm – 4:30pm ET	Quarterly RoundUp: <i>Indirect Expenses and Rate Agreements Overview</i>
December 13th 12:00 – 2:00pm ET	SEP Office Hours: <i>NREL TA Programs and 2024 SEP Direct TA Projects Summary</i>
December 16th 4:00 – 5:00pm ET	SEP Training for New SEO Staff: <i>Monitoring</i>

Visit the [SEP TA Webpage](#) to find the most up-to-date schedule of upcoming SEP events and past event resources and recordings.

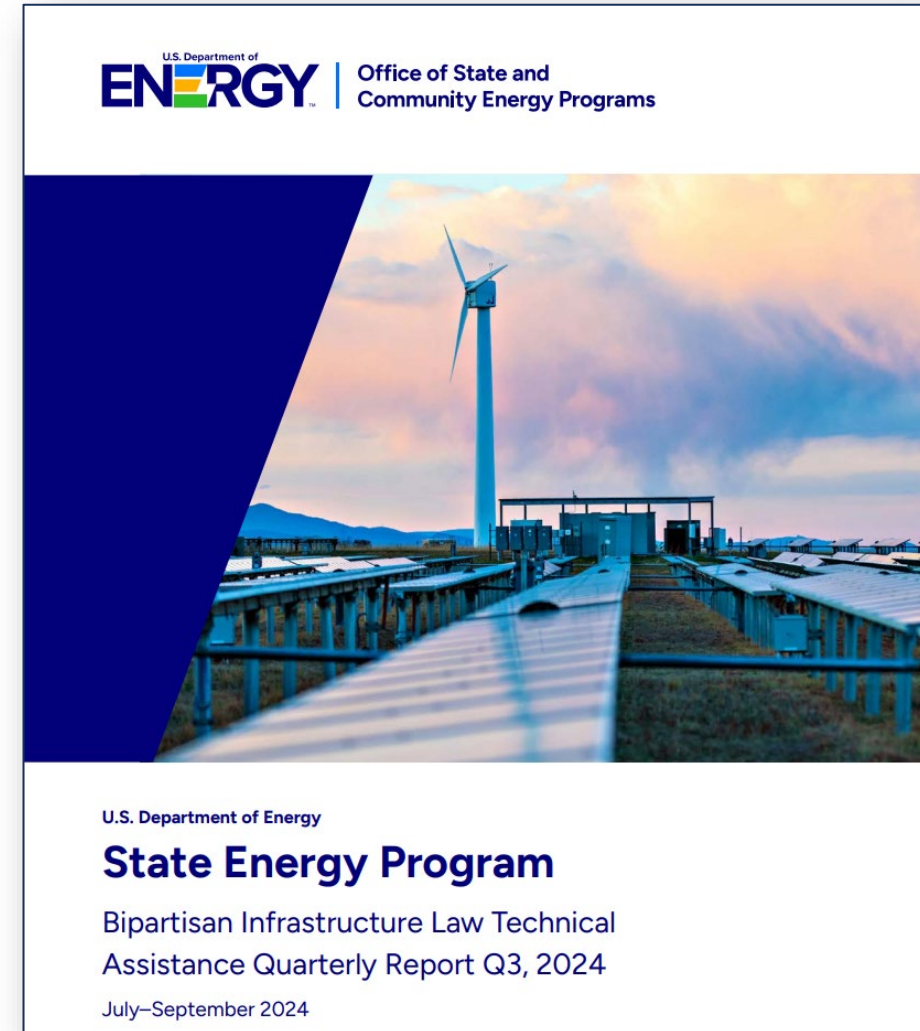
Monthly Bulletin Correction: Upcoming Deadlines

Report	Deadline
Annual Summary for Oct 1 st States for FY23	December 30 th
NEPA Logs	January 31 st
Quarterly Reports	January 31 st

SEP BIL Technical Assistance Quarterly Report

SEP BIL TA Quarterly Report

- Topics include
 - Direct TA
 - Events Held
 - Transformation Collaboratives
 - State Energy Security Plans
 - Revolving Loan Fund
 - Additional Metrics and Financial Information
- Summary of Direct TA projects in Q3, 2024
 - Arkansas, Illinois, Maine, North Dakota
- Annual report covering all of 2024 to be released early 2025
- Available here: [State Energy Program Bipartisan Infrastructure Law Technical Assistance Quarterly Report Q3, 2024](#)



Commingling Reminder: SEP, SEP-RLF, and Other Federal Programs

Commingling Reminder

*SEP Annual and SEP BIL funds should not be used to fund administration costs for other Federal programs. Furthermore, funding from one BIL program should not be used to supplement administrative costs associated with another BIL program. **States should avoid commingling whereby it is not possible to identify which Federal funding source accomplished which portion of work.** It is allowable if the purpose is to achieve reasonable coordination between grant activities, but it is not allowable if the purpose is to cover administrative expenses of another grant. This is to support consistent, accurate, and comprehensive tracking and reporting across annual, BIL, and IRA programs.*

- Tip to Avoid commingling
 - Track activities and cost accounting separately (including staff time); create clear division of activities and align spending accordingly
- Not sure it is commingling?
 - Ask your Project Officer

State Energy Program Resources for Braiding and Stacking



SEP Braiding and Stacking Resources

Emily Slusser & Robby Phillips

November 15, 2024



AGENDA

Braiding and stacking

What is braiding and stacking?

Defining key terms

Examples

Key considerations for combining federal funding

Resources



BRAIDING AND STACKING

What

Combining funds from multiple funding sources within a program, project, or individual measure.

Why

Fill funding gaps, increase funding impact (e.g., energy/cost savings).

How

Many ways to combine funds; how funds are combined can influence the federal requirements associated with a project.

Note: There are risks associated with combining federal funds with other federal or non-federal funds and possible unintentional complications and consequences as a result. If you are considering combining federal funds, consult with the funding programs involved and your legal counsel to be sure you understand the implications and requirements.

SEO BRAIDING AND STACKING RESOURCES

1 [SEP Braiding and Stacking Resource webpage](#)

2 [SEO Guide to Braiding and Stacking](#)

3 [Federal Program Compatibility Crosswalk](#)

4 Webinars

5 Case studies

6 Other?

U.S. Department of ENERGY | Office of State and Community Energy Programs

State Energy Office (SEO) Guide to Braiding and Stacking Federal Funds
November 2024

Introduction
The federal government is making historic investments across the country to transition to clean, reliable, and resilient energy in an equitable manner. The 2021 Bipartisan Infrastructure Law (BIL) and 2022 Inflation Reduction Act (IRA) build upon many existing programs to distribute billions of dollars to state, local, and Tribal governments, as well as nonprofit and private sector entities, to achieve this transition. The state energy offices (SEOs) of the 50 states, territories, and District of Columbia are responsible for administering, tracking, and distributing large sums of these funds. To ensure these investments are as impactful as possible, it will be essential to implement these various funding streams in a way that maximizes their impact while navigating the complex landscape of federal reporting and regulations.

This guide, developed by the U.S. Department of Energy's (DOE) State Energy Program (SEP) in the Office of State and Community Energy Programs (OSEC), is intended to provide general information for SEOs planning to use multiple funding streams alongside each other in program design and implementation. There are many terms used to describe the combination of funds in a program or project, such as braiding, stacking, blending, and co-funding. This guide clarifies the differences between these terms and important considerations depending on the approach utilized. Finally, although this guide is designed for SEOs, other recipients of federal funds, including local governments and tribes, may also find it useful.

Federal Program Compatibility Crosswalk
Note: There are risks associated with unintentional duplications and conflicts. Consulting with your project officer and the relevant member to provide general program information about major federal funding sources available to State Energy Offices (SEOs). Review the member program website and provide the most up-to-date program information. Additionally, consult with your project officer and your legal counsel on specific program-specific approaches that may change the applicable requirements.

What is Braiding and Stacking?
Across the funding and financing community braiding and stacking lays out the definitions of key Energy Program.

Blending is the practice of mixing project or measure level without being included in the program budget and reporting requirements must be recommended instead.

Initiative/Program Name	Policy Requirements					Program Eligibility Requirements and Restrictions				
	State-Based Act (BIL)	Federal Investment Policy Act (FIPA)	Energy Policy Act (EPA)	Specific Policy Component	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
Infrastructure Investment Program (BIL, Sec. 4005)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
State Energy Program (BIL, Sec. 4006)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
Energy Efficiency and Conservation Block Grant Program (BIL, Sec. 4007)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
State Energy Program (BIL, Sec. 4008)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
Energy Efficiency and Conservation Block Grant Program (BIL, Sec. 4009)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
State Energy Program (BIL, Sec. 4010)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
Energy Efficiency and Conservation Block Grant Program (BIL, Sec. 4011)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
State Energy Program (BIL, Sec. 4012)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
Energy Efficiency and Conservation Block Grant Program (BIL, Sec. 4013)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
State Energy Program (BIL, Sec. 4014)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
Energy Efficiency and Conservation Block Grant Program (BIL, Sec. 4015)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
State Energy Program (BIL, Sec. 4016)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
Energy Efficiency and Conservation Block Grant Program (BIL, Sec. 4017)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
State Energy Program (BIL, Sec. 4018)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
Energy Efficiency and Conservation Block Grant Program (BIL, Sec. 4019)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
State Energy Program (BIL, Sec. 4020)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
Energy Efficiency and Conservation Block Grant Program (BIL, Sec. 4021)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
State Energy Program (BIL, Sec. 4022)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
Energy Efficiency and Conservation Block Grant Program (BIL, Sec. 4023)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
State Energy Program (BIL, Sec. 4024)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
Energy Efficiency and Conservation Block Grant Program (BIL, Sec. 4025)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
State Energy Program (BIL, Sec. 4026)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
Energy Efficiency and Conservation Block Grant Program (BIL, Sec. 4027)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
State Energy Program (BIL, Sec. 4028)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
Energy Efficiency and Conservation Block Grant Program (BIL, Sec. 4029)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
State Energy Program (BIL, Sec. 4030)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
Energy Efficiency and Conservation Block Grant Program (BIL, Sec. 4031)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
State Energy Program (BIL, Sec. 4032)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
Energy Efficiency and Conservation Block Grant Program (BIL, Sec. 4033)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
State Energy Program (BIL, Sec. 4034)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
Energy Efficiency and Conservation Block Grant Program (BIL, Sec. 4035)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
State Energy Program (BIL, Sec. 4036)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
Energy Efficiency and Conservation Block Grant Program (BIL, Sec. 4037)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
State Energy Program (BIL, Sec. 4038)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
Energy Efficiency and Conservation Block Grant Program (BIL, Sec. 4039)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
State Energy Program (BIL, Sec. 4040)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
Energy Efficiency and Conservation Block Grant Program (BIL, Sec. 4041)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
State Energy Program (BIL, Sec. 4042)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
Energy Efficiency and Conservation Block Grant Program (BIL, Sec. 4043)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
State Energy Program (BIL, Sec. 4044)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
Energy Efficiency and Conservation Block Grant Program (BIL, Sec. 4045)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
State Energy Program (BIL, Sec. 4046)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
Energy Efficiency and Conservation Block Grant Program (BIL, Sec. 4047)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
State Energy Program (BIL, Sec. 4048)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
Energy Efficiency and Conservation Block Grant Program (BIL, Sec. 4049)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation
State Energy Program (BIL, Sec. 4050)	X	X	X	X	Eligible	Initiation	Eligible	Initiation	Eligible	Initiation

SEP BRAIDING AND STACKING RESOURCES

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3 [Federal Program Compatibility Crosswalk](#)

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Note: There are risks associated with uncoordinated combinations and complex, consulting with your project officer and the relevant members to ensure program information about major federal funding sources available to State Energy Office (SEO). Review the program's program manager and a guide to the most up-to-date program information. Additionally, consult with your project officer and your legal counsel on specific program-specific approaches that may change the applicable requirements.

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Federal Program Compatibility Crosswalk

Program Name	Policy Requirements				Program Eligibility Requirements and Restrictions			
	Eligible Activities	Eligible Entities	Eligible Regions	Eligible Dates	Eligible Activities	Eligible Entities	Eligible Regions	Eligible Dates
Departmental Assistance Program (DOE-AP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X
Energy Efficiency and Conservation Block Grant Program (EECBGP)	X	X	X	X	X	X	X	X
State Energy Program (SEP)	X	X	X	X	X	X	X	X

DEFINING KEY TERMS



What Is Braiding and Stacking?

Across the funding and financing landscape, many terms are used to describe combining funding, most commonly braiding and stacking, along with blending, co-funding, and commingling. This section briefly lays out the definitions of key terminology that will be used throughout this guide and by the State Energy Program.

Blending is the practice of mixing federal and non-federal, or leveraged, funding simultaneously on the project or measure level without tracking the funds independently. Any blended funding sources must be included in the program budget that grantees submit to DOE and all federal programmatic, technical, and reporting requirements must be followed. This is allowable but braiding, stacking, or co-funding are recommended instead.

Commingling is the practice of mixing federal funds (e.g., annual, ILJA/BIL, and IRA) simultaneously or sequentially on the project or measure level without tracking the funds and outcomes independently (i.e., it is not possible to identify which funding sources accomplished which portion of the work). This approach is not allowed when mixing federal funds as the spending and outcomes of federal dollars must always be tracked and reported separately according to the respective funding streams.

Braiding is the practice of using multiple separate funding sources, whether federal or non-federal, on a project simultaneously, while ensuring each funding source is isolated and tracked independently. Braided leveraged (non-federal) funds are not included in the program budget/reports that grantees submit. Restrictions and requirements of each funding source—such as compliance requirements—apply to all federal funds used on the project when braiding funds.

Stacking, also referred to as **sequencing**, is the practice of using multiple separate funding sources, whether federal or non-federal, on a project sequentially, or following a specific order, while ensuring each funding source is isolated and tracked independently. This approach could be used strategically to capture opportunities that become available at different points in time. As with braiding, stacked or sequenced funds are not included in the program budget that grantees submit to DOE. Restrictions and requirements of each funding source—such as compliance requirements—are generally limited to each respective funding source but may cross over (consult with your GC).

Co-funding is the practice of using multiple separate funding sources, whether federal or non-federal, on one measure. Co-funding allowability is based on individual program requirements. Restrictions and requirements of each funding source—such as compliance requirements—generally apply to all funds used on the project when co-funding measures.

Project vs. Measure—States may consider braiding and stacking federal funds at the project level and/or at the measure level. **Projects** generally refer to the total set of interventions being performed at a specific location such as a whole home energy efficiency upgrade. Braiding and stacking may occur at the project level, provided funds are tracked separately and compliance requirements are met, as different funding may be available for different types of measures (for example, one funding source designed for weatherization upgrades and another funding source designed for renewable energy system additions). **Measures** generally refer to a distinct equipment, service, or feature being funded, such as an energy audit, heat pump, or insulation addition. In general, federal funding sources cannot be

	Blending	Commingling	Braiding	Stacking / Sequencing	Co-funding
Funding sources federal non-federal			or		
Timing	Simultaneous	N/A (not allowed)	Simultaneous	Sequential	Simultaneous
Measure vs. project	Project or Measure		Project	Project	Measure
Other funds included in budget grantees submit to DOE	Yes		No	No	No
Spending / outcomes reported separately	No	No	Yes	Yes	Yes
Federal requirements	All funds must meet federal requirements.	N/A (not allowed)	Federal funds subject to most stringent federal fund requirements associated with the project; non-federal funds subject to their own requirements.	It depends. Generally, funds are subject to their own requirements but there may be some crossover of federal requirements.	Generally, all funds must meet the most stringent requirements associated with the measure.

EXAMPLES

Sources of funding	Options when funding the same <u>project</u>	Options when funding the same <u>measure</u>
Federal funds from separate funding streams <i>Example: Funding from both BIL & IRA</i>	Braid or Stack <i>Example: Apply IRA Home Efficiency Rebate and BIL WAP for a household.</i>	Co-fund (depending on each program's requirements) <i>Example: Apply IRA Home Efficiency Rebate for an upgrade and subsequently utilize BIL RLF funds to cover the remaining costs of the upgrade.</i>
Federal and non-federal Funding <i>Example: Utility funds, state/local funds</i>	Blend, Braid, or Stack <i>Example: Apply a state rebate and annual WAP for a household retrofit.</i>	Blend or Co-fund <i>Example: Utility incentive provides additional funding toward remaining upgrade costs after IRA Home Energy Rebate has been applied.</i>
Tax credits <i>Example: Federal/state/local tax credits, may vary based on state/local law</i>	See IRS or Tax Authority Guidance for specific guidance. Additional resources are included on the SEP Braiding and Stacking Webpage. <i>Example: Fund public building upgrades using BIL RLF and recoup some of the cost post construction with Investment Tax Credit 48.</i>	

KEY CONSIDERATIONS FOR COMBINING FEDERAL FUNDING

General Compliance Requirements

- **Funding stream separation:** Federal funding streams must be applied and tracked separately.
- **Compliance differences:** Different requirements exist across programs for regulations including NEPA, BABA, and DBA.
- **Requirement to supplement:** Federal funds must supplement, not supplant, existing programs or mandates.
- **Intentional segmentation:** Recipients cannot intentionally segment projects.

Timing and Recipient Eligibility

- **Deadlines:** Deadlines for applications, reporting, and allowable use of funds differ across programs.
- **Eligibility criteria:** Eligible measures and recipient requirements, such as income thresholds, differ across programs.

Administrative and Financial Management Best Practices

- **Planning:** Track and develop a plan to meet the requirements of each funding source being considered to remain in compliance and avoid delays in project completion.
- **Coordination and communication:** Maintain open channels of communication between points of contact for various funding streams to ensure proper implementation, administration, and tracking of each set of funding.
- **Administrative costs:** Ensure administrative costs are fully covered by the dedicated funds associated with each program.

SEP BRAIDING AND STACKING RESOURCES

1 [SEP Braiding and Stacking Resource webpage](#)

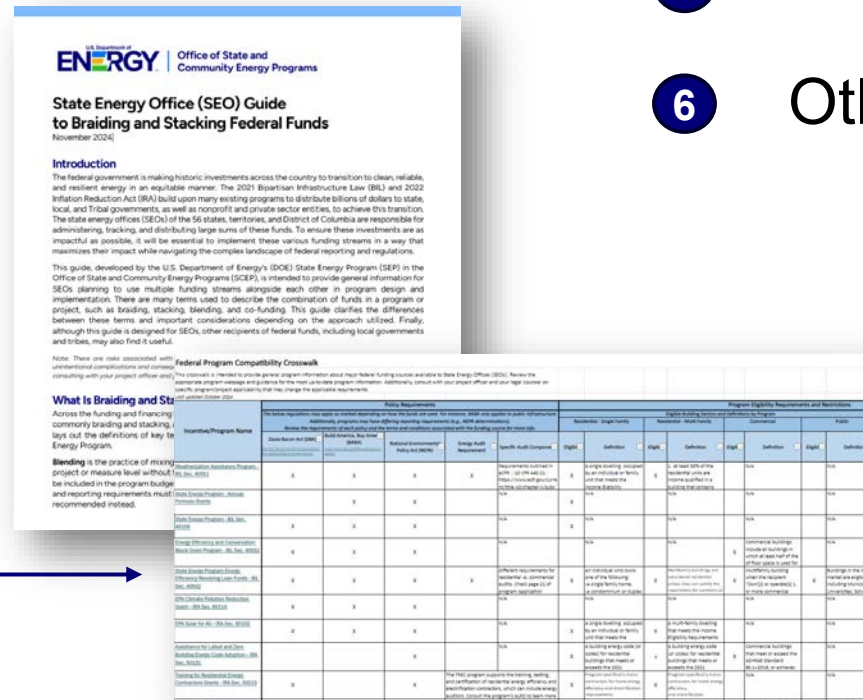
2 [SEO Guide to Braiding and Stacking](#)

3 [Federal Program Compatibility Crosswalk](#)

4 Webinars

5 Case studies

6 Other?



- ## 4 Webinars

- ## 5 Case studies

- 6 Other?

- ### 3 Federal Program Compatibility Crosswalk



Webinars: NREL-led event series to support states braiding and stacking. Each event will highlight a program and/or sector, provide foundational program information and share use cases.

Register to attend [here](#).

December 17, 2024, 12-1pm ET – Rebates and SEP

Case studies: Series of real-world case studies of states successfully combining/coordinating federal funds.

► **We need your help!**

Have you had success combining federal funds? For example, EECSBG, WAP, SEP Annual, Rebates, tax credits, etc.

Please consider sharing your success story with SEP for other states to learn from and replicate.

- 6 Other?

- ### 3 Federal Program Compatibility Crosswalk



Steps

What is each step of the braiding & stacking process?

Application phase

Funding announcement to application deadline

Program design & implementation

Funding & program updates

Community impact & funding outcomes

Key players

Who is doing braiding & stacking work?

SEO Program Manager

Local Govt Program Manager

Project Designers/Developers

SEO Finance Staff

Stakeholders (NASEO, NARUC, etc.)

Pain points

What challenges do key players encounter?

Understanding how to best combine and optimize varied funding resources to avoid compliance and regulation violations

Tracking requirements between various funding streams

Staff turnover and loss of institutional knowledge

DISCUSSION

As SEP continues to develop resources for states to support braiding and stacking:

1. What are the current tools and processes you use to braid & stack funds?
2. During this part of the braiding & stacking process, what is a specific issue or problem you often have?
3. What are the current work-arounds you use to manage that issue or problem?

Are you willing to share more feedback with NREL researchers?
Let us know in the Teams chat and an NREL researcher will reach out to you.

THANK YOU

Questions?

Contact StateEnergyProgram@hq.doe.gov.

Looking for federal funding and TA opportunities?

Visit the State and Local Solutions Center [Public Sector Funding & Technical Assistance Navigator](#) to find current open funding and technical assistance opportunities available to public entities.

Technical Assistance Opportunities at DOE EERE and GDO

U.S. DEPARTMENT OF
ENERGY

Office of
ENERGY EFFICIENCY &
RENEWABLE ENERGY

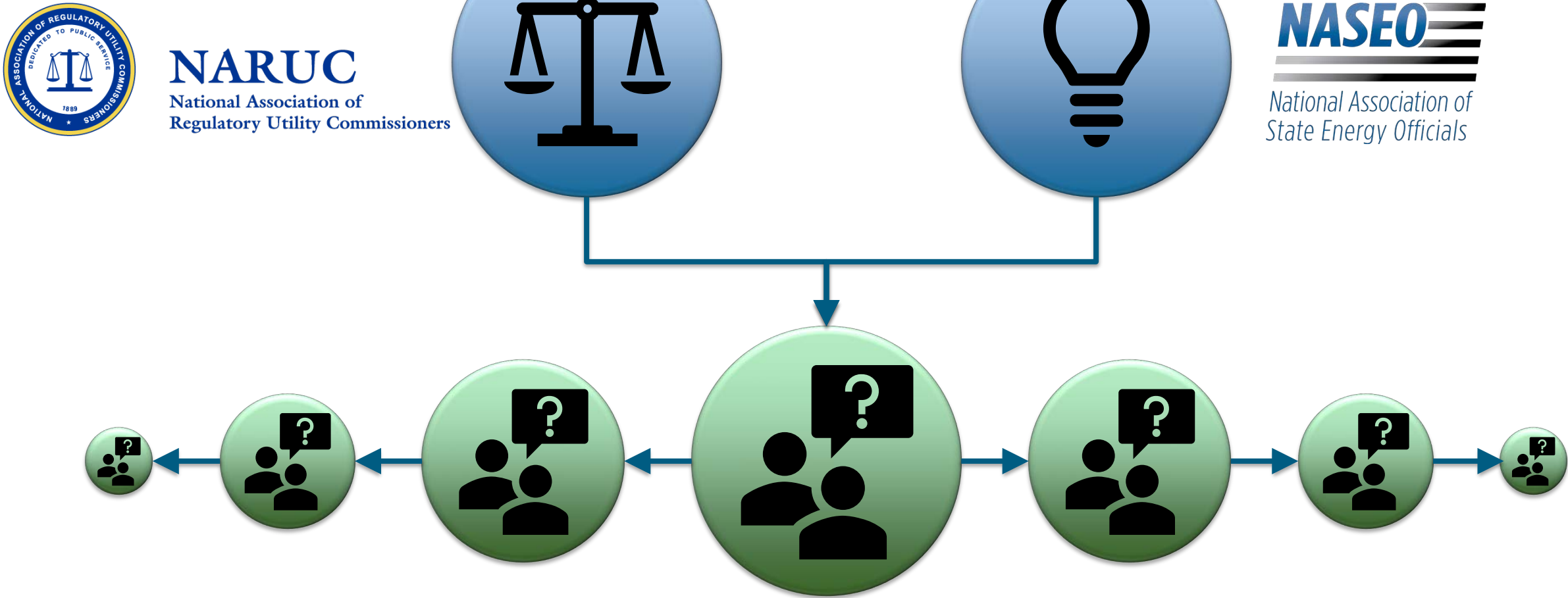
Resources and Assistance for State Energy Offices and Regulators Program

State Energy Program Monthly Office Hours

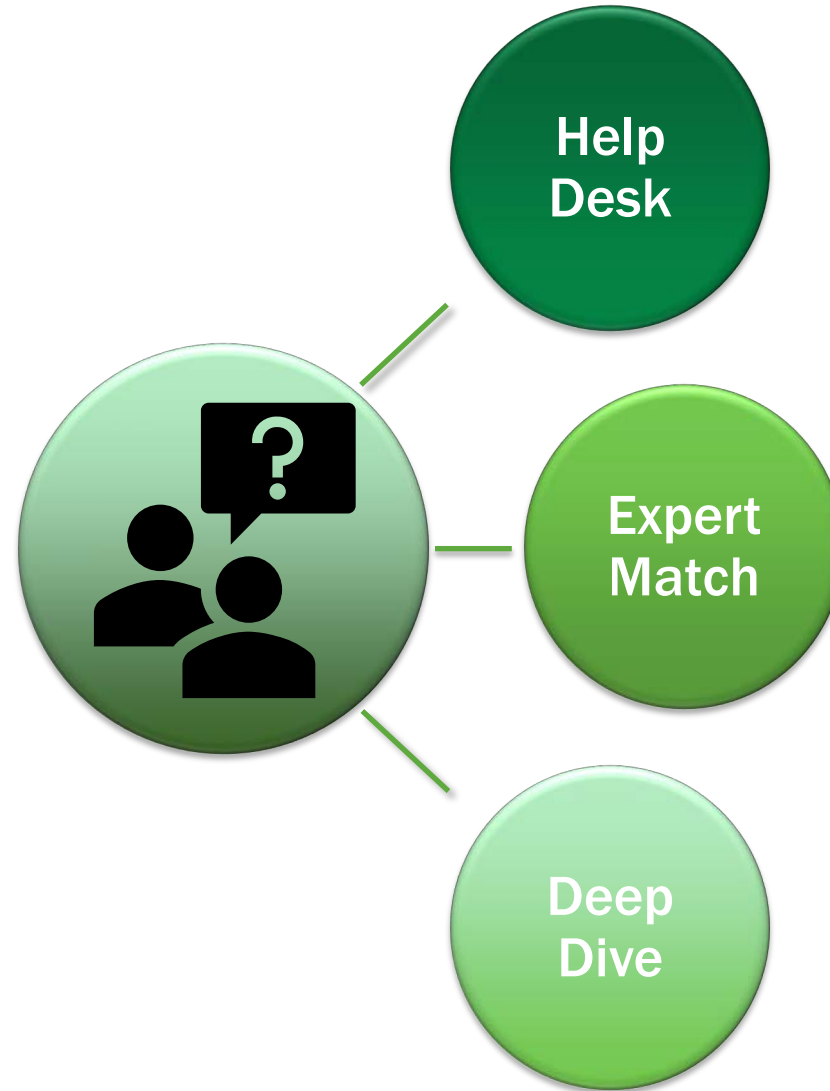
November 15, 2024



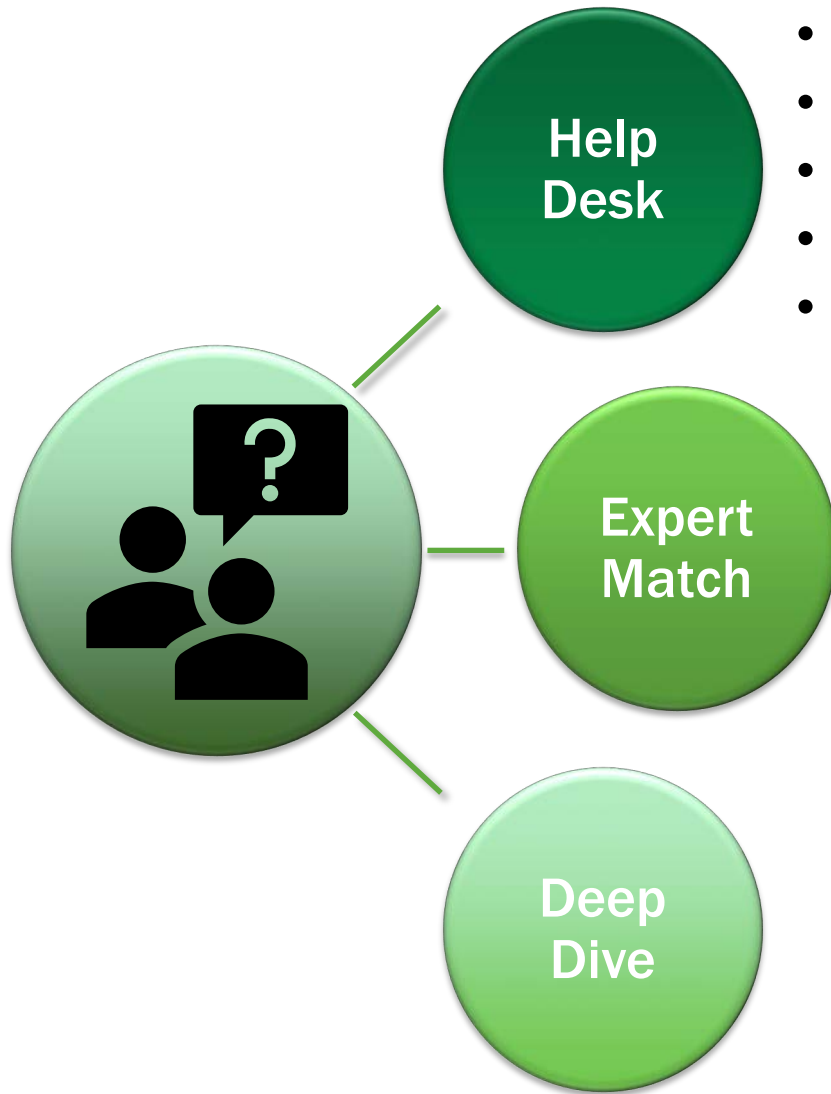
Support PUCs and SEOs



Multi-Modal TA Opportunities

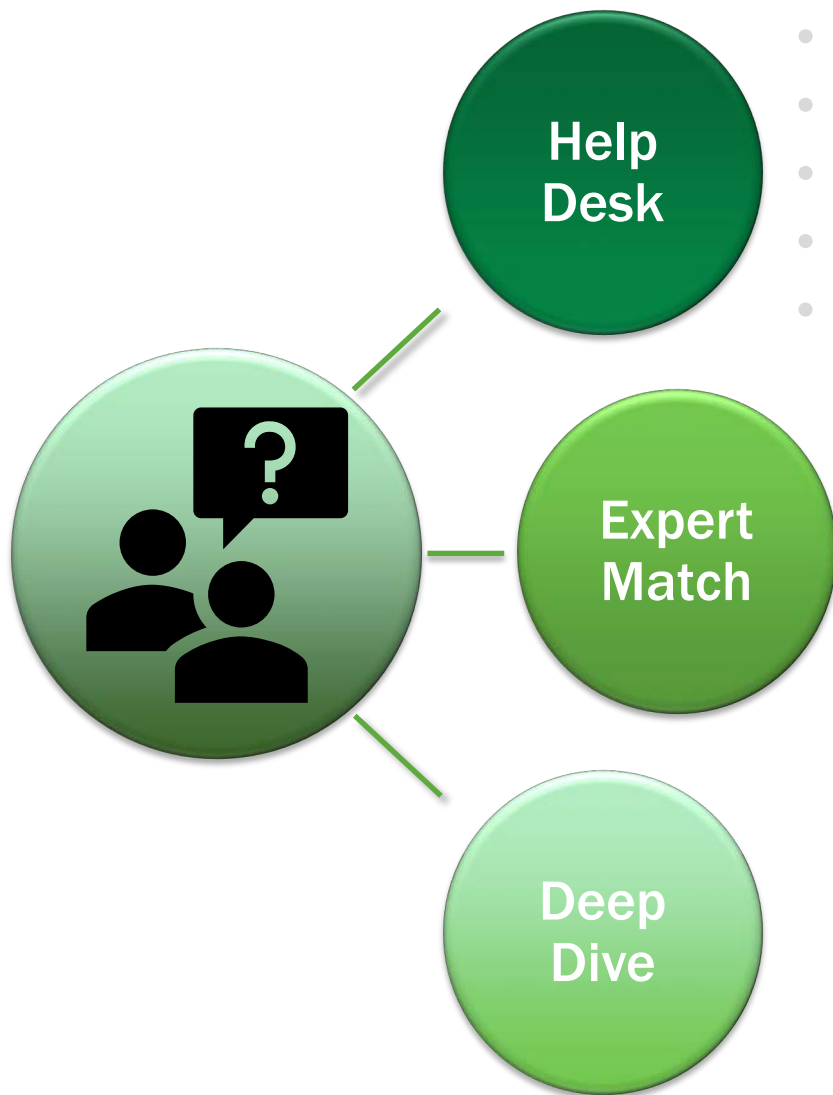


Multi-Modal TA Opportunities



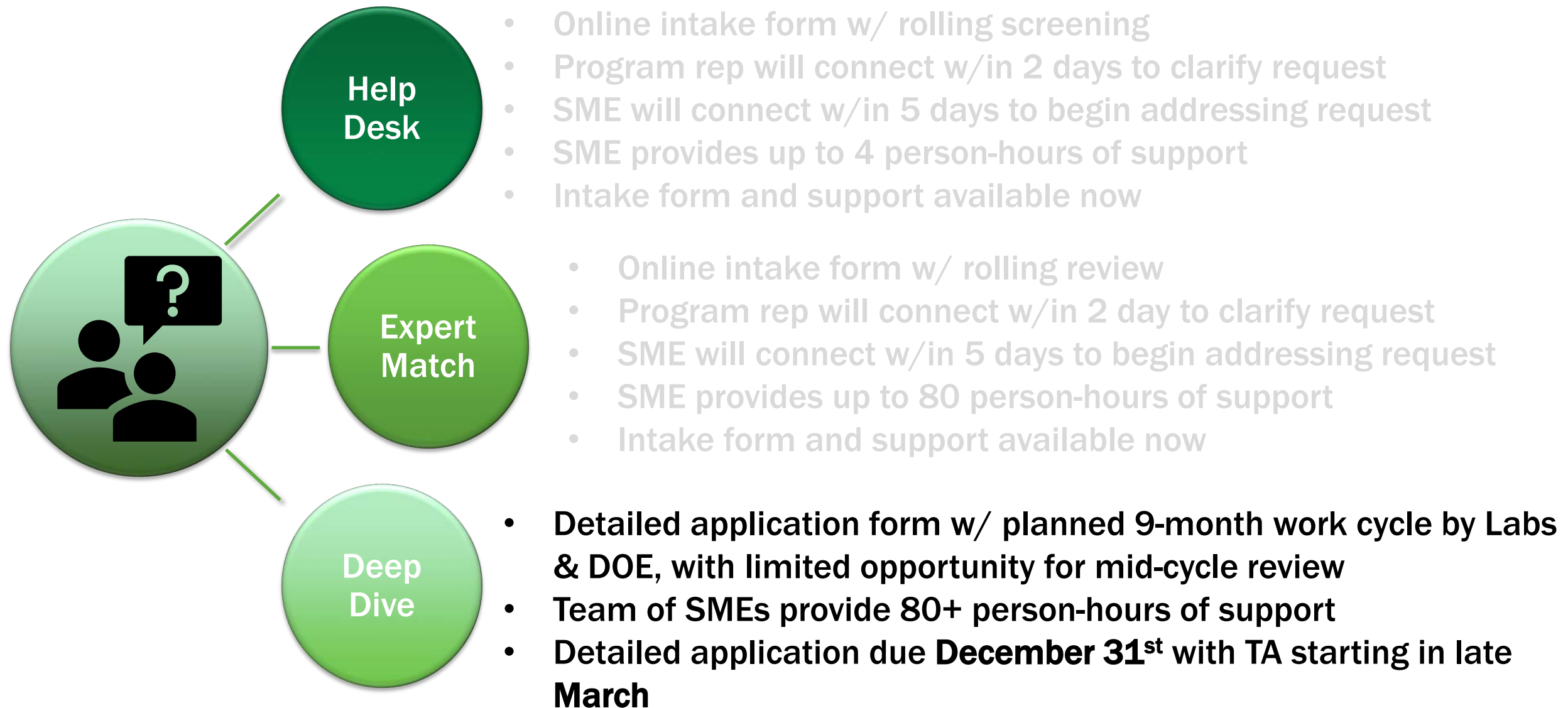
- Online intake form w/ rolling screening
- Program rep will connect w/in 2 days to clarify request
- SME will connect w/in 5 days to begin addressing request
- SME provides up to 4 person-hours of support
- Intake form and support available now

Multi-Modal TA Opportunities



- Online intake form w/ rolling screening
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 - Intake form and support available now
-
- **Online intake form w/ rolling review**
 - **Program rep will connect w/in 2 day to clarify request**
 - **SME will connect w/in 5 days to begin addressing request**
 - **SME provides up to 80 person-hours of support**
 - **Intake form and support available now**

Multi-Modal TA Opportunities



Key Topical Areas



Requests on any topic will be considered

Key Support Organizations



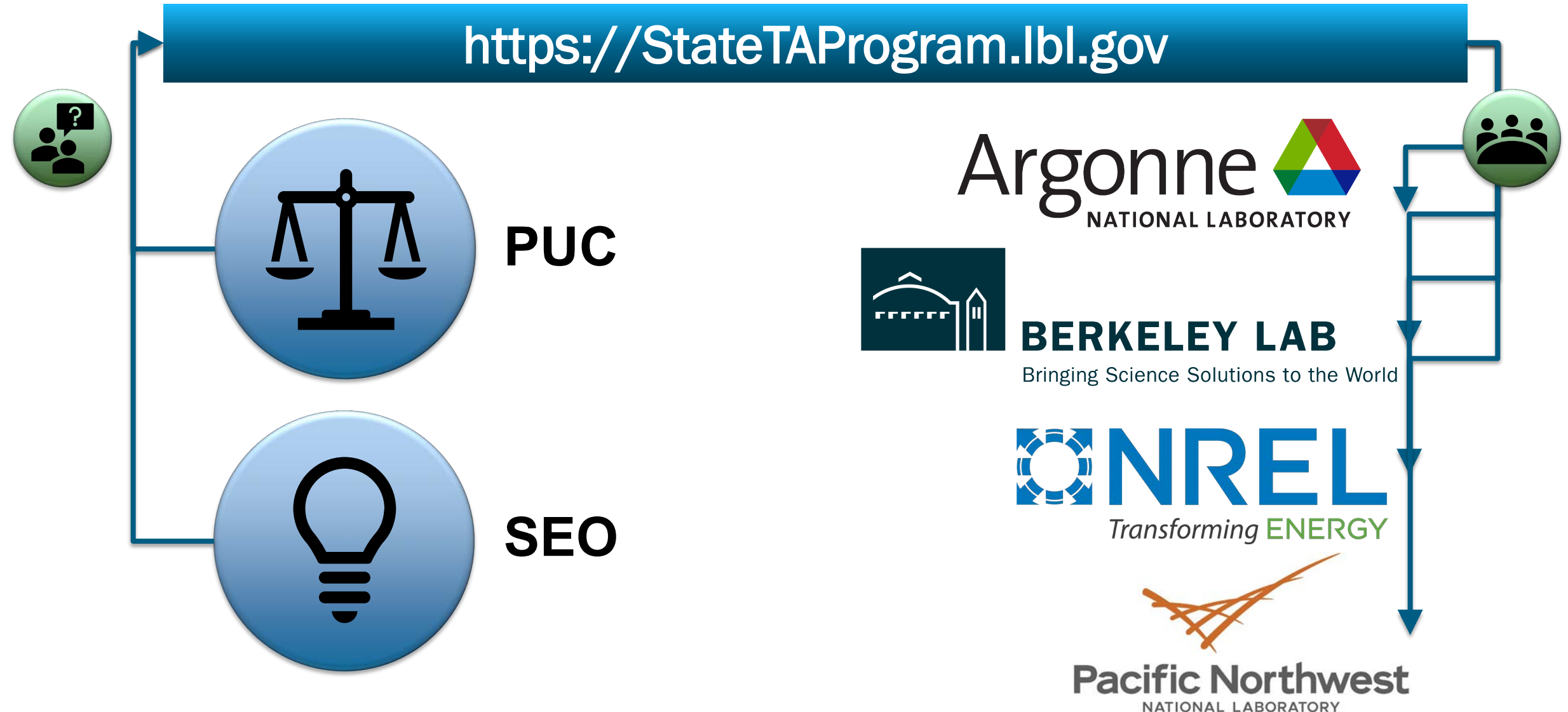
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Access TA Request Forms & Resource Library



Deep Dive TA Application Form

TA Request



Editable PDF
Application
Form



Online
Application
Form



<https://StateTAProgram.lbl.gov>

Online Deep Dive TA Application Form

State Technical Assistance Program



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The Resources and Assistance for State Energy Offices and Regulators program provides public utility commissions (PUC) and state energy offices (SEO) with high-impact technical assistance and resources at three different levels of depth and duration: Help Desk, Expert Match, and Deep Dive. Current hot topic areas for technical assistance include: load forecasting for data centers; FERC 1920 pre-compliance filings; FERC 2222 DER aggregations; integrated grid planning; and transportation electrification.

Learn more about the State TA Program in a [video overview](#).

Program Offerings

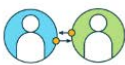


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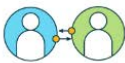


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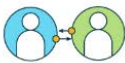


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- **Expected number of TA requests supported:** ~20 per year, Subject to Congressional appropriations

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+ Technical Assistance (TA) Examples

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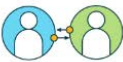


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What is the process for receiving Deep Dive technical assistance?

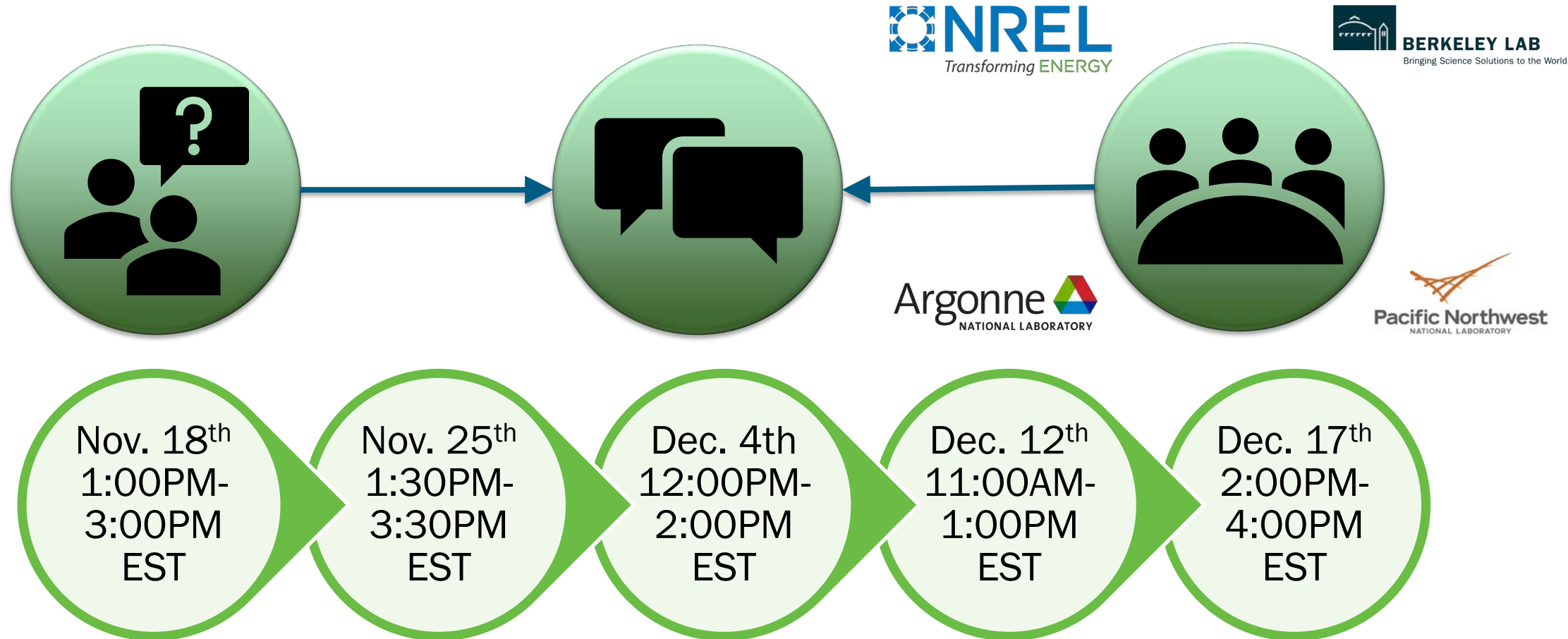
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Schedule a 30 minute time slot @
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State Technical Assistance Program



OVERVIEW RESOURCES WEBINARS

The Resources and Assistance for State Energy Offices and Regulators program provides public utility commissions (PUC) and state energy offices (SEO) with high-impact technical assistance and resources at three different levels of depth and duration: Help Desk, Expert Match, and Deep Dive. Current hot topic areas for technical assistance include: load forecasting for data centers; FERC 1920 pre-compliance filings; FERC 2222 DER aggregations; integrated grid planning; and transportation electrification.

Learn more about the State TA Program in a [video overview](#).

Program Offerings

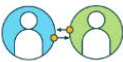


Help Desk

[Apply Now!](#)

Help Desk technical assistance is intended to address inquiries that require a quick, short, and narrow response from a National Lab subject matter expert.

[Learn more](#)



Expert Match

[Apply Now!](#)

Expert Match technical assistance is intended to address inquiries that require a deeper, longer, and broader response from one to two National Lab subject matter experts.

[Learn more](#)



Deep Dive

[Apply Now!](#)

Deep Dive technical assistance is intended to address inquiries that require a very deep, lengthy, and detailed response from a team of National Lab subject matter experts.

[Learn More](#)

State Technical Assistance Program

Deep Dive

Deep Dive technical assistance is intended to address inquiries that require a very deep, lengthy, and detailed response from a team of National Lab subject matter experts.

- **Time Commitment:** Long – 12-18 months
- **Resource Availability:** 800+ total hours
- **Availability:** Semi-annually via short application form
- **Who is it for:** State public utility commissioners and staff; State energy office leaders and staff
- **Interaction types:** Virtual or in-person consultations, customized virtual or in-person research presentations, customized resource materials, complex and sizable customized technical analysis, virtual or in-person trainings, virtual or in-person stakeholder engagements
- **Expected number of TA requests supported:** ~20 per year, Subject to Congressional appropriations



Applications accepted between November 1, 2024 and December 31st, 2024

[Apply now!](#)



What is this type of technical assistance?

Our Deep Dive provides PUCs and SEOs with technical assistance from a team of National Lab subject matter experts in order to address long duration inquiries that are typically deep, broad or both. Requests are made through a detailed [application form](#). Lab experts typically fulfill these requests within 12-18 months by providing virtual or in-person consultations, customized virtual or in-person research presentations, customized resource materials, complex and sizable customized technical analysis, virtual or in-person trainings, and/or virtual or in-person stakeholder engagements.

Expand/Collapse All

+ Technical Assistance (TA) Examples

+ Frequently Asked Questions

- Frequently Asked Questions

State TA Program

[Help Desk](#)

[Expert Match](#)

[Deep Dive](#)

What is the process for receiving Deep Dive technical assistance?

During the roughly semi-annual periods that the program is accepting calls for Deep Dive technical assistance (subject to Congressional appropriations), submit your request via our [online application form](#). Within 8 weeks, you will be informed if your request will be fulfilled, at which point you will be contacted by a team of national lab subject matter experts to begin developing a statement of work. Once that statement of work is finalized by both the state and national lab teams, and subsequently approved by DOE, which typically takes 4-6 weeks in total, technical assistance will commence in line with the approved statement of work. Typically technical assistance will be completed within 12-18 months.

To help your organization develop the necessary responses to the questions in the application form, an [editable offline version of the application form](#) is available. However, **your request for Deep Dive technical assistance will be only considered based on content submitted to the [online application form](#).**

To support the development of your application content, we offer virtual office hours where you can get answers to more specific questions concerning your unique technical assistance request. You will need to reserve a 30-minute time slot when virtual office hours are held via this [scheduling link](#). Please note that virtual office hours are reserved on a first-come-first-served basis.

Two public webinars will be held to provide additional details about the program and the application process as well as to answer any questions potential applicants may have. The first webinar will occur on November 14th at 2 PM EST focusing on the unique needs of state energy offices. Register for this webinar [here](#). The second will occur on November 22nd at 3 PM EST focusing on the unique needs of state public utility commissions. Register for this webinar [here](#).

Online Deep Dive TA Support Materials

State Technical Assistance Program



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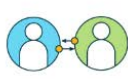


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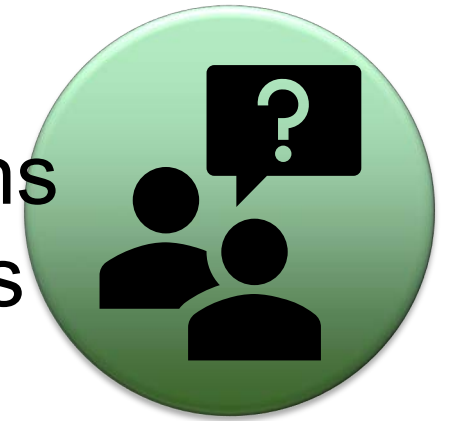
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Deep Dive Example #1

- **TA Request**: A division director at a SEO wants to develop a draft framework for incorporating equity implications into utility-scale renewable energy (RE) procurement processes
- **TA Delivered**: Report and series of presentations that includes: (1) a summary of equity definitions and adjacent terms; (2) a summary of the SEOs existing procurement framework and stakeholder concerns; and (3) possible pathways along with exercises to help determine which to pursue



Deep Dive Example #2

- **TA Request**: PUC and SEO are jointly seeking to build capacity for their newer staff and leaders on the topic of forecasting as it relates to the electricity sector
- **TA Delivered**: A series of in-person workshops on forecasting, including basics and best practices associated with different applications (i.e., data centers, electric vehicles, building electrification) and a deeper dive into benchmarking, risk, and uncertainty issues associated with these forecasts



Questions

Peter Cappers | PCappers@lbl.gov

Jason Ball | JLBall@lbl.gov



BERKELEY LAB

Bringing Science Solutions to the World

Juliet Homer | Juliet.Homer@pnnl.gov

Jessica Shipley | Jessica.Shipley@pnnl.gov
kowens@az.gov



Sherry Stout | Sherry.Stout@nrel.gov

Michael Ingram | Michael.Ingram@nrel.gov



Todd Levin | TLevin@anl.gov

Joann Zhou | YZhou@anl.gov





GDO TA Offerings

SCEP Office Hours / November 15, 2024

TRANSMISSION TECHNICAL ASSISTANCE

Subhead content here



TRANSMISSION ACCELERATION GRANTS (TAG)

Technical Assistance Partnership Intermediary Agreement (PIA) with \$10M available

Broad opportunity, to address growing transmission needs and project backlogs

Eligible activities include surge capacity to evaluate projects, proactive preferred corridor identification, cross jurisdictional collaboration, or developing a transmission-focused entity

For States, Tribal entities, or a third party working with States or Tribes



TAG Announcement:
October 31



Webinar:
November 13



Office Hours:
December 3
January 14



Applications Close:
January 21



Award:
June 2025

TRIBAL NATION TRANSMISSION PROGRAM

GDO is offering technical assistance and resources to help Federally Recognized Tribes and Alaska Native Villages successfully engage in transmission planning and development in the US.

The program is informed by conversations with Tribal Nations and is composed of:

Capacity Building (Educational Resources)

- Includes 101 type curriculum development on Transmission, virtual trainings, and presentations and national Tribal forums.

Expert Match (Phone-an-Expert)

- Allows Tribal members to consult with lab experts for assistance on transmission projects and preparation of materials for Tribes regarding projects on lands or waters of historic significance.

Participation Support (Convening & Event Attendance)

- Funds available to Tribal members to allow them to attend and participate in offshore wind and transmission forums and support them being at the table with other decisionmakers.

Learn More, Apply, Ask Questions



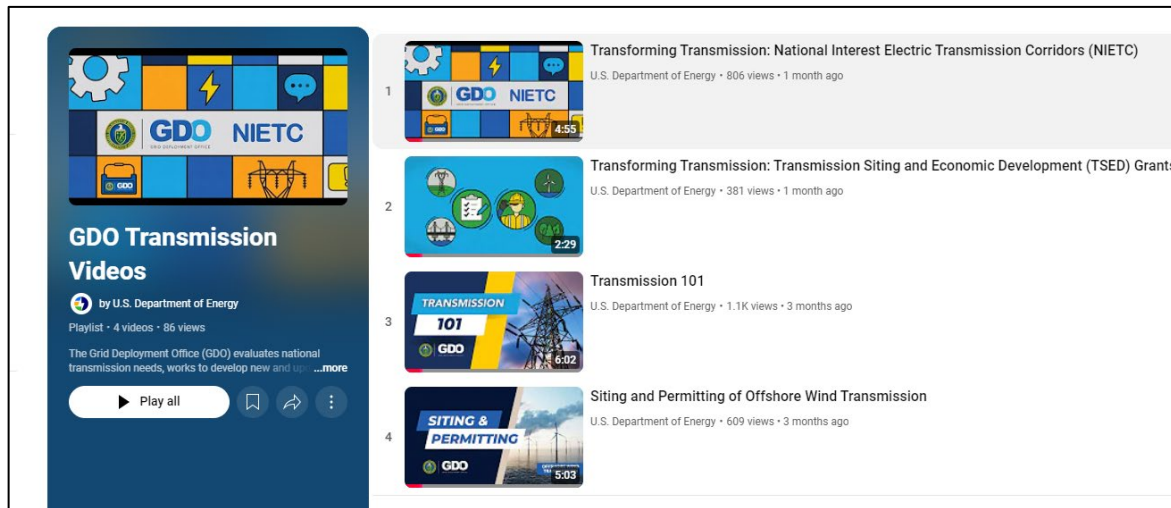
<https://www.energy.gov/gdo/tribal-nation-transmission-program>

email us at:

GDOTribalTA@nrel.gov

MISCELLANEOUS

- Educational Materials – mostly in progress, some posted to GDO Transmission Video Youtube playlist: [GDO Transmission Videos – YouTube](#)



- Update to State Energy Equity Database:
<https://www.pnnl.gov/publications/database-reveals-energy-equity-policy-activities-across-states>



FERC ORDER 1920 TECHNICAL ASSISTANCE

Subhead content here



TECHNICAL ASSISTANCE ON LONG TERM REGIONAL TRANSMISSION PLANNING

GDO is offering various types of technical assistance for both pre-compliance and implementation activities related to FERC Order 1920

Education

- Includes 101-type materials, deep dives, education webinars, etc. to provide a strong foundation on transmission planning and cost allocation issues.

Rolling TA

- Includes quick turn-around technical assistance to help stakeholders who are ready now to answer important questions.

Cohorts

- Cohorts provides an opportunity for groups of similar stakeholders to learn from SMEs as well as each other (e.g., states within a region that want to work together on issues related to Order 1920).

In-Depth Partnerships

- Provides an opportunity for stakeholders to work with SMEs to address complex technical, economic, market, technical or other questions using state-of-the-art capabilities at DOE's national laboratories.

Pre-Compliance
(support as regions develop compliance filings)

Ongoing Implementation
(support as regions implement long-term planning processes)

GDO 1920 TA OFFERINGS FOR STATES AND UTILITIES

- ▶ GDO has developed specific **technical assistance offerings** to meet the needs and timelines of states and planning entities regarding FERC Order 1920.
- ▶ **Technical Assistance for States**
 - ▶ Anticipated launch through EERE's State TA program (also called "RASOR") in **early Dec 2024**
 - ▶ For **states or groups of states** who need immediate support, GDO support may be available through existing DOE and GDO TA programs or other vehicles (contact us to discuss)
- ▶ **Technical Assistance for Utilities and Regional Planners**
 - ▶ Anticipated launch through EERE's Utility & Grid Operator TA Program in ~Q1 2025
 - ▶ For **regional planners** who need immediate support, GDO is funding Rolling TA for 1920 activities through the Utility & Grid Operator Technical Assistance Program

GDO, EERE, AND THE NATIONAL LABS WORKING TOGETHER

State TA Program (also called “RASOR”)

Offered in partnership
w/ LBNL, NREL, &
PNNL

Supports 3 types of TA
to SEOs & PUCs on
various topics:

- Help Desk: 4 hrs
- Expert Match: 80 hrs
- Deep Dive: Months

GDO to fund Help Desk &
Expert Match, plus other
TA services, for activities
related to Order 1920

Utility and Grid Operator TA Program

Offered in partnership
w/ several national labs

Supports 3 types of TA
to ISOs, RTOs, &
utilities on various
topics:

- Key Assist: 2 yrs
- Interconnection: 1 yr
- Rolling TA: 100 hrs

GDO is funding Rolling
TA for immediate support
on Order 1920, with more
TA services to come

GDO 1920 TA OFFERINGS TO STATES

Direct Rolling TA	
Resource Archive	Archive of publicly available resources on Order 1920
Help Desk	4 hrs of TA to orient states on general Order 1920 topics , assist with development of applications for Expert Match and/or Collaborative Partnerships, and other general support
Expert Match	80 hrs of in-depth TA to help states navigate specific Order 1920 topics and how these may impact their state/region
Collaborative Partnerships	
National Education	Workshop(s) to offer a forum for SEOs & PUCs to identify and facilitate opportunities for regional peer-sharing
Peer-Sharing Education	Sessions to be organized around specific topics or compliance regions to explore common questions, needs, & approaches for SEOs and PUCs

GRID RESILIENCE TECHNICAL ASSISTANCE



GRID RESILIENCE STATE & TRIBAL FORMULA GRANTS

BIL Section 40101(d):

- **Purpose:** Noncompetitive grants for reducing the consequences of electrical outages due to wildfires, extreme weather, and other natural disasters that are exacerbated by the climate crisis.
- **Eligible Applicants:** States, U.S. Territories, and Indian Tribes, including Alaska Native Corporations.
 - **Subawards:** Applicants then sub-award grants to utilities, storage owners/operators, transmission owners/operators, fuel suppliers.
- **Formula:** Each eligible applicant has funding allocated based on a formula that includes population size, land area, probability and severity of disruptive events, and a locality's historical expenditures on mitigation efforts.
- **Available funding:** \$2.3 billion over five years (FY22-FY26)
- **Technical Assistance:** GDO provides technical and other assistance for applicants throughout the project design and implementation process



GRID RESILIENCE PLANNING CYCLE

We assist states, tribes, territories, and industry in the following core areas:



GRID RESILIENCE TECHNICAL ASSISTANCE ACTIVITIES



Capacity building & training



25 Clean Energy
Innovator Fellows



Sandia
National
Laboratories

Regional Trainings
State Regulators, State Energy
Offices

Technology
Guides

Tribal Workshops



Tool Development



TASTI-GRID
outage analysis



ClimRR - Climate Risk
and Resilience Portal



NAERM North
American Electric
Reliability Model



POET - Power Outage
Economics Tool



Assessments & Analysis



GRACI – Grid Resilience Analysis & Climate
Change Impacts



GRETA - Direct, Custom TA to
States and Tribes



Peer sharing and examples



7 Energy Security & Grid
Resilience Cohorts

CHEERS Energy
Resilience State Cohort

Utility Climate Risk
Analysis Cohort

Case Studies

TA Recipients

State Regulators

State Energy Offices

State Legislators

Governors' Energy
Advisors

Tribes

U.S. Territories

Industry

GRID RESILIENCE ASSISTANCE PORTAL



Technical Analysis examples:

- What outage threats does my state face now and how might that change under future climate scenarios?
- What are expectations about future performance of the electric system based on asset condition and climate projections?
- What are the tradeoffs between different resilience investments my state is considering?

➤ Submit a Request Here: [Request Grid Resilience Assistance | Department of Energy](#)

CASE STUDIES

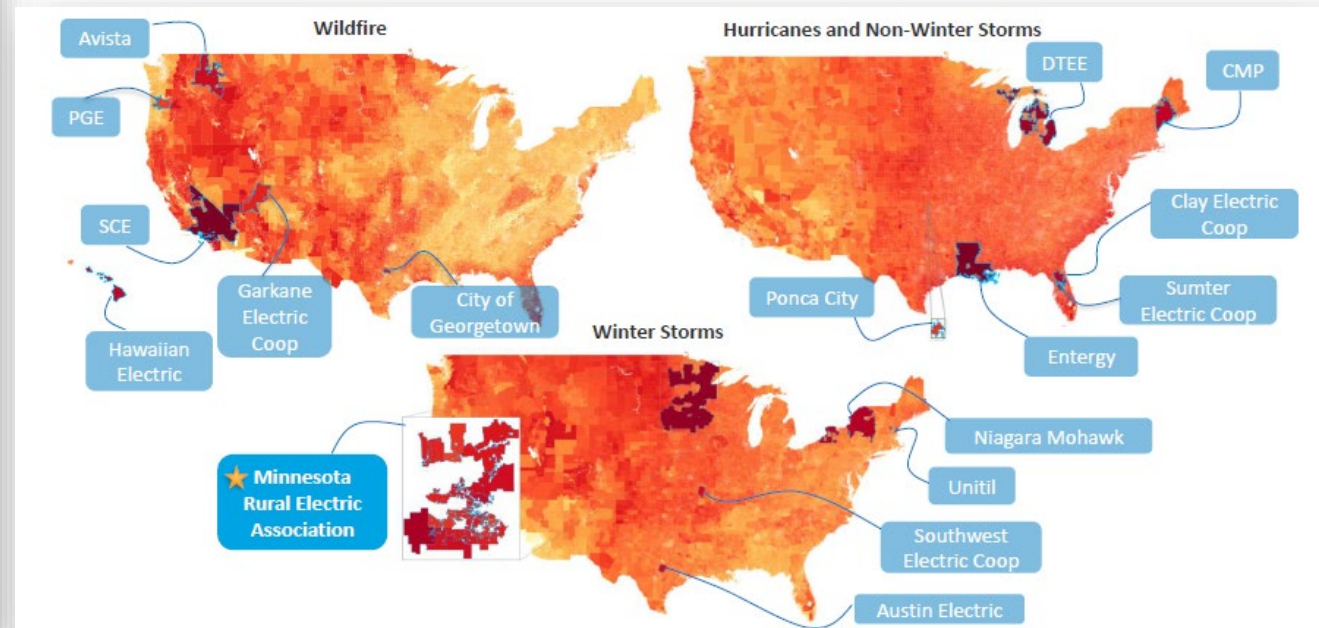
Storm Hardening - NY



Line Undergrounding - FL



Current Practices in Distribution Utility Resilience Planning *Hazards Examined: Wildfire, Hurricanes & Non-Winter Storms, Winter Storms*



<https://www.energy.gov/gdo/resources-and-publications>

GUIDES

Low-Cost Grid Resilience Projects

- Overview of grid resilience projects likely to cost under \$500,000
- Includes both cost estimates and potential benefits for these projects

Fuel Source Projects
This section describes grid resilience investments relevant to any fuel source that serves a tribal community.

Increase fuel stock.
For any tribal entity that relies on propane or diesel fuel for electricity or heat, ensuring there is a large enough supply on hand in case of an emergency will allow the community to be more resilient to a long-duration power outage. This type of investment improves performance against all outage types.

Benefits	Costs
An increased fuel supply may extend a community's ability to endure extreme weather events during which it may be difficult for emergency responders to reach the community.	- A 500-gallon residential propane storage tank costs roughly \$1000-\$2000 [7]. - Diesel fuel requires replacement or fuel polishing every two years to be usable, which will impact how cost-effective it is to store large volumes of fuel [8].

Distribution Line Projects
This section describes grid resilience investments relevant to the poles and wires that transmit power to customers within a community.

Pole Replacement.
Recipients could target and replace vulnerable utility poles within their community with stronger, more durable poles that are weather and wildfire resistant. The capital cost of overhead distribution pole replacement is small compared to other grid infrastructure investments and does **not** require system-wide replacement to see improvement in disruption events. For example, a recipient could target pole replacements in a particularly vulnerable corridor or hard-to-reach area. A recipient could also consider adding stronger poles spaced out strategically on the system that remain standing when adjacent poles begin to break, thus preventing cascading failures.

Pole Material	Benefits	Costs
Wood Improves performance against strong winds	Replacing wood poles with taller or thicker wood poles can increase the strength and durability of the pole at relatively low cost. Wood poles tend to be safer for line-workers than other materials because they are less conductive and easier to climb.	~\$300-\$800 per pole for material and installation costs on the distribution system [9]. - Note, wood poles are not as resilient as other non-wood materials.
Steel or concrete Improves performance against strong winds and wildfires	Non-wood poles are fire-resistant, avoid damage from wildlife and insects, can withstand higher wind speeds, and can last longer than wood poles.	~\$1500-\$3000 per pole for material and installation costs on the distribution system [9, 10]. - It can be more labor intensive to replace non-wood poles because the poles are heavier.

Microgrid Overview Guide

- Overview of microgrids and their resilience benefits
- Describes components of microgrid systems that can be developed with BIL 40101(d) funds
- Provides cost estimates for developing a microgrid

MICROGRID

Figure 1: Features of an example microgrid.

Resilience Benefits of Microgrids
The primary resilience benefit of microgrids is their ability to disconnect from the main grid when there is an outage and operate autonomously. Thus, facilities connected to and powered by the microgrid can continue serving a community during an outage. This ability to continue serving critical loads, such as medical facilities or grocery stores, can mitigate the social and economic costs of disruptive events.

Depending on their components, microgrids may also be able to provide additional benefits above and beyond energy resilience benefits.

- Microgrids that incorporate renewable energy resources can have environmental benefits in terms of reduced greenhouse gas emissions and air pollutants.
- In some cases, microgrids can sell power back to the grid during normal operations.

However, microgrids are just one way to improve the energy resilience of an electric grid and they do have some potential disadvantages:

- Depending on the complexity, microgrids can have high upfront capital costs.**
- Microgrids are complex systems that require specialized skills to operate and maintain.
- Microgrids include controls and communication systems that contain cybersecurity risks.

Since microgrids are not the only way to enhance energy resilience, communities may want to consider alternate resilience investment options, including hardening existing transmission and distribution systems, weatherizing power generation sources, and building additional distribution systems to provide energy supply redundancy. To learn more about other solutions that have lower capital costs and are less technically complex than microgrids, see the Grid Deployment Office's "Low-Cost Grid Resilience Projects" document.

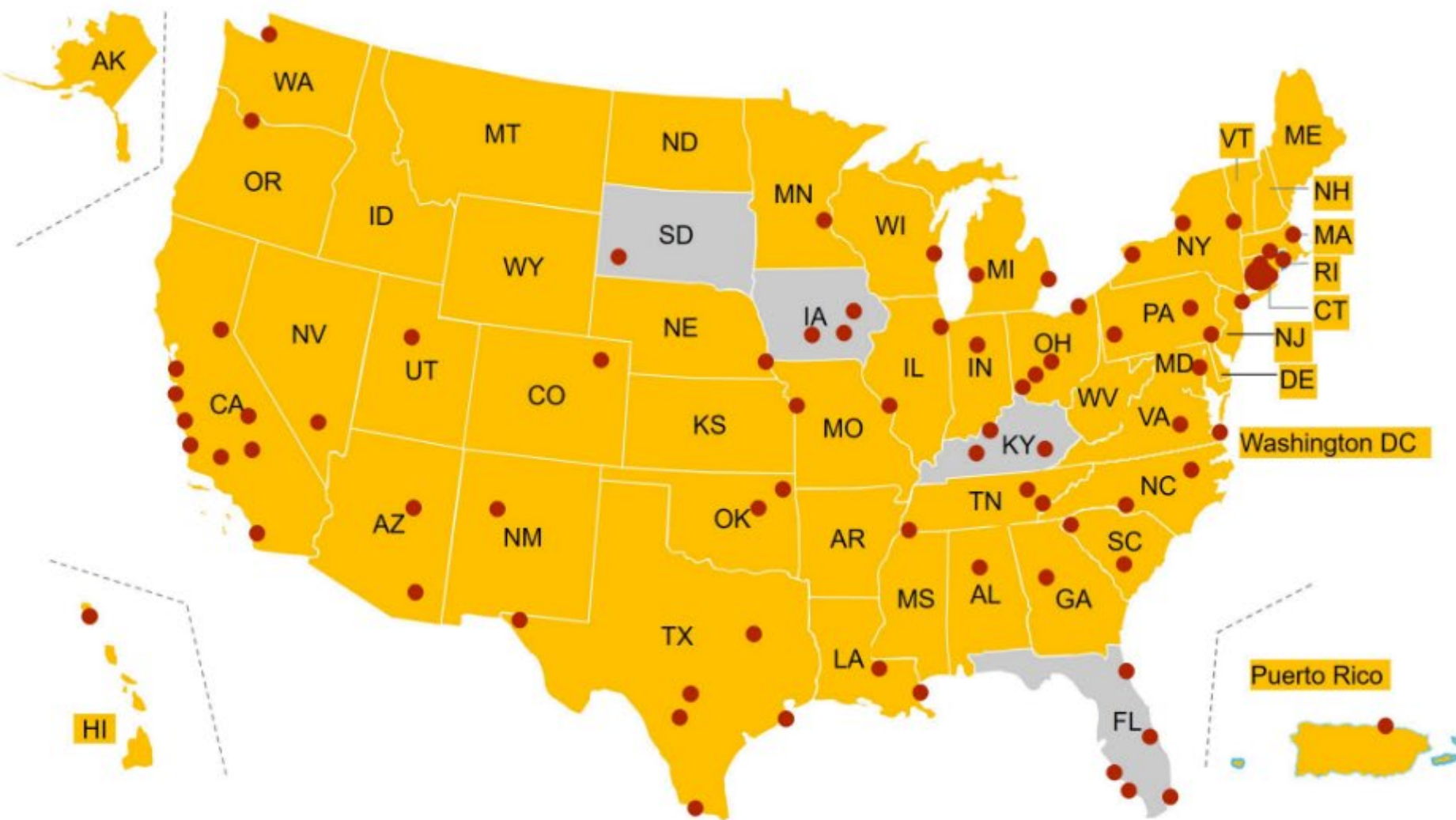
Rule of Thumb for Microgrid Costs
A 2018 study conducted by the National Renewable Energy Laboratory found that microgrids in the Continental U.S. cost an average of \$2 million-\$5 million per megawatt.

<https://www.energy.gov/gdo/resources-and-publications>

State Opportunities at the EPA

CPRG Planning Grantees

Eligible applicants can review a [complete list of CPRG planning grantees](#)



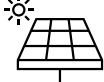
- States (+ DC, PR)
- Metropolitan Statistical Areas (MSAs)
- States that did not opt in (includes WY)

Additional Planning Grantees

- 4 territories
- 90 tribes and tribal consortia (covering ~225 tribes)

THERE ARE THREE PROGRAMS WITHIN THE GREENHOUSE GAS REDUCTION FUND

Overview of the three Greenhouse Gas Reduction Fund Programs

	 National Clean Investment Fund	 Clean Communities Investment Accelerator	 Solar for All
Program description	Fund national nonprofit financing entities to create national clean financing institutions capable of partnering with the private sector to provide accessible, affordable financing for tens of thousands of clean technology projects nationwide	Fund hub nonprofits to provide funding and technical assistance to community lenders that will then finance clean technology projects in low-income and disadvantaged communities, deploying projects in communities most in need while also building the capacity of community lenders that serve those communities	Fund states, territories, Tribal governments, municipalities & nonprofits to develop long-lasting programs that enable low-income & disadvantaged communities to deploy and benefit from distributed residential solar
Number of selectees	3 selections	5 selections	60 selections
Funding amount	\$14 billion	\$6 billion	\$7 billion

SOLAR FOR ALL – \$7B RESIDENTIAL DISTRIBUTED SOLAR

5 multistate awards
totaling
~\$1 billion

to launch innovative
programs serving specific
overburdened
communities with solar
energy or deploy specific
solar project-types

6 awards to serve Tribes
totaling
~\$500 million

to enable Tribes to deploy
and benefit from
residential distributed
solar

49 state-level awards
totaling
~\$5.5 billion

to create or expand solar
programs benefiting low-
income and
disadvantaged
communities

Funding figures rounded to nearest hundred million

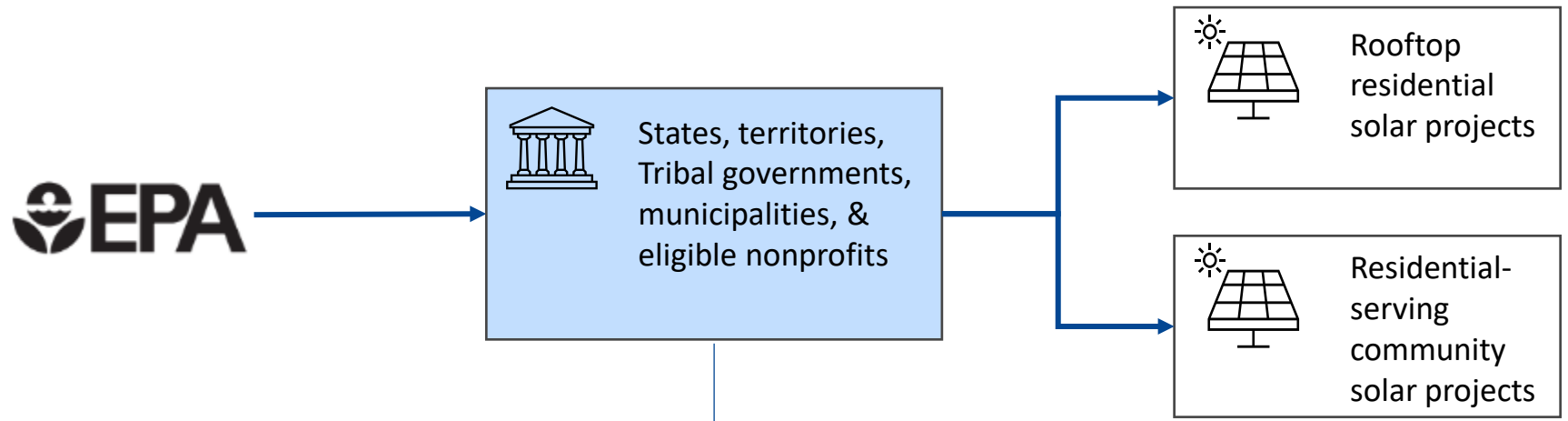
STATES, TRIBAL GOVERNMENTS, MUNICIPALITIES, & NONPROFITS WILL FUND DISTRIBUTED SOLAR PROJECTS

Program overview

EPA awarded grants to 60 states, territories, tribal governments, municipalities, and eligible nonprofit recipients to **create long-lasting programs that provide financial & technical assistance to rooftop residential solar projects and residential-serving community solar.**

100% of program funds must **enable low-income & disadvantaged communities to deploy and benefit from residential distributed solar.**

Solar for All flow of funds



Grant recipients are developing long-lasting programs that:

- **Provide grants, loans, and other forms of financial assistance** to rooftop residential and residential-serving community solar projects
- **Support communities to deploy** rooftop residential and residential-serving community solar by providing technical assistance such as workforce development and project-deployment support (e.g., siting, permitting, interfacing with utilities)
- **Address policy and regulatory barriers to residential distributed solar and leverage existing favorable policies** by working with stakeholders (e.g., utilities) on policies such as net metering and third-party ownership

FOUR TYPES OF TECHNOLOGIES ARE ELIGIBLE TO RECEIVE FINANCIAL & TECHNICAL ASSISTANCE FROM SOLAR FOR ALL

Category	Residential rooftop solar	Residential-serving community solar	Associated storage	Enabling upgrades
Definition	Behind-the-meter solar, including rooftop, pole-mounted, and ground-mounted photovoltaic (PV) power-producing facilities Assets which support households in single-family homes, manufactured homes, or multifamily buildings	PV facilities with up to 5 MW_{ac} nameplate capacity Facilities that deliver at least 50% of the electricity generated by the facility to residential customers in the same utility territory as the facility	Infrastructure to store solar power for the purposes of maximizing residential rooftop solar and residential-serving community solar Storage infrastructure should be deployed in conjunction with a residential solar project to maximize program benefits	Investments in energy & building infrastructure that ensure a building is “solar ready” and to maximize benefits of solar deployment for households (e.g., roof repairs, energy efficiency) Financial assistance should be used in conjunction with financial assistance for a solar project Financial assistance for enabling upgrades should be no more than 20% of financial assistance during the program period

EPA AWARDED THREE GRANTS UNDER THE \$14B NATIONAL CLEAN INVESTMENT FUND

A

Climate United Fund (\$6.97 billion award): A coalition led by three leading mission-driven lenders and investors (Calvert Impact, Community Preservation Corporation, Self-Help Ventures Fund) with a proven track record of mobilizing \$30 billion in private and institutional capital focused on economic opportunity and environmental sustainability in low-income and disadvantaged communities.

B

Coalition for Green Capital (\$5 billion award): A new, national green bank that will partner with an existing network of state and local green banks across the country, which has collectively catalyzed \$20 billion in investment into qualified projects.

C

Power Forward Communities (\$2 billion award): A national housing decarbonization finance program led by leaders in community development finance (LISC, Enterprise), electrification (Rewiring America), and affordable housing (United Way, Habitat for Humanity).

EPA AWARDED FIVE GRANTS UNDER \$6B CLEAN COMMUNITIES INVESTMENT ACCELERATOR

A

Opportunity Finance Network (\$2.29 billion award): A leading industry group with a 40-year record serving community development loan funds.

B

Inclusiv (\$1.87 billion award): A leading industry group with a 50-year record serving community development credit unions and *cooperativas*.

C

Justice Climate Fund (\$940 million award), A new organization serving a broad cross-section of community lenders in hard-to-reach communities.

D

Appalachian Community Capital (\$500 million award): A community development finance organization with a decade-long track record in Appalachian communities that is establishing a “Green Bank for Rural America” initiative to expand capital access in coal, energy, underserved rural, and Tribal communities.

E

Native CDFI Network (\$400 million award): A nonprofit that advocates for the 60+ U.S. Treasury-certified Native CDFIs, which have a presence in 27 states across rural reservation communities as well as urban communities and have a mission to address capital access challenges in Native communities.

CRITERIA & PROJECT PRIORITY AREAS FOR ELIGIBLE PROJECTS UNDER NCIF & CCIA

Under NCIF, eligible projects must:

1. Reduce greenhouse gas emissions
2. Reduce other air pollutants
3. Deliver benefits to communities
4. Meet the requirement that it may not have otherwise been financed
5. Mobilize private capital
6. Support only commercial technologies

Under CCIA, eligible projects must meet the above criteria & fall within one of three priority areas:

A

Distributed Energy Generation & Storage

Projects, activities, and technologies that deploy small-scale power generation and/or storage technologies (typically from 1 kW to 10,000 kW), plus enabling infrastructure necessary for deployment of such generation and/or storage technologies. For this competition, the projects, activities, and technologies must support *carbon pollution-free electricity*, which is electrical energy produced from resources that generate no carbon emissions.

B

Net-Zero Emissions Buildings

Projects, activities, and technologies that either (1) retrofit an existing building, making a substantial contribution to that building being a net-zero emissions building and as part of a plan for that building achieving zero-over-time, or (2) construct a new net-zero emissions building in a low-income and disadvantaged community. Net-zero emissions buildings are defined in Executive Order 14057 and include residential, commercial, industrial, and other buildings.

C

Zero-Emissions Transportation

Projects, activities, and technologies that deploy zero-emissions transportation modes, plus enabling infrastructure necessary for zero-emissions transportation modes—especially in communities that are overburdened by existing diesel pollution, particulate matter concentration, and degraded air quality. Zero-emissions transportation should be consistent with the zero-emissions transportation decarbonization strategies in the U.S. National Blueprint for Transportation Decarbonization.

HOW TO ENGAGE WITH NCIF & CCIA GRANT RECIPIENTS



The screenshot shows the EPA website's navigation bar with the EPA logo and search bar. Below the navigation bar, the "Greenhouse Gas Reduction Fund" section is highlighted. The "NCIF Selected Applicant Details" page is displayed, featuring a sidebar with links to "Greenhouse Gas Reduction Fund Home", "Learn about the Fund", "National Clean Investment Fund", "NCIF Selected Applicant Details" (which is selected), and "Clean Communities Investment Accelerator". The main content area is titled "Selected Applicants" and contains text about the \$14 billion National Clean Investment Fund, stating that three selected applicants will establish national clean financing institutions to deliver accessible, affordable financing for clean technology projects nationwide, partnering with private-sector investors, developers, community organizations, and others to deploy projects, mobilize private capital at scale, and enable millions of Americans to benefit from the program through energy bill savings, cleaner air, and water.



The screenshot shows the EPA website's navigation bar with the EPA logo and search bar. Below the navigation bar, the "Greenhouse Gas Reduction Fund" section is highlighted. The "CCIA Selected Applicant Details" page is displayed, featuring a sidebar with links to "Greenhouse Gas Reduction Fund Home", "Learn about the Fund", "National Clean Investment Fund", "Clean Communities Investment Accelerator" (which is selected), and "CCIA Selected Applicant Details". The main content area is titled "Selected Applicants" and contains text about the \$6 billion Clean Communities Investment Accelerator, stating that five selected applicants will establish hubs that provide funding and technical assistance to community lenders working in low-income and disadvantaged communities, providing an immediate pathway to deploy projects in those communities while also building capacity of hundreds of community lenders to finance projects for years. Each of the selectees will provide capitalization funding (typically up to \$10 million per community lender), technical assistance subawards (typically up to \$1 million per community lender), and technical assistance services so that community lenders can

Contact NCIF & CCIA grant recipients directly to learn more about opportunities for partnership or funding eligible projects.

For more info & contact information for NCIF selected applicants: www.epa.gov/greenhouse-gas-reduction-fund/ncif-selected-applicant-details

For more info & contact information for CCIA selected applicants: www.epa.gov/greenhouse-gas-reduction-fund/ccia-selected-applicant-details

SLOPE Tool Updates



Office of State and
Community Energy Programs



Plan your clean energy future with the State and Local Planning for Energy (**SLOPE**) Platform

SLOPE: State and Local Planning for Energy



Scenario 1: 95% Grid Decarbonization by 2035 & Widespread Electrification

Geography Selection: United States

Metric: System Costs

Electricity Supply: 95% grid decarbonization by 2035

Electrification: High

Building Efficiency: Moderate

Transportation: Moderate

Scenario Flexibility: Moderate

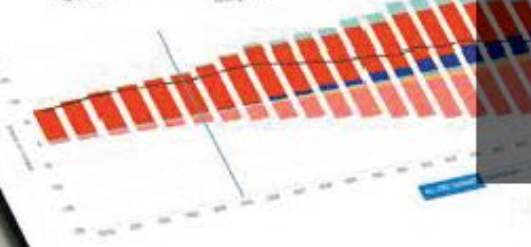
Data Download

Download the data for this scenario as a CSV file.

Download

Scenario 1: 95% Grid Decarbonization by 2035 & Widespread Electrification

Change in System Costs Relative to Reference Scenario (2020-2035)



Data Filters

Electricity Supply: 95% Grid Decarbonization by 2035

Electrification: High

Building Efficiency: Moderate

Transportation: Moderate

Scenario Flexibility: Moderate

Scenario 1: 95% Grid Decarbonization by 2035 & Widespread Electrification

The SLOPE Ecosystem

Goals

First stop shop to help users better understand their energy opportunities

Key Users



Federal State and Local Governments



Utilities and T&D Planners



Education Research and Nonprofits



Energy Service Providers and Consultants

Number of Annual Users

20,000

Collaborators



BIOENERGY TECHNOLOGIES OFFICE



STRATEGIC ANALYSIS



SOLAR ENERGY TECHNOLOGIES OFFICE



VEHICLE TECHNOLOGIES OFFICE



BUILDING TECHNOLOGIES OFFICE



GEOTHERMAL TECHNOLOGIES OFFICE

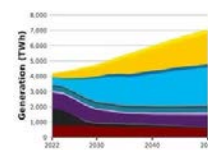


WATER POWER TECHNOLOGIES OFFICE



WIND ENERGY TECHNOLOGIES OFFICE

Integrates Powerful DOE Tools and Models



Standard Scenarios



Electrification Futures Study



State and Local Planning for Energy (SLOPE) Platform

SLOPE is an easy-to-access online platform to support data-driven state and local energy and decarbonization planning.



Transportation

What might electric vehicle adoption trends look like in the future, and what will be the new demands on the grid?



Efficiency

What is the energy bill savings potential of cost-effective efficiency measures for households in my county?



Decarbonization Planning

What are achievable planning targets and what is the impact of different decarbonization strategies on future energy trends in my region?



Renewables

How much energy could be produced and what are the lowest-cost renewable energy technologies in my jurisdiction?



Equity

Where could my jurisdiction prioritize underserved or vulnerable populations with energy investments?

4 Ways to Engage

AND PLAN YOUR ENERGY FUTURE



Energy Snapshots

Create a customized infographic to visualize clean energy potential and opportunities for your state or county.



Energy Planning Guides

Explore state and local energy pathways for vehicle electrification, building efficiency, energy equity, and renewable energy.



Scenario Planner

Compare scenarios for future energy consumption, emissions, costs, and air pollutants for counties and states.



Data Viewer

Discover interactive maps and graphs showing state and local opportunities for renewables, efficiency, electrification, and energy equity.



Energy Snapshots

The Energy Snapshots allow users, with one entry, to quickly auto-generate jurisdictionally specific reports for conversation with planners, stakeholders, and/or others.



A key **planning question** that Energy Snapshots can help **communities**:

- ✓ "How can I easily auto-generate a report examining energy emissions and renewables in my county and/or the state?"

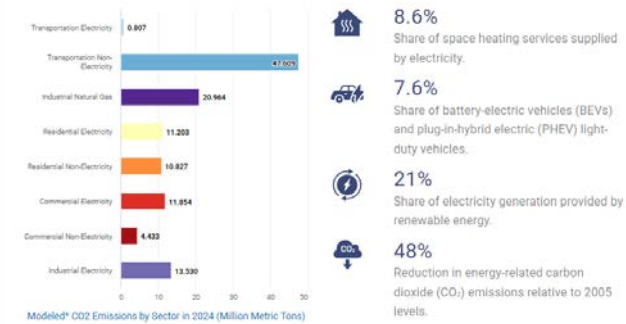
Stakeholders say that they will use this tool for community education, **providing accessible information** to the public about the local energy landscape.

State Energy Snapshot of Indiana

This snapshot outlines potential clean energy opportunities in Indiana

Baseline Data

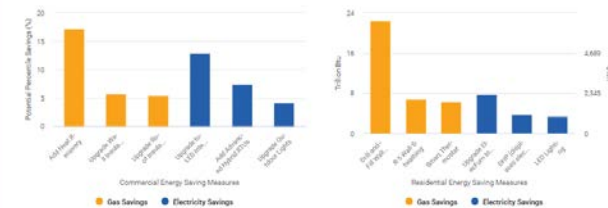
2024 Modeled Indiana Emissions and Energy Metrics



- 8.6% Share of space heating services supplied by electricity.
- 7.6% Share of battery-electric vehicles (BEVs) and plug-in-hybrid electric (PHEV) light-duty vehicles.
- 21% Share of electricity generation provided by renewable energy.
- 48% Reduction in energy-related carbon dioxide (CO₂) emissions relative to 2005 levels.

Energy Efficiency Opportunities

Increased adoption of best-available building energy efficiency equipment and envelope upgrades has the potential to reduce energy consumption by 8.3% in Indiana by 2050 compared to a reference case scenario.



Source 1: Top Commercial Natural Gas Saving Measures
Source 2: Top Commercial Electricity Saving Measures

Indiana's commercial sector has the potential to achieve these results with efficiency upgrades.

32% in electricity savings

28% in natural gas savings

Source 1: Top Residential Fuel Saving Measures
Source 2: Top Residential Electricity Saving Measures

Through cost-effective efficiency upgrades, low-to-moderate income (LMI) households in Indiana have the potential to see:

41% average annual energy bill savings



Energy Planning Guides

The Energy Planning Guides allow users, with one entry, to quickly auto-generate jurisdictionally specific 5 individual subject-specific reports serving as a launch point for next steps to other DOE platforms and potential implementations.



A key **planning question** that the Energy Planning Guides can help **communities** answer:

- ✓ "What county and/or state specific report can I easily auto-generate to explore and examine data based on SLOPE's Scenario Planner, Energy Equity, Energy Efficiency, Electric Vehicles, and Renewables Energy categories?"

Stakeholders say that the guides can support decision makers in **exploring and implementing** energy strategies.

What Percentage of Miami-Dade County, Florida Overall Energy Consumption and CO₂ Emissions Are Attributed to Buildings?

Let's begin by examining the impact that residential and commercial buildings have on CO₂ emissions and energy consumption in Miami-Dade County, Florida using SLOPE's Scenario Planner. Figure 1 displays how energy consumption and CO₂ emissions compare across the transportation, residential, commercial, and industrial sectors. The data is based on modeled results. These results have been calibrated against historical data but will not match exactly with reported energy data.

Reference Case

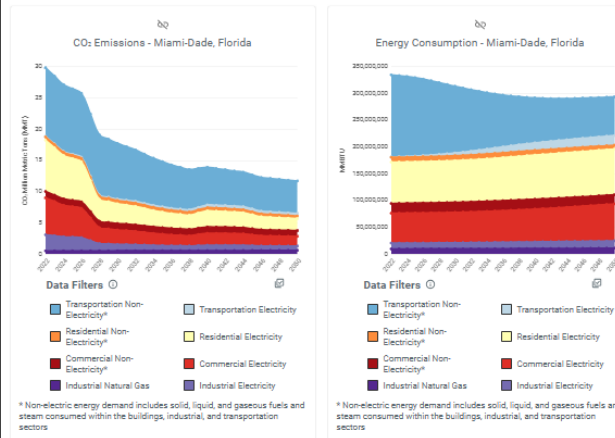
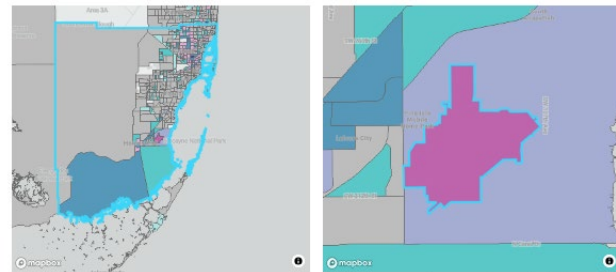


Figure 1. Modeled sector-specific CO₂ emissions and energy consumption for Miami-Dade County, Florida on-road transportation and the residential, commercial, and industrial sectors. Modeling does not include emissions from air, marine, or train transportation, or methane emissions from landfills and wastewater treatment facilities.

For more detailed data on energy consumption by source and end-use sector, please visit the U.S. Energy Information Administration's [State Energy Data System](#).

In 2024, residential and commercial buildings account for approximately 49.9% of modeled CO₂ emissions and 46.9% of modeled energy consumption in Miami-Dade County, Florida.

How Much Can Households in Miami-Dade County, Florida Save on Energy Bills With Efficiency Upgrades? What Are the Most Cost-Effective Upgrades and Where Can the County Prioritize Investments?



Questions ?

****If you want to be part of a user feedback session with our SLOPE team, please reach out!***

Get connected with our team!



Shannon Zaret
U.S. Department of Energy
shannon.zaret@ee.doe.gov



Katie Richardson
National Renewable Energy Laboratory
katie.richardson@nrel.gov



Asrah Heintzelman
U.S. Department of Energy
asrah.heintzelman@hq.doe.gov



Nina Wuerch
U.S. Department of Energy
christina.wuerch@hq.doe.gov

Wastewater Energy Management Toolkit



SCEP
STATE & COMMUNITY ENERGY PROGRAMS

SWIFt and Wastewater Energy Management Toolkit

Nina Wuerch

U.S. Department of Energy

November 2024



Why Wastewater

Untapped Potential for Energy & Cost Savings

- The U.S. has more than 16,000 publicly owned wastewater treatment facilities operating at approximately 81% of their design capacities and 15% operating at or beyond their maximum capacities, receiving a D+ on the 2021 Infrastructure report card.¹
- Wastewater facilities can often achieve a 20% to 30% reduction in energy use through energy efficiency upgrades and operational measures.²
- Across the country, municipal wastewater treatment plants are estimated to consume more than 30 billion kWh per year of electricity (which equates to about \$2 billion in annual electric costs)^{3,4} and are responsible for 44 million metric tons (MMT) of greenhouse gas emissions each year.⁵
- A 10% reduction in the energy use of U.S. wastewater systems would collectively save approximately \$400 million and 5 billion kWh annually.⁶



U.S. Wastewater Infrastructure received a D+ on the 2021 Infrastructure Report Card.¹

1. American Society of Civil Engineers. 2021. 2021 Infrastructure Report Card. <https://infrastructurereportcard.org/wp-content/uploads/2020/12/Wastewater-2021.pdf>
2. Environmental Protection Agency. 2015. Energy Efficiency in Water and Wastewater Facilities A Guide to Developing and Implementing Greenhouse Gas Reduction Programs. <https://www.epa.gov/sites/default/files/2015-08/documents/wastewater-guide.pdf>
3. EPRI and Water Research Foundation. Electricity Use and Management in the Municipal Water Supply and Wastewater Industries
4. Assumes \$0.07/kWh average electric costs
5. EPA, Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2020. 2022, EPA: Washington, DC. p. 841.
6. Environmental Protection Agency. 2015. Energy Efficiency in Water and Wastewater Facilities A Guide to Developing and Implementing Greenhouse Gas Reduction Programs. <https://www.epa.gov/sites/default/files/2015-08/documents/wastewater-guide.pdf>

Overview of SWIFT



Training in data management, EE improvements, advanced technology integration, and project financing



Average utility energy savings between 5-25%



154 signatory partners representing over 328 facilities across 43 states



Participating in the virtual training was free and open to all staff at the utilities

Wastewater Energy Management Toolkit

SWIFt's Legacy

This toolkit represents a collection of new and existing resources and tools that SWIFt partners leveraged to achieve long term energy and cost savings.

With this toolkit, you can...



Find
Technical
Assistance,
Funding, and
Financing



Discover
Energy
Management
Tools



Explore
Energy
Management
Resources



Learn from
Case Studies
and Utility
Solutions



Attend and
Watch
Trainings and
Webinars

Thank You!

Learn more about [SWIFt](#) on the Better Buildings Solution Center

Access the [Wastewater Energy Management Toolkit](#) on the State and Local Solution Center

If you have any questions, please contact Christina.Wuerch@hq.doe.gov

Workforce Technical Assistance Resources



SEP/NREL Workforce Tools In the Works

Allison Moe
allison.moe@nrel.gov
November 15, 2024

Agenda

- 1** Energy Jobs Dashboard
- 2** Energy Program Mapping
- 3** Wrap Up

Energy Jobs Dashboard

NREL & Julius Education, Inc.

Background

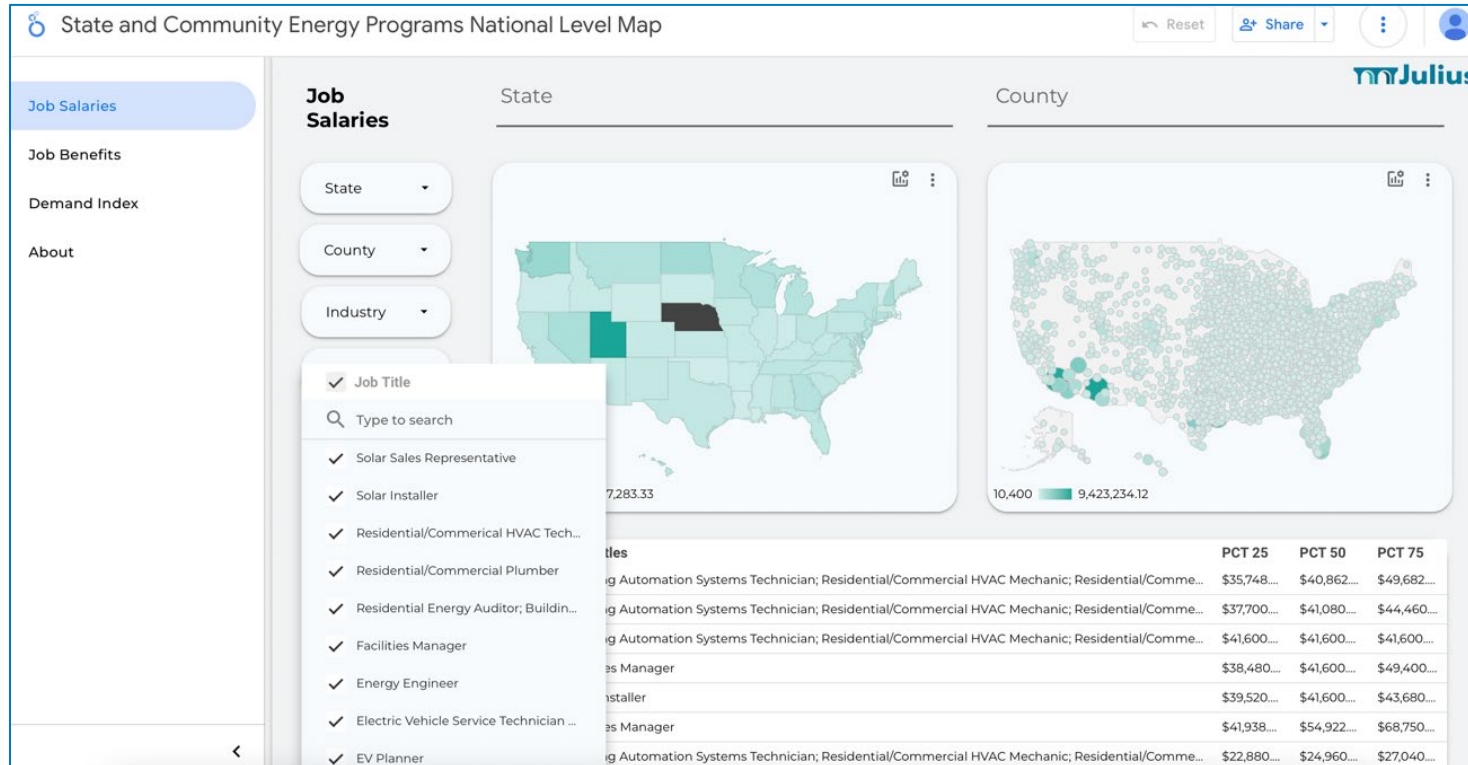
- Many clean energy occupations are difficult to find accurate data on through existing data sets such as Bureau of Labor Statistics or the US Energy and Employment Report.
- Datasets show employment in the past (ex: last quarter, last year), not current demand.



<https://www.energy.gov/policy/us-energy-employment-jobs-report-useer>

New Project: Energy Jobs Dashboard

The Energy Labor Market Dashboard will illustrate “real time” clean energy job market for specific occupations for each state.



Mock-up of potential dashboard, provided by Julius Education

The project utilizes AI to search real time job listings for ~20 select clean energy occupations. It will also track changes in the volume of job listings over time.

FEEDBACK: Priority Occupations

	Industry	Occupation
1	Buildings/Industrial Decarbonization	Residential Energy Auditor
2		Commercial Building Assessor/Analyst
3		Weatherization/Home Performance Technician
4		Building Automation Systems Technician
5		Energy Manager/Engineer
6		Facilities/Building Manager (with energy as part of JD)
7		Residential HVAC Heat pump mechanics and installers
8		Commercial HVAC Heat pump mechanics and installers
9		Residential Plumbing Heat pump water heater mechanics and installers
10		Commercial Plumbing Heat pump water heater mechanics and installers
11		Building Energy Code Official
12		Building Controls Installer
13	Automotive	Electric Vehicle service technicians and mechanics
14		EV Planner
15		Electric Vehicle charging station installers and technicians
16	Solar	Solar Site Assessor
17		Solar Sales Representative
18		Solar Installer
19	Wind	Wind Site Assessor
20		Wind Technician

1. What occupations do you think should NOT be on this list?
2. What occupations do you think are MISSING from this list?

FEEDBACK: Dashboard Elements

1. Indexed map showing relative volume of job postings by state
 - Filtered by occupation
 - Index compares volume of job postings to working age population
2. Time series data will show change over time (quarterly) for each occupation and state in the volume of job postings
3. Description of each occupation, including common skills, education/certifications, and salary/benefit info if available (based on job descriptions found)

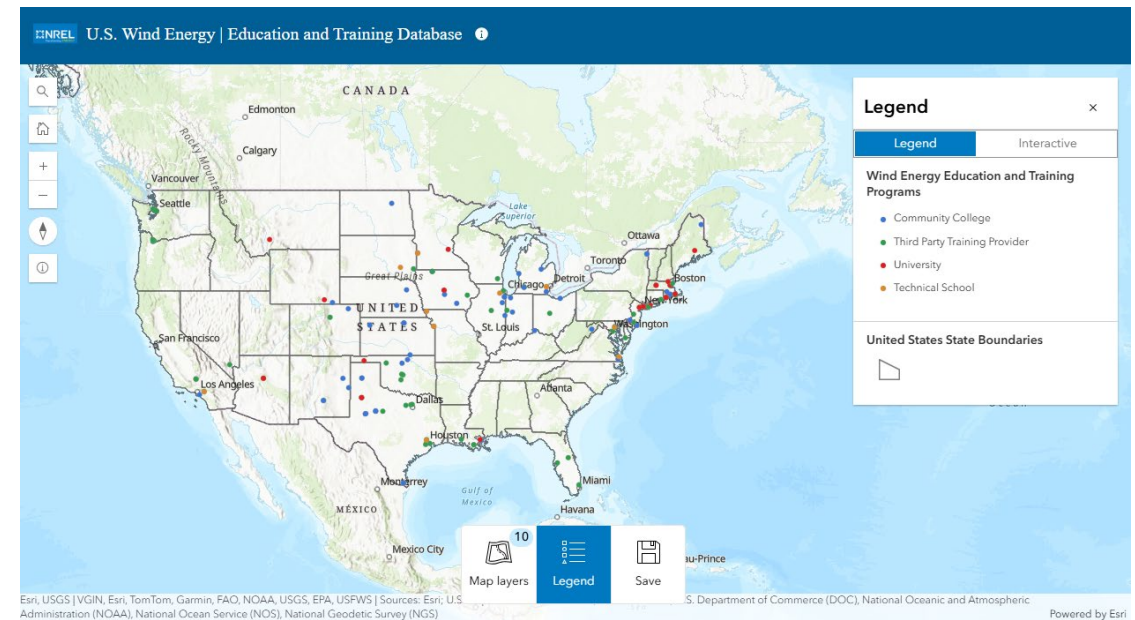
What questions or concerns do you have?

Energy Program Mapping

NREL

Background

- To find existing clean energy training, education, and certification programs in a state, you need to search several different websites and datasets.
- This is especially challenging for industries such as building efficiency and advanced manufacturing/ industrial decarbonization.



<https://megamaps.arcgis.com/apps/instant/atlas/index.html?appid=f473f133b531440ea6e62679be2c2a8c>

New Project: Energy Program Map

NREL and SEP are investigating opportunities to map clean energy training/education program in a single searchable tool.

OPTION 1: Mapping data from an in-the-works DOE Office of Energy Jobs research project

- Benefits: existing data for programs training to the occupations most impacted by BIL/IRA/CHIPS investments; data available on number of students completing programs, and some demographic data.
- Drawbacks: occupations are not clean energy specific, and only look at registered apprenticeship programs and programs at institutions of higher education that are funded by the U.S. Dept. of Education.

New Project: Energy Program Map

OPTION 1: Office of Energy Jobs Occupations List

SOC	Detailed Occupation
47-2061	Construction Laborers
47-2111	Electricians
47-2031	Carpenters
51-2000	Assemblers and Fabricators
51-9160	Computer Numerically Controlled Tool Operators and Programmers
47-2152	Plumbers, Pipefitters, and Steamfitters
47-2073	Operating Engineers and Other Construction Equipment Operators
51-4000*	Metal Workers and Plastic Workers
49-9040	Industrial Machinery Installation, Repair, and Maintenance Workers
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers
17-2000*	Engineers
51-9010	Chemical Processing Machine Setters, Operators, and Tenders
11-9021	Construction Managers
49-2094	Electrical and Electronic Equipment Mechanics, Installers, and Repairers
47-5020	Surface Mining Machine Operators and Earth Drillers
51-8000	Power plant operators
51-4121	Welders, Cutters, Solderers, and Brazers
17-2071	Electrical Engineers

New Project: Energy Program Map

Option 2: Collect and map similar program data to OEJ project, but for select clean energy-specific occupations

- Benefits: data available on number of students completing programs, and some demographic data.
- Drawbacks: this would look only at registered apprenticeship programs and programs at institutions of higher education that are funded by the U.S. Dept. of Education.

FEEDBACK

Does this feel like a valuable tool?

Do you have a preference for Option 1 or 2?

What other ideas do you have?

What information would be useful for you in a tool like this?

Wrap Up/Final Questions

NREL

A satellite view of Earth at night, showing the Western Hemisphere. The United States and parts of Canada and Mexico are visible, with city lights glowing across the landmasses. The sun is visible on the left horizon, creating a bright glow and lens flare.

Thank you

www.nrel.gov



Thank you!

General Questions/
Discussion

