

Subject Specific Grant Guide

Grants to Support Grid Modernization Projects

This guide identifies funding opportunities released in the previous year. Please note that this guide may not capture all available funding opportunities. Additionally, some programs may have changed or may not be released due to shifting administrative priorities among funding agencies. The grants included here represent traditionally offered opportunities intended to serve as a reliable foundation for your funding research.

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FEDERAL
GRANT PROFILE

Department: U.S. Department of Agriculture
Agency: Office of Rural Development

FY 2025 Electric Infrastructure Loan and Loan Guarantee Program

Grant Overview

The purpose of this program is to maintain and improve electric infrastructure in rural communities nationwide to increase economic opportunities and quality of life. This program provides loans and loan guarantees for the construction of electric distribution, transmission, and generation facilities, including system improvements to improve electric service in rural areas, as well as demand side management, energy conservation programs, and on-grid and off-grid renewable energy systems. Eligible applicants are retail or power supply providers including state and local government entities, federally recognized tribes, nonprofits, and for-profit businesses.

Program History

	Total Funding	# of Awards
2024	$6.02 billion	65
2022	$2.7 billion	64

Key Information and Tips

Total Funding: Unspecified
Award Range: Varies
Match: Not required
Proposal due: Rolling

- To initiate the application process, applicants must contact the appropriate general field representative

https://www.rd.usda.gov/programs-services/electric-infrastructure-loan-loan-guarantee-program

Awardee Profile

Shenandoah Valley Electric Cooperative
Mount Crawford, VA

LOAN AMOUNT: $66 million
YEAR: 2024

This Rural Development investment will be used to connect 3,370 consumers and build 122 miles of line. Shenandoah Valley Electric provides service to nearly 99,500 accounts over 8,009 miles of line in ten counties and three independent cities in western Virginia.

Department: U.S. Department of Agriculture
Agency: Office of Rural Development

FY 2025 Electric Infrastructure Loan and Loan Guarantee Program

Detailed Summary

The purpose of this program is to maintain and improve electric infrastructure in rural communities nationwide in order to increase economic opportunities and quality of life. This program provides investment capital in the form of insured loans and loan guarantees for the construction of electric distribution, transmission, and generation facilities, including system improvements and replacement required to furnish and improve electric service in rural areas, as well as demand-side management, energy conservation programs, and on-grid and off-grid renewable energy systems.

Funds may be used to finance:

- Maintenance
- Upgrades
- Expansion
- Replacement of distribution, subtransmission, and headquarters facilities
- Energy efficiency
- Renewable energy systems

The program may also provide hardship loans for qualified applicants in rural areas that are either economically distressed or recovering from an unavoidable event, such as a natural disaster.

All facilities receiving financing through this program must be used for public purposes.

Applicant Eligibility

Eligible applicants are retail or power suppliers including state and local government entities, federally recognized tribes, nonprofits, and for-profit businesses. Eligible nonprofits include cooperatives and limited dividend or mutual associations.

Projects must serve qualified rural areas. Applicants should contact the appropriate general field representative (GFR) for their region to determine whether the proposed service area of the project qualifies as rural.

Applicants must have the legal authority to provide, construct, operate, and maintain the proposed facilities or services. Partnerships with federal, state, local, private, and nonprofit entities are encouraged.

Funding

In FY 2025, an unspecified amount of funding is available to support insured loans and loan guarantees through this program.

The interest rate for Treasury-rate loans and loan guarantees will be fixed at the time of each advance, based on rates established daily by the U.S. Treasury plus 1/8 of 1 percent. The interest rate of hardship loans will be fixed at 5 percent for up to 35 years. Additional information regarding interest rates for this program can be found online at *rd.usda.gov/interest-rates*.

In general, loan repayments may not exceed the useful life of the facility being financed, with a maximum repayment schedule of 35 years. Power supply borrowers will be limited by the terms of their wholesale power contracts.

Match and Cost Sharing

There are no stated matching requirements for this program.

Contact Information

Questions should be directed to the program staff, or to the appropriate general field representative (GFR) listed online at *https://www.rd.usda.gov/contact-us/electric-gfr*.

https://www.rd.usda.gov/programs-services/electric-infrastructure-loan-loan-guarantee-program

FEDERAL
GRANT PROFILE

Department: U.S. Department of Agriculture
Agency: Rural Development

FY 2026 Rural Energy for America Program (REAP): Energy Audits (EA) and Renewable Energy Development Assistance (REDA) Grants

Grant Overview

This program assists small rural businesses and agricultural producers by conducting and promoting energy audits and providing renewable energy development assistance. Eligible applicants are state and local governments, federally recognized Indian tribes, institutions of higher education, rural electric cooperatives, public power utilities, instrumentalities of state, local, or tribal governments and resource conservation and development councils.

Program History

Year	Total REAP Funding	# of Awards
2023	Unspecified	47

Key Information

Total Funding: Unspecified
Award Range: Up to $100,000
Match: 25 percent of audit cost
Solicitation date: October 16, 2024
Proposal due: March 31, 2026

- Funding through this program is also available for the Renewable Energy Systems and Energy Efficiency Improvement Assistance Program

Click here for more information.

Awardee Profile

North Carolina State University
Year: 2023
Amount: $99,737

This Rural Development assessment will be used to conduct approximately 26 renewable energy site assessments for rural small businesses and agricultural producers. These assessments will provide analysis to install renewable energy systems to these operations.

Department: U.S. Department of Agriculture
Agency: Rural Development

FY 2026 Rural Energy for America Program (REAP): Energy Audits (EA) and Renewable Energy Development Assistance (REDA) Grants

Detailed Summary

The purpose of this program is to provide support to eligible organizations to provide energy audits (EAs) and renewable energy development assistance (REDA) to enable agricultural producers and rural small businesses to become more energy efficient and to use renewable energy technologies and resources. Additional consideration will be given to projects that meet one or more of the following criteria:

- Have a service area that consists of more than a single county or municipality
- Serve 11 or more ultimate recipients

Projects must serve agricultural producers and rural small businesses. Rural small businesses must be located in eligible rural areas; however, this restriction does not apply to agricultural producers. For the purposes of this program, rural areas are defined as areas outside of cities and towns with a population of greater than 50,000 inhabitants and the urbanized areas contiguous and adjacent to these cities or towns.

Applicant Eligibility

Eligible applicants are states, local governments, federally recognized Indian tribes, institutions of higher education, rural electric cooperatives, public power utilities, instrumentalities of state, tribal, and local governments, and resource conservation and development councils. Applicants must assist agricultural producers and rural small businesses. A map of eligible rural areas can be found at eligibility.sc.egov.usda.gov.

Projects that have a service area that consists of more than a single county or municipality will be awarded additional points during the application evaluation process.

Applicants that demonstrate two years or more of experience in providing proposed energy audit (EA) or renewable energy development assistance (REDA) activities will be awarded additional points during the application evaluation process.

An applicant may submit no more than one energy audit award application and one renewable energy development assistance award application for the current funding cycle, and separate applications must be submitted for each type of funding. Applications for a combination of energy audit awards and renewable energy development assistance awards will not be accepted.

Funding

An unspecified amount of funding is available to support awards of up to $100,000 each through this program.

The funding agency will determine, based on the applicable departmental regulations, whether awarded funds will be provided on an advance or reimbursement basis. Applicants should detail any additional matching contributions for the project in the application. Applicants that provide at least 5 percent of the total project cost via matching contributions will be awarded additional points during the application evaluation process.

Project income must be used to further the objectives of the project or energy audit services offered. Administrative expenses are limited to 5 percent of the award amount.

Matching and Cost-Share

Applicants for energy audit (EA) awards must require the agricultural producer or rural small business receiving the audit to pay at least 25 percent of the cost of the audit. Applicants that provide at least 5 percent of the total project cost via matching contributions will be awarded additional points during the application evaluation process. The points awarded will increase according to the size of the match provided.

Contact Information

Jonathan Burns
(774) 678-7238
CPgrants@usda.gov

Questions should be directed to Johnathan Burns, or the appropriate State Rural Development Energy Coordinator.

https://www.rd.usda.gov/programs-services/energy-programs/rural-energy-america-program-renewable-energy-systems-energy-efficiency-improvement-guaranteed-loans

FEDERAL
GRANT PROFILE

Department: U.S. Department of Agriculture
Agency: Rural Development

FY 2026 Rural Energy for America Program (REAP): Renewable Energy Systems (RES), Energy Efficiency Improvement (EEI), and Energy Efficient Equipment and Systems (EEE) Guaranteed Loans and Grants

Grant Overview

The purpose of this program is to provide grants and guaranteed loans to agricultural producers and rural small businesses for renewable energy systems or to make energy efficiency improvements. Eligible applicants are agricultural producers with at least 50 percent of gross income coming from agricultural operations and small businesses in rural areas, including private for-profit entities, cooperatives, electric utilities, and tribal corporations or other tribal business entities. Eligible borrowers for loan guarantees are rural small businesses and agricultural producers.

Program History

Year	Total REAP Funding	# of Awards
2024	$162 million	338

Key Information

Total Funding: Unspecified
Award Range: Varies
Match: Varies
Solicitation date: October 16, 2024
Proposal due: Rolling

More information can be found here.

Awardee Profile

Durst Organic Growers Inc, CA

AMOUNT: $19,788
YEAR: 2024

This project received funding to help offset the costs associated with installing energy efficient evaporators with electronic expansion valves and electronic controllers. The energy efficiency improvement is estimated to save 4,174 kilowatt hours (kWh) per year.

Department: U.S. Department of Agriculture
Agency: Rural Development

FY 2026 Rural Energy for America Program (REAP): Renewable Energy Systems (RES), Energy Efficiency Improvement (EEI), and Energy Efficient Equipment and Systems (EEE) Guaranteed Loans and Grants

Detailed Summary

The purpose of this program is to provide grants and guaranteed loans to agricultural producers and rural small businesses for renewable energy systems or to make energy efficiency improvements. Agricultural producers may also apply for new energy-efficient equipment and new system loans for agricultural production and processing.

Funds may be used for the purchase and installation of renewable energy systems, such as:

- Biomass, including biodiesel and ethanol, anaerobic digesters, and solid fuels
- Geothermal for electric generation or direct use
- Hydropower below 30 megawatts
- Hydrogen
- Small and large wind generation
- Small and large solar generation
- Ocean generation, including tidal, current, and therma

Funds may also be used for the purchase, installation, and construction of energy efficiency improvements, such as:

- High-efficiency heating, ventilation, and air conditioning systems (HVAC)
- Insulation
- Lighting
- Cooling or refrigeration units
- Doors and windows
- Electric, solar, or gravity pumps for sprinkler pivots
- Switching from a diesel to electric irrigation motor
- Replacement of energy-inefficient equipment

Applicant Eligibility

Eligible applicants are agricultural producers with at least 50 percent of gross income coming from agricultural operations and small businesses in rural areas, including private for-profit entities, cooperatives, electric utilities, and tribal corporations or other tribal business entities.

Eligible borrowers for loan guarantees are rural small businesses and agricultural producers.

Projects must be located in rural areas with populations of 50,000 residents or fewer; however, agricultural producers may submit projects to be located in non-rural areas as long as the project is associated with an on-site production operation. Applicants may check eligible rural areas online.

Private entity borrowers must demonstrate that loan funds will remain in the United States.

Funding

An unspecified amount of funding is available to support grants, guaranteed loans, and combined grants and guaranteed loans through this program. Grant amounts will vary according to project type as follows:

- Renewable energy systems: grants ranging from $2,500 to $1 million
- Energy efficiency systems: grants ranging from $1,500 to $500,000

Awards will be issued following the state competitions that will be held after the close of each application window.

For grants, the project period may last up to 24 months. For guaranteed loans, the project period will be governed by the loan terms.

Guaranteed loan terms will be based on the use of guaranteed loan funds, the useful economic life of the assets being financed and those used as collateral, and the borrower's repayment ability. Loan terms will not exceed 40 years.

Interest rates for guaranteed loans will be negotiated between the lender and borrower. Rates may be fixed or variable; however, variable interest rates may not be adjusted more often than quarterly.

Matching and Cost Sharing

Matching requirements will vary according to award type, as follows:

- Grants: applicants must provide at least 50 percent of the total project costs
- Guaranteed loans: applicants must provide at least 25 percent of the total project costs
- Combined grants and guaranteed loans: applicants must provide at least 25 percent of the total project costs

For guaranteed loans, there is an initial guarantee fee, which is currently 1 percent of the guaranteed amount. There is also a guarantee retention fee, which is currently 0.25 percent of the outstanding principal balance, paid annually. Reasonable and customary fees for loan origination will be negotiated between the borrower and lender.

Contact Information

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https://www.rd.usda.gov/programs-services/energy-programs/rural-energy-america-program-renewable-energy-systems-energy-efficiency-improvement-guaranteed-loans

FEDERAL
GRANT PROFILE

Department: U.S. Department of Energy
Agency: Grid Deployment Office

FY 2024 BIL– Grid Resilience and Innovation Partnerships (GRIP): Grid Innovation Program (Section 40103(b))

Grant Overview

The Grid Resilience and Innovation Partnership Program (GRIP) is a combination of three individual Infrastructure Investment and Jobs Act programs combined under one application. The three programs that encompass GRIP are the competitive Grid Resilience Grants (40101c), the Smart Grid Grants (40107), and Grid Innovation Program (40103b). This overview focuses on the Grid Innovation Program.

Program History

	Total Funding	# of Awards
2022/2023	$1,439,896,327	8

Key Information and Tips

Total Funding: $1.82 billion
Award Range: Up to $250 million (increased award size of $1B for award of interregional transmission projects only)
Match: 50%
Solicitation date: November 13, 2023
Proposal Due: January 12, 2024 (Concept Papers), May 22, 2024 (Full Application)

- Applicants must submit a Community Benefits Plan and corresponding budget.
- Applications that have partnerships with critical entities to ensure project success are a priority

Awardee Profile

Louisiana Department of Natural Resources, LA

AMOUNT: $249,329,483
YEAR: 2022

The State of Louisiana: Louisiana Hubs for Energy Resilient Operations (HERO) Project received funding to establish a foundational approach for accelerating more abundant, affordable, and reliable clean energy for greater power resilience in the face of rising extreme weather and more frequent natural disasters.

Department: U.S. Department of Energy
Agency: Grid Deployment Office

FY 2024 BIL– Grid Resilience and Innovation Partnerships (GRIP): Grid Innovation Program (Section 40103(b))

Detailed Summary

This program seeks to provide financial assistance to one or multiple states, Tribes, local governments, and public utility commissions to collaborate with electric sector owners and operators to deploy projects that use innovative approaches to transmission, storage, and distribution infrastructure to enhance grid resilience and reliability. Projects selected under Topic Area 3 may include technical and/or non-technical (e.g., focused on regulatory or business model innovation) approaches that improve grid reliability and resilience on the local, regional, and interregional scales. Applications may address the transmission system, the distribution system, storage, or a combination. Department of Energy (DOE) particularly seeks projects that include Independent System Operators (ISO), Regional Transmission Organizations (RTO), and/or Power Pools and will progress the field in the following areas: demonstrate an innovation in the approach to the project or deploy a technology innovation

FY24 GRIP Strategic Goals: DOE has identified three strategic goals for FY24 GRIP, including:

- Goal #1: Transform the U.S. electric grid at the transmission and distribution levels by increasing resilience in the face of extreme disruptions, enabling data-rich and flexible grid performance, and spurring innovation at all stages of project ideation and execution. Priorities for all Topic Areas include:
    - Increase regional and interregional electricity transfer capacity;
    - Increase system resilience in the face of climate change-induced natural disasters;
    - Address the most consequential system challenges that contribute to the increasing interconnection queue time for clean energy;
    - Enable data-rich and flexible grid performance v. spur innovation at all stages of project ideation and execution; and
    - Facilitate clean energy deployment, generation mix diversity, and other system benefits
- Goal #2: Prioritize energy justice as an essential component of infrastructure development by dramatically altering the relationship between energy providers and their communities. The projects funded under this program will demonstrate clear additionality and innovation in community and labor engagement, and a departure from a “business-as-usual” approach.
- Goal #3: Catalyze and leverage private sector and non-federal public capital for impactful technology and infrastructure deployment and foster an environment for sharing of best-practices and replication throughout the industry.

Project results should enable asset owners and operators to effectively articulate within local, state, regional and federal decision-making frameworks the economic, technical, and societal benefits of deploying new innovative technologies that improve system reliability and resilience.

Priority Areas of Investment: DOE has identified Projects and Technologies that are considered a high priority for FY24 GRIP:

- Projects that cover multiple utility service territories that will evolve and share utility best practices that increase resilience against extreme weather and adapt to the changing energy and technology landscapes.
- Projects that address substation hardening, including the automation and digitization of substations, and/or coordination with upgrades that enable distributed energy resource integration and electrification readiness.
- Projects that propose to construct new transmission infrastructure to resolve a specific and identified contingency condition that the applicant has been unable to resolve using standard investment and planning approaches.
- Projects that significantly increase the transmission capacity of existing rights-of-way using advanced conductors, grid-enhancing technologies, or high-voltage direct current in coordination with investments that enable integration and full utilization of high-capacity corridors.
- Projects that will deploy solutions to increasing the processing of interconnection applications and minimize the queue-related delays for clean energy and electrification loads at both the transmission and distribution levels.
- Projects that in combination with priority investments will foster growth of a highly skilled power sector workforce and minimize workforce constraints associated with power sector innovation.
- Projects that have a significant impact on the transmission system, including projects that leverage advanced transmission technologies and can reduce or remove the existing technical, economic, and regulatory barriers, demonstrate enhanced operational flexibility or capacity, and that enhance reliability to accelerate wide scale transmission expansion and renewable energy interconnection.
- Projects that implement novel and replicable approaches to reducing energy burden and increasing resilience for disadvantaged communities, especially projects that increase access to cheaper generation resources and reduce the impact of infrastructure costs.

Topic Area 3: Grid Innovation Program (40103(b)) Objectives: The 40103(b) program is targeted at achieving the strategic goals listed above through high-impact, innovative projects. DOE seeks applications that may include technical and/or non-technical (e.g., focused on regulatory or business model innovation) approaches that improve grid reliability and resilience on the local, regional, and interregional scales. Applications may address the transmission system, the distribution system, storage, or a combination. DOE particularly seeks projects that include Independent System Operators (ISO), Regional Transmission Organizations (RTO), and/or Power Pools and will progress the field in the following areas: demonstrate an innovation in the approach to the project or deploy a technology innovation.

- Projects that improve the reliability and resilience of the electrical grid especially in light of the need for significant changes to grid infrastructure driven by additions of clean generation (including over broad geographical areas) and electrification load (including in load pockets), updates to legacy assets, and increasing stress from climate-related weather events and other threats to physical

infrastructure. Projects should provide a clear description of how the proposed scope will enable a high quality of affordable electrical service given the need for these significant changes.

- Projects that leverage this program to affect durable and transformative change within and beyond the impacted project area, both through accomplishment of the specific project scope proposed as well as through use of that scope to de-risk or establish a novel approach that can be used for similar projects. For example, proposed projects may make use of novel approaches to project planning or cost allocation that would be adopted for future projects, novel organizational structures that would persist past the scope of the project, and/or novel technical approaches that can easily be replicated at additional sites.
- Projects that demonstrate meaningful public/private partnership approaches through strategic involvement of both public and private sector actors. In particular, DOE recognizes that while eligibility for this topic area is restricted to States, local governments, Tribes, and public utility commissions, many projects may be executed primarily by private sector subrecipients. In these cases, applications should describe the approach of the public sector applicant and any additional public sector project partners to providing support to the overall project goal, including through policy and/or regulatory actions, and the approach that public sector entities will take to promote replicability of the proposed project structure. Applications combining multiple approaches are encouraged, and all applications should demonstrate how the proposed new, innovative approaches interact with each other and any existing infrastructure to increase overall system resiliency. Applications that invest in America's workforce; advance energy and environmental justice and support the goals of the Justice40 Initiative; engage in meaningful community and stakeholder engagement; and advance diversity, equity, inclusion, and accessibility are of particular importance in this topic area. This also includes leveraging existing local, state, regional, and federal resources that identify system needs, including the National Transmission Needs Study27. Technical approaches of interest and priority investments are discussed, but are not limited to, the below. Applicants are encouraged to clearly situate proposed projects within broader State, local, Tribal, and regional strategies on resilience, energy security, energy, and environmental justice, and decarbonization.

Applications under this topic area may address the transmission system, the distribution system, storage, or a combination. Under this topic area, DOE seeks applicants to use ambitious and innovative project concepts to address the following areas of particular interest:

- Innovative project approaches on the transmission system, including those leveraging advanced transmission technologies and those that can reduce or remove the existing technical, economic, and/or regulatory barrier(s) necessary to accelerate wide scale transmission expansion and renewable energy interconnection. Proposed solutions should demonstrate enhanced transmission system operational flexibility or capacity while enhancing reliability. Projects that meet these objectives are eligible for a higher maximum federal award. Applications may include one or more of the following approaches of interest:
    - Planning, modeling, cost allocation, investments, and strategies that accelerate interconnection of clean energy generation and/or storage, or delivery of service for electrification-related load;
    - Interregional or cross-ISO/RTO projects that address key grid reliability, flexibility, and/or resilience challenges, including any challenges or needs identified by local, regional, or

national analyses such as IRPs, ISO/RTO transmission planning studies, the National Transmission Needs Study, or the Atlantic Offshore Wind Transmission Study;
    - Transmission lines which have been identified by the relevant grid operator/ISO/RTO as needed or as supporting the deployment of clean energy resources Addressing grid integration challenges for difficult-to-access clean generation resources, including offshore wind and geothermal generation;
    - Major new transmission lines using approaches to reduce permitting and execution risk, including through leveraging novel permitting or land acquisition authorities and approaches, use of other relevant existing rights-of-way such as highway corridors, and other relevant approaches;
- Demonstration of reliable and resilient distribution system operations given high penetrations of distributed renewable generation, energy storage, and flexible customer loads as a percentage of total load, up to and including "full electrification" scenarios in a well-defined portion of a distribution system. Relevant projects may incorporate: o Electrification of industrial, commercial, and building energy uses including through district energy systems; o Black-start capable systems and control approaches to minimize negative impacts during power grid disruptions; o Provision of grid services in real time from distributed, advanced grid forming inverter-based systems at sufficient scale and system complexity, especially when based on locationally- and temporally specific system conditions rather than system-wide peak conditions or resource availability constraints.
- Behind the meter asset operations, aggregation, and coordination to provide demand response and grid services, including building systems, distributed generation, energy storage, electric vehicle fleets and others.
- Projects applications for energy storage may be applied to the transmission system, the distribution system, or a combination. o Innovative storage projects that deploy utilize renewable energy resources or varied energy storage in innovative and replicable ways to provide specific resilience benefits;
    - Strategic deployment of storage technologies in communities or regions that experience frequent extreme weather or other natural disasters or to provide a specific ability to better integrate variable renewable energy and electrification load. Applications should explicitly discuss why energy storage is the most beneficial and cost-effective approach to providing these benefits, especially as compared to traditional grid infrastructure. Projects may include any type of energy storage;
    - Innovative storage technologies that offer different performance characteristics than lithium-ion battery energy storage systems, provided that such technologies are market-ready, and the proposed project is not focused on retiring technical risks.
- Transformative projects that enable coordinated operations and/or planning across the transmission and distribution networks, resulting in improved combination system applications and joint resilience, functionality, and cost-effectiveness across both grid sectors. This could involve using assets in one sector to provide services to the other in a manner that mitigates specific upgrade or expansion requirements, or efforts to improve visibility and communication across sectors to allow for optimization of grid planning or operations.
- Applications that demonstrate novel and replicable approaches to reducing energy burden and increasing resilience for disadvantaged communities, especially projects that increase access to cheaper generation resources, reduce the impact of infrastructure costs, or both. Applications that

reduce energy burden in combination with one or more of the above objectives are of particular interest.

- Applications that include technologies, approaches, or other innovative techniques that are not specifically addressed above but have the potential to meet the goals and objectives of this topic area by demonstrating innovative approaches or enhancing regional resilience are eligible for consideration.

In addition, all teams should clearly articulate their strategy to enable widescale adoption of their proposed solutions following a successful demonstration and their intended commitment to utilize these or resultant solutions within their own systems and jurisdictions. Projects selected under this topic area will attempt to resolve technical and commercial adoption barriers by increasing stakeholder confidence in the performance, cost, and value characteristics of their proposed system. To ensure maximum impact following these demonstrations, a clear plan to disseminate findings, replicate successes, incorporate the outcomes of the demonstrations into investment decision-making frameworks, and activate additional public and private capital is crucial. These plans should consider which stakeholders and decision makers must be informed as to the demonstration results, what types and quality of information would lead to concrete investment decisions, and how to integrate with local, Tribal, state, and regional energy strategies and transition plans to amplify overall impact and rate of adoption. Initial strategies should be presented in the application, but it is expected that these plans will be developed more fully over the course of the project.

Applications not of interest: DOE has delineated projects that they are not interested in funding for Topic Area 3:

- For applications that contain a public-private sector partnership, an application that does not demonstrate a meaningful level of collaboration among the entities.
- Applications for projects in which prime applicants propose to suballocate funding according to schema that lack sufficient detail for DOE to evaluate their potential impact, or that are presented at a concept-level stage.

Applicant Eligibility

Eligible applicants include states, a combination of 2 or more states, Indian tribes, local governments, and public utility commissions.

Matching and Cost Share

Topic Area 3 requires at least a 50% cost share. The cost share must come from non-federal sources unless otherwise allowed by law.

Funding

In FY 2024, approximately $1.82 billion in funding is available to support an estimated 4- 40 awards up to $250 million. An increased award size of $1 billion may be awarded for interregional transmission projects only that deploy significant transmission investments.

The project period is 60- 96 months.

Contact Information

DOE personnel are prohibited from communicating (in writing or otherwise) with applicants regarding the FOA except through the established question and answer process as described below. Specifically, questions regarding the FY24 GRIP FOA must be submitted to: FOA3195@netl.doe.gov. Questions must be submitted not later than 3 business days prior to the application due date and time. Please note, feedback on individual concepts will not be provided through Q&A.

All questions and answers related to this FOA will be posted on Exchange at: https://infrastructure-exchange.energy.gov/. You must first select this specific FOA Number to view the questions and answers specific to this FOA.

Grid Deployment Office (GDO) will attempt to respond to a question within 3 business days unless a similar question and answer has already been posted on the website.

Questions related to the registration process and use of the Exchange website should be submitted to: InfrastructureExchangeSupport@hq.doe.gov.

FEDERAL
GRANT PROFILE

Department: U.S. Department of Energy
Agency: Grid Deployment Office

FY 2024 BIL– Grid Resilience and Innovation Partnerships (GRIP): Grid Resilience (Section 40101(c))

Grant Overview

The Grid Resilience and Innovation Partnership Program (GRIP) is a combination of three individual Infrastructure Investment and Jobs Act programs combined under one application. The three programs that encompass GRIP are the competitive Grid Resilience Grants (40101c), the Smart Grid Grants (40107), and Grid Innovation Program (40103b). This overview focuses on the Grid Resilience Grants, also known as Preventing Outages and Enhancing the Resilience of the Electric Grid/Hazard Hardening Program.

Program History

	Total Funding	# of Awards
2022/2023	$919,420,073	16

Key Information

Total Funding: $918 million
Award Range: Either the total of the applicant's last three years of resilience investments or $100 million, whichever is lower
Match: 50%
Match for Small Utility: Varies
Solicitation date: November 13, 2023
Proposal due: January 12, 2023 (Concept Paper), April 17, 2024 (Full Application)

Awardee Profile

Southern Maryland Electric Cooperative, MD

AMOUNT: $33,567,016
YEAR: 2022

The SMECO Transmission, Distribution, and Communications Resiliency Initiative will implement multiple projects to harden and protect the system. These projects include replacing and hardening transmission lines with new steel structures, strategic undergrounding, and installing high-capacity fiber optical wire for communications.

Department: U.S. Department of Energy
Agency: Grid Deployment Office

FY 2024 BIL– Grid Resilience and Innovation Partnerships (GRIP): Grid Resilience (Section 40101(c))

Detailed Summary

This program supports activities that reduce the likelihood and consequence of impacts to the electric grid due to extreme weather, wildfire, and natural disaster and requires prioritization of projects that will generate the greatest community benefit (whether rural or urban) in reducing the likelihood and consequences of disruptive events.

FY24 GRIP Strategic Goals: DOE has identified three strategic goals for FY24 GRIP, including:

- Goal #1: Transform the U.S. electric grid at the transmission and distribution levels by increasing resilience in the face of extreme disruptions, enabling data-rich and flexible grid performance, and spurring innovation at all stages of project ideation and execution. Priorities for all Topic Areas include:
    - Increase regional and interregional electricity transfer capacity;
    - Increase system resilience in the face of climate change-induced natural disasters;
    - Address the most consequential system challenges that contribute to the increasing interconnection queue time for clean energy;
    - Enable data-rich and flexible grid performance v. spur innovation at all stages of project ideation and execution; and
    - Facilitate clean energy deployment, generation mix diversity, and other system benefits
- Goal #2: Prioritize energy justice as an essential component of infrastructure development by dramatically altering the relationship between energy providers and their communities. The projects funded under this program will demonstrate clear additionality and innovation in community and labor engagement, and a departure from a “business-as-usual” approach.
- Goal #3: Catalyze and leverage private sector and non-federal public capital for impactful technology and infrastructure deployment and foster an environment for sharing of best-practices and replication throughout the industry.
- Project results should enable asset owners and operators to effectively articulate within local, state, regional and federal decision-making frameworks the economic, technical, and societal benefits of deploying new innovative technologies that improve system reliability and resilience.

Priority Areas of Investment: DOE has identified Projects and Technologies that are considered a high priority for FY24 GRIP:

- Projects that cover multiple utility service territories that will evolve and share utility best practices that increase resilience against extreme weather and adapt to the changing energy and technology landscapes.
- Projects that address substation hardening, including the automation and digitization of substations, and/or coordination with upgrades that enable distributed energy resource integration and electrification readiness.
- Projects that propose to construct new transmission infrastructure to resolve a specific and identified contingency condition that the applicant has been unable to resolve using standard investment and planning approaches.
- Projects that significantly increase the transmission capacity of existing rights-of-way using advanced conductors, grid-enhancing technologies, or high-voltage direct current in coordination with investments that enable integration and full utilization of high-capacity corridors.
- Projects that will deploy solutions to increasing the processing of interconnection applications and minimize the queue-related delays for clean energy and electrification loads at both the transmission and distribution levels.
- Projects that in combination with priority investments will foster growth of a highly skilled power sector workforce and minimize workforce constraints associated with power sector innovation.
- Projects that have a significant impact on the transmission system, including projects that leverage advanced transmission technologies and can reduce or remove the existing technical, economic, and regulatory barriers, demonstrate enhanced operational flexibility or capacity, and that enhance reliability to accelerate wide scale transmission expansion and renewable energy interconnection.
- Projects that implement novel and replicable approaches to reducing energy burden and increasing resilience for disadvantaged communities, especially projects that increase access to cheaper generation resources and reduce the impact of infrastructure costs.
- Applications that include technologies, approaches, or other innovative techniques that are not specifically addressed above but have the potential to meet the goals and objectives of this topic area by demonstrating innovative approaches or enhancing regional resilience are eligible for consideration.

Topic Area 1: Grid Resilience (40101c) Objectives: Topic Area 1 is aimed to fund projects that will progress the field in the following areas:

- Projects that address comprehensive transformational transmission and distribution technology solutions that will mitigate one or multiple *specific* hazards across a region or within a community, including but not limited to wildfires, floods, high wind events including tornadoes and hurricanes, and extreme temperatures (extreme heat or extreme cold). Applications should demonstrate how risks associated with a *specific* hazard were identified and how proposed investments are targeted to mitigate those particular risks. Applications should also discuss any specific resilience needs and/or disproportionate impacts associated with severe or prolonged outages that are relevant to the region or community directly impacted by the proposed scope.
- Projects that enable a system operator to develop expertise in and demonstrate the benefits of modern approaches that go beyond a grid operator's business-as-usual framework to providing improved system resilience. Proposals should describe the extent to which the proposed approach is industry-leading and how the applicant would leverage project success to de-risk the proposed approach for broader implementation.

- Projects that are structured to encourage consistency of approach and dissemination of learnings by including participation of multiple eligible entities.
- Projects that aggregate resilience efforts across multiple service territories.

DOE encourages applicants to consider resilience in all aspects of the proposed project scope, including elements such as material selection (e.g., for replacement poles), concurrent vegetation management, and undergrounding, even if these elements are not the main focus of the proposed project. All projects proposed under this program should demonstrate that they will provide significant economic and justice benefits to communities, that they can leverage capital investment, and that they lead to repeatable solutions for other entities.

Priority Interests and Investments: Applicants will demonstrate a transformational, comprehensive approach to mitigating one or more *specific* hazards across a region or within a community. Concurrently, DOE encourages applicants to align proposed grid resilience and grid hardening investments with broader State, Tribal, or regional resilience or energy security plans. DOE is particularly interested in applications that modernize system infrastructure and improve resilience outcomes with current service territory resilience and reliability metrics as a baseline, including clear qualitative explanations of resilience challenges facing a specific set of assets. Applications in this area could include:

- Projects that demonstrate a clear strategic approach, supported with innovative uses of technology to assist in risk identification, project planning, and operation (e.g., improved forecasting, work order management, and crew deployment approaches).
- Substation hardening projects with automation and digitization scope, as well as substation hardening projects that are coordinated with upgrades to enable distributed energy resource (DER) integration and/or electrification-readiness.
- Improvement of system adaptivity specifically for resilience purposes, such as through deployment of Fault Location, Isolation, and Service Restoration (FLISR) and/or use of & smart reclosers and similar technologies.
- Projects that minimize or mitigate system conditions that exacerbate the risk of specific hazards (such as, but not limited to, wildfire occurrence) and may lead to wildfires or other system disturbances. This includes but is not limited to:
    - Monitoring and control technologies, advance modeling software, and adaptive protection devices.
    - Projects that include reconductoring and incorporating upgrades to the electric system as an ancillary requirement for hardening projects that prove overall resiliency benefits.
- Projects that cover multiple utility service territories and will evolve and share utility best practices in areas such as vegetation management, pole, and equipment replacement for storm hardening, and undergrounding. This includes projects to establish new best practices that are resilient to increasing extreme weather as well as the changing energy and related technology landscapes.
- Advanced reconductoring approaches that expand transmission and distribution capacity along existing infrastructure and rights of way using materials, equipment, and operational approaches that advance beyond current typical industry practices. This includes conductors that increase capacity/ampacity 1.5x relative to the existing equipment and especially increase capacity or advanced conductors (modern composite and/or carbon cores).
- Approaches to construct new transmission (at or above 69 kV) infrastructure to resolve a specific, identified contingency condition, provided that applicants describe the nature of the condition and

the impact of that condition on system resilience (generally or to a specific subset of customers). Applicants should include a clear explanation for why it has been unable to resolve the condition thus far under standard planning and investment approaches. Projects that satisfy these conditions are eligible for a higher maximum federal award.

In addition, there are a broad range of activities, technologies, equipment, and hardening measures to reduce the likelihood and consequences of disruptive events that are eligible for funding as specified in the applicable statutory language.

The following activities are NOT eligible for funding under Topic Area 1:

- Construction of: (I) a new electric generating facility; (II) a new large-scale battery-storage facility that is not used for enhancing system adaptive capacity during disruptive events; or (III) cybersecurity.
- Additionally, new transmission lines at or above 69 kV will not be considered for funding, except in the case that applicant clearly demonstrates that the new transmission line either completes a radial loop or solves an N-1 contingency issue.

Topic Area 1 Requirements: Topic Area 1 Requirements include the following:

- *Small utility set-aside*: Thirty percent (30%) of the total funding available for Topic Area 1 will be set aside for small utilities, which are defined as entities that sell no more than 4,000,000 MWh of electricity per year. Entities applying for this set aside must demonstrate their eligibility by submitting their total retail electricity sales to ultimate customers as reported to the Energy Information Administration (EIA) on Form 861 for the last reporting year. In addition to submission of Form 861, applications to Topic Area 1 must include a Project Description and Assurances Document (PDAD) certifying the applicant is a Small Utility (sells no more than 4,000,000 MWh of electricity per year).
- *Report on Resilience Investments*: As part of its application, an applicant must submit a report detailing past, current, and future efforts by the eligible entity to reduce the likelihood and consequences of disruptive events. The report must summarize any program and related approved funding that the applicant's organization has implemented over the past 3 years to reduce the likelihood of events in which operations of the electric grid are disrupted, preventively shut off, or cannot operate safely due to extreme weather, wildfire, or a natural disaster. The report must also summarize current and future efforts planned over at least the next 3 years to reduce the likelihood and consequences of disruptive events. In addition to submission of the report, applications to Topic Area 1 must include a PDAD that confirms the total amount (USD) of qualifying resilience investments that have been spent for the previous 3 years and the time period utilized for calculation of the reported amount.
- *Funding supplemental to existing efforts:* Grants under this program are in general intended to be supplemental to existing hardening efforts of applicants for any given year. "Existing hardening efforts" includes projects that have been funded in whole or part by a subaward under the Grid Resilience Formula Funding for States and Indian Tribes (BIL 40101(d)20) program. The applicant should describe in the technical volume how the grant funding provided by this program would result in proposed activities that are additional to efforts that would have been undertaken but-for the funding and will generate the greatest community or regional resilience benefit in reducing the likelihood and consequences of disruptive events. This may include the acceleration or expansion of planned activities that would not be accelerated or expanded but-for the funding. The narrative

should reference the Report on Resilience Investments to demonstrate how the proposed activities would be additional to existing planned investments.

- Biennial Report to Congress: Every two years, DOE will submit a report to Congress covering data on the cost of projects, the types of activities funded, and the extent to which the ability of the power grid to withstand disruptive events has increased. Awardees will be required to track and report this data to DOE.

APPLICATION LIMITATIONS. — Applicants cannot submit an application for GRIP Topic Area 1 and Section 401019d) formula grants during the same application cycle. If the application is a subawardee for the formula funding application, then they must describe how the Topic 1 GRIP application is different in the PDAD of this application.

Applicant Eligibility

Eligible applicants include electric grid operators; electricity generators; electricity storage operators; transmission owners or operators; distribution providers; and fuel suppliers. As appropriate, ensuring that the state, Tribe or territory is engaged in the approach is important. The expectation of the Department is that regulatory stakeholders will be engaged in this process to ensure cost recovery of the concepts are achieved.

Funding

In FY 2024, approximately $918 million in funding is available to support an estimated 10-20 awards of up to $100 million or the total of the applicant's last three years of resilience investments, whichever is lower. Approximately 3 of the awards and 30 percent of funding will be reserved for small utilities that sell no more than 4,000,000 MWh of electricity per year. Entities seeking funding under the small utility set aside must demonstrate their eligibility by submitting their total retail electricity sales to ultimate customers as reported to the Energy Information Administration (EIA) on Form 861 for the last reporting year. In addition to submission of the Form 861, small utility applications must include a Project Description and Assurances Document.

The project period is 60 months.

Matching and Cost Share

Topic Area 1 cost share requirement for this program is 50 percent of the total project's costs; however, small utilities are only required to provide a 1/3 match.

Contact Information

DOE personnel are prohibited from communicating (in writing or otherwise) with applicants regarding the FOA except through the established question and answer process as described below. Specifically, questions regarding the FY24 GRIP FOA must be submitted to: FOA3195@netl.doe.gov. Questions must be submitted not later than 3 business days prior to the application due date and time. Please note, feedback on individual concepts will not be provided through Q&A.

All questions and answers related to this FOA will be posted on Exchange at: https://infrastructure-exchange.energy.gov/. You must first select this specific FOA Number to view the questions and answers specific to this FOA.

Grid Deployment Office (GDO) will attempt to respond to a question within 3 business days unless a similar question and answer has already been posted on the website.

Questions related to the registration process and use of the Exchange website should be submitted to: InfrastructureExchangeSupport@hq.doe.gov.

Preventing Outages and Enhancing the Resilience of the Electric Grid/Hazard Hardening Program.

FEDERAL
GRANT PROFILE

Department: U.S. Department of Energy
Agency: Grid Deployment Office

FY 2024 BIL– Grid Resilience and Innovation Partnerships (GRIP): Smart Grid Grants (Section 40107)

Grant Overview

The Grid Resilience and Innovation Partnerships (GRIP) program is the combination of three individual Infrastructure Investment and Jobs Act programs combined under one application. The three programs that encompass GRIP are the competitive Grid Resilience Grants (40101c), the Smart Grid Grants (40107), and Grid Innovation Program (40103b). This overview focuses on Topic Area 2: Smart Grid Grants, also known as Deployment of Technologies to Enhance Grid Flexibility Program.

Program History

	Total Funding	# of Awards
2022/2023	$1,106,321,448	34

Key Information and Tips

Total Funding: $1.08 billion
Award Range: Up to $50 million
Match: 50%
Solicitation Date: November 13, 2023
Proposal Due: January 12, 2024 (Concept Papers), April 17, 2024 (Full Application)

- Applicants must submit a Community Benefits Plan and corresponding budget
- Applications that have partnerships with critical entities to ensure project success are a priority

Awardee Profile

Surry-Yadkin Electric Membership Corporation (SYEMC), NC

AMOUNT: $7,486,808
YEAR: 2022

The Grid Deployment to Support Rural-Focused Resiliency at a Small-Scale Electric Co-op project will support a series of smart grid infrastructure upgrades including system monitoring, line replacements to increase grid capacity, and the deployment of an automated restoration system that enables the grid to quickly identify and minimize the impacts of outages.

Department: U.S. Department of Energy
Agency: Grid Deployment Office

FY 2024 BIL– Grid Resilience and Innovation Partnerships (GRIP): Smart Grid Grants (Section 40107)

Detailed Summary

This program seeks to provide financial assistance to institutions of higher education, for-profit entities, non-profit and not-for-profit entities, state and local governmental entities, and tribal nations to collaborate with electric sector owners and operators to deploy projects that use innovative approaches to transmission, storage, and distribution infrastructure to enhance grid resilience and reliability. The 40107 Smart Grid Grants program (Topic Area 2) is aimed at supporting projects that will achieve the goals and objectives stated below through innovative and ambitious uses of cutting-edge, market-ready technologies. These technologies can include new devices, materials, engineering designs, or software tools.

FY24 GRIP Strategic Goals: DOE has identified three strategic goals for FY24 GRIP, including:

- Goal #1: Transform the U.S. electric grid at the transmission and distribution levels by increasing resilience in the face of extreme disruptions, enabling data-rich and flexible grid performance, and spurring innovation at all stages of project ideation and execution. Priorities for all Topic Areas include:
    - Increase regional and interregional electricity transfer capacity;
    - Increase system resilience in the face of climate change-induced natural disasters;
    - Address the most consequential system challenges that contribute to the increasing interconnection queue time for clean energy;
    - Enable data-rich and flexible grid performance v. spur innovation at all stages of project ideation and execution; and
    - Facilitate clean energy deployment, generation mix diversity, and other system benefits
- Goal #2: Prioritize energy justice as an essential component of infrastructure development by dramatically altering the relationship between energy providers and their communities. The projects funded under this program will demonstrate clear additionality and innovation in community and labor engagement, and a departure from a “business-as-usual” approach.
- Goal #3: Catalyze and leverage private sector and non-federal public capital for impactful technology and infrastructure deployment and foster an environment for sharing of best-practices and replication throughout the industry.
- Project results should enable asset owners and operators to effectively articulate within local, state, regional and federal decision-making frameworks the economic, technical, and societal benefits of deploying new innovative technologies that improve system reliability and resilience.

Priority Areas of Investment: DOE has identified Projects and Technologies that are considered a high priority for FY24 GRIP:

- Projects that cover multiple utility service territories that will evolve and share utility best practices that increase resilience against extreme weather and adapt to the changing energy and technology landscapes.
- Projects that address substation hardening, including the automation and digitization of substations, and/or coordination with upgrades that enable distributed energy resource integration and electrification readiness.
- Projects that propose to construct new transmission infrastructure to resolve a specific and identified contingency condition that the applicant has been unable to resolve using standard investment and planning approaches.
- Projects that significantly increase the transmission capacity of existing rights-of-way using advanced conductors, grid-enhancing technologies, or high-voltage direct current in coordination with investments that enable integration and full utilization of high-capacity corridors.
- Projects that will deploy solutions to increasing the processing of interconnection applications and minimize the queue-related delays for clean energy and electrification loads at both the transmission and distribution levels.
- Projects that in combination with priority investments will foster growth of a highly skilled power sector workforce and minimize workforce constraints associated with power sector innovation.
- Projects that have a significant impact on the transmission system, including projects that leverage advanced transmission technologies and can reduce or remove the existing technical, economic, and regulatory barriers, demonstrate enhanced operational flexibility or capacity, and that enhance reliability to accelerate wide scale transmission expansion and renewable energy interconnection.
- Projects that implement novel and replicable approaches to reducing energy burden and increasing resilience for disadvantaged communities, especially projects that increase access to cheaper generation resources and reduce the impact of infrastructure costs.
- Aggregating and integrating distributed energy resources and other “grid-edge” devices to provide system benefits, such as renewable energy resources, electric vehicle charging infrastructure, vehicle-to-grid technologies and capabilities, and smart building technologies.
- Enhancing interoperability and data architecture of systems that support two-way flow of both electric power and localized analytics to provide information between electricity system operators and consumers.
- Anticipating and mitigating the impacts of extreme weather or natural disaster on grid resiliency, including investments to increase the ability to redirect or shut of power to minimize blackouts, prevent wildfires, and avoid further damage.

Topic Area 2: Smart Grid Grants (40107) Objectives: Topic Area 2: Smart Grid Grants program is aimed at supporting projects that will achieve the FY24 GRIP goals stated above through innovative and ambitious uses of cutting-edge, market-ready technologies. These technologies can include new devices, materials, engineering designs, or software tools. DOE particularly seeks projects that will progress the field in the following areas:

- Projects that focus on the use of innovative materials, tools, and engineering approaches to improve system capacity and flexibility. Applications should clearly delineate the ways in which the proposed

approach(es) are industry leading and/or represent a significant advance in capabilities for the applicant.

- Projects that meaningfully improve grid operators' ability to use data to deliver benefits to ratepayers and support policy goals. Applications should describe the types and sources of data and provide a qualitative description of the extent of the corpus of data available. In addition, proposals should specify how the project will improve one or more grid operators' ability to use data for operational purposes, planning purposes, or both, and the extent to which the project will enable usage of data across silos within and across organizations.
- Projects that are structured to de-risk broad adoption of innovative technologies and approaches by including participation of multiple eligible entities (especially multiple grid operators) and a clear strategy for assessing the benefits of the proposed innovations.

All applications should demonstrate that they will provide significant economic and justice benefits to communities, that they can leverage capital investment, and that they lead to repeatable solutions for other entities. Applicants are encouraged to coordinate with and support broader State, local, Tribal, and regional strategies on resilience, energy security, energy and environmental justice, and decarbonization. In addition, smart grid technologies funded and deployed at-scale under this program should have a pathway to wider market adoption such that the funding significantly encourages and facilitates the development of a smart grid and best practices for achievement and governance (Smart Grid Investment Matching Grant Program) of smart grid capabilities. Aggregation of smart grid technologies is encouraged to accelerate deployment.

Under this Topic Area, DOE seeks applications that propose to use ambitious implementation of modern technologies as described below.

- Applications that propose to promote innovative project development on the transmission system, especially projects that improve transfer capacity within existing rights-of-way and those that foster coordination between multiple grid operators. Applications of interest include: o Applications that propose to significantly increase the transmission capacity of existing rights-of-way through deployment of advanced conductors or High Voltage Direct Current (HVDC), investments to enable integration and full utilization of high-capacity corridors, and innovative approaches to improving transfer capacity within existing rights-of-way, subject to the requirement that such approaches demonstrate at least a 1.5x improvement in transfer capacity. Projects that meet these objectives are eligible for a higher maximum federal award.
    - Applications that propose to significantly increase the operational capacity of the existing transmission network through the use of grid enhancing technologies (GETs), specifically advanced power flow control, dynamic line rating, congestion management approaches, and network topology optimization. Applications should address the extent to which the project would reduce barriers to commercial scale-up (for example, associated with regulatory frameworks, technical validation needs, integration with operational practice, or other factors);
- Applications that propose to promote strategic use of data for grid operations and planning and enable utilities and other grid operators to derive actionable insights from grid data across all facets of their operations. Proposed approaches may include improvements to data cleaning, management, and warehousing; innovative planning, engineering, modeling, and decision support tools; and enhancements to interoperability of systems and datasets, especially between distributed energy

resources (DERs) and grid operators, between a regional transmission organization (RTO) and a transmission or distribution system operator, or between different functions within a grid operator (e.g., billing and system planning).

- Proposals that lead to more rapid processing of interconnection applications and minimize queue-related delays for clean energy (and/or integration of electrification load) at both the transmission and distribution levels. Projects may include hardware, software, project design, business process innovation, regulatory innovation, or any combination thereof. Of interest are applications that address all phases of the interconnection process, including application intake and management; scenario generation and impact modeling; mitigation planning, design, and engineering; or any combination thereof.
- Applications that propose to enable innovation at the substation level to promote system efficiency and agility given increasing penetration of intermittent generating resources and DERs. This may include:
    - Technologies at the substation level that can manage real and reactive power, reverse power flows, voltage transients, and harmonic content in such a manner as to provide tangible improvement in a grid operator's ability to fully and cost-effectively integrate clean generation, electrification load, and DERs;
    - Technologies that demonstrably improve coordination of substation operations with customer-sited resources and technologies to provide quantifiable improvements in quality of service or economic metrics;
    - Processes, hardware, and software that can rapidly adapt to changes in grid topology and other conditions;
    - Capabilities to support flexible energy dispatch and black starts, including from inverter-based resources; o Improved modularity in design to facilitate adaptivity to future changes in load, DER deployment, or customer needs downstream of the substation.
- Applications that may be for feature development of market-ready technologies, including software suites for planning, modeling, and control.
- Foundational investments in communications infrastructure, including optical ground wire, dark fiber, operational fiber, and wireless broadband communications networks, are of interest but should be considered within a project scope that demonstrates how such communications infrastructure can provide benefits to ratepayers and/or promote achievement of policy goals. DOE encourages proposals that include communications investments to incorporate other priority areas as listed above.
- Applications that focus on advanced metering infrastructure (AMI) deployment should have a clear roadmap of the smart grid applications that will be enabled by the deployment of AMI and should include data forecasting on current or future clean energy and/or electrification-related load management needs that necessitate the use of AMI. DOE encourages applications that include AMI deployment to incorporate other priority areas as listed above.
- Applications that focus on increasing grid resilience in relation to extreme weather or natural disasters should have a clear connection to and focus on smart grid components.
- Aggregation and integration of distributed energy resources and other "grid edge" devices to provide system benefits, such as renewable energy resources, electric vehicle charging infrastructure, vehicle-to-grid technologies and capabilities, and smart building technologies, are eligible. (Applications that

propose to devote a significant percentage of budget to customer incentives are not of interest in this program).

- Applications that have the potential to impact multiple utility services territories and reflect a high level of coordination among partners and that incorporate technologies or approaches that support the objectives or priority areas listed above.
- All applications will be expected to incorporate industry-leading cybersecurity protocols appropriate to minimize risk while increasing the digitalization and connectivity of grid infrastructure. In addition, a broad set of eligible smart grid investments and capabilities is allowed under the Smart Grid Investment Matching Grant Program, and any combination of smart grid technologies and functions that support the objectives, see 42 U.S.C. 17386(b)25.

The following activities are NOT eligible for funding under Topic Area 2: Qualifying Smart Grid investments do not include any of the following:

- Investments or expenditures for Smart Grid technologies, devices, or equipment that utilize specific tax credits or deductions under the Internal Revenue Code, as amended.
- Expenditures for electricity generation, transmission, or distribution infrastructure or equipment not directly related to enabling Smart Grid functions.
- After the final date for State consideration of the Smart Grid Information Standard under section 2621(d)(17) 1 of title 16, an investment that is not in compliance with ratemaking standards.
- After the development and publication by the Institute of protocols and model standards for interoperability of smart grid devices and technologies, an investment that fails to incorporate any of such protocols or model standards.
- Expenditures for physical interconnection of generators or other devices to the grid except those that are directly related to enabling Smart Grid functions.
- Expenditures for ongoing salaries, benefits, or personnel costs not incurred in the initial installation, training, or startup of smart grid functions.
- Expenditures for travel, lodging, meals, or other personal costs.
- Ongoing or routine operation, billing, customer relations, security, and maintenance expenditures.
- Such other expenditures that the Secretary determines not to be Qualifying Smart Grid Investments by reason of the lack of the ability to perform Smart Grid functions or lack of direct relationship to Smart Grid functions.

Teaming Arrangements Topic Area 2 includes a broad range of eligibility for all types of domestic applicants. DOE encourages technology vendors to submit applications as the prime applicant, in collaboration with utility partners. DOE encourages applicant teams to include a broad set of stakeholders, including but not limited to, electric grid operator or owners, technology vendors, system integrators, subject matter experts, local energy and environmental justice organizations, and community leaders. In addition, State, Tribal, territory, or regulatory stakeholders should be engaged in the approach as appropriate.

Applicant Eligibility

Eligible applicants include institutions of higher education, for-profit entities, non-profit and not-for-profit entities, state and local governmental entities, and tribal nations.

Funding

In FY 2024, approximately $1.08 billion in funding is available to support an estimated 25-40 awards of up to $50 million. Projects that aggregate multiple utility service territories may apply for funding up to $100 million and projects that deploy advanced conductors for transmission lines capacity improvement at scale may apply for up to $250 million.

The project period is 60 months.

Matching and Cost Share

Topic Area 2 requires at least a 50% cost share. The cost share must come from non-federal sources unless otherwise allowed by law.

Contact Information

Upon the issuance of the FOA, DOE personnel are prohibited from communicating (in writing or otherwise) with applicants regarding the FOA except through the established question and answer process as described below. Specifically, questions regarding this FOA must be submitted to: FOA3195@netl.doe.gov. Questions must be submitted not later than 3 business days prior to the application due date and time. Please note, feedback on individual concepts will not be provided through Q&A.

All questions and answers related to this FOA will be posted on Exchange at: https://infrastructure-exchange.energy.gov, You must first select this specific FOA Number to view the questions and answers specific to this FOA. GDO will attempt to respond to a question within 3 business days unless a similar question and answer has already been posted on the website.

Questions related to the registration process and use of the Exchange website should be submitted to: InfrastructureExchangeSupport@hq.doe.gov.https://www.energy.gov/gdo/smart-grid-grants

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FEDERAL
GRANT PROFILE

Department: U.S. Department of Energy
Agency: Wind Energy Technologies Office

FY 2023 Bipartisan Infrastructure Law (BIL): Address Key Deployment Challenges for Offshore, Land-Based, and Distributed Wind

Grant Overview

This program will enable the innovations needed to advance U.S. wind systems, reduce the cost of electricity, and accelerate the deployment of wind power, maximize the benefits of the clean energy transition as the nation works to curb the climate crisis, empower workers, and advance environmental justice. Eligible applicants are local and state governments, nonprofits, for-profits, and institutions of higher education who are domestic entities.

Program History

This is a new program created through the Infrastructure Investment and Jobs Act.

Key Information

Total Funding: $27.9 million
Award Range: Varies
Match: Varies
Proposal due: January 20, 2023 (Concept Papers), March 10, 2023 (Full Application)

https://eere-exchange.energy.gov/Default.aspx#FoaIdac8901f4-e765-482b-9931-f425cb8e1fbd

Tips

- Teaming partnerships are highly recommended
- Projects are expected to advance diversity, equity, inclusion and accessibility, contribute to energy equity; and invest in America's workforce
- Applicants are required to submit a concept paper prior to a full application

Department: U.S. Department of Energy
Agency: Wind Energy Technologies Office

FY 2023 Transmission Facilitation Program (TFP) Capacity Contracts

Detailed Summary

The purpose of this program is to enable the innovations needed to advance U.S. wind systems, reduce the cost of electricity, and accelerate the deployment of wind power, maximize the benefits of the clean energy transition as the nation works to curb the climate crisis, empower workers, and advance environmental justice. This program consists of four separate topic areas:

Topic Area 1: High Voltage Direct Current (HVDC) for Offshore Wind: The HVDC Topic Area addresses gaps in HVDC standards and benchmark systems for offshore wind, multi-terminal HVDC controls and functional requirements, and curriculum development for education and workforce training. Addressing these gaps is expected to facilitate development of HVDC transmission, which in turn will enhance deployment of offshore wind. The funding agency is soliciting projects through three subtopic areas:

- Subtopic 1a: HVDC Standards and Benchmark System Development for Offshore Wind: The goals of this Subtopic Area are to establish vendor-neutral HVDC standards for new HVDC systems connecting offshore wind to the existing Alternative Current (AC) or Direct Current (DC) grid; and to establish at least one HVDC benchmark system and relevant standardized scenarios, conditions, and reference results that can be used for future offshore wind HVDC studies and research.
- Subtopic 1b: Multi-Terminal HVDC Controls and Functional Requirements: This Subtopic Area intends to leverage international experiences and address certain HVDC deployment barriers including Muti-terminal HVDC (MTDC) by developing and validating innovative controls that enable reliable operation of multi-terminal HVDC grid; and establishing basic functional requirements of HVDC converters at the AC interfaces and DC interfaces to enable multi-vendor interoperability of HVDC converters with an existing AC or DC grid and enable DC grid expansion. Proposed projects must:
    - Develop HVDC converter controls that respond to a central grid controller, or automatically respond to local measurements for reliable grid operation of both AC and MTDC systems
    - Include verification of the effectiveness of the controls through simulation or emulation in terms of:
        - Operation of a hybrid AC/DC system and coordination between the AC and DC sides to ensure power delivery, power quality, and potentially provide grid forming functionality
        - Transient and dynamic performance during large disturbances
    - Identify basic functional requirements at AC and DC interfaces that include but are not limited to:
        - Control modes, including potential grid forming controls
        - Dynamic performance
        - Signals exchanged
        - Start-up and shutdown procedures

        - Protection strategies, and
        - Fault-ride-through capability
- Subtopic 1c: HVDC Curriculum Development for Education and Workforce Training: This Subtopic Area seeks to identify HVDC workforce gaps and provide educational materials to fill those gaps to support the future workforce to integrate HVDC technology reliably into the grid, with an emphasis on offshore wind integration. A successful proposal will develop modules that can be incorporated into degree and certificate programs and will provide access to outside academic institution (for example, an HVDC educational center where participants can take modules without getting a degree). A successful proposal will also offer a package of modular courses (these can be developed by different entities). The following is a list of potential curriculum topics, but other creative ideas are welcome based on identified training gaps and industry needs:
    - Overview of HVDC technology and applications, including economics of HVDC in planning and trade-offs between Line Commutated Convertors (LCC) and Voltage Source Convertors (VSC) technologies.
    - HVDC design process
    - Interactions between HVDC and the AC grid
    - Performing studies including HVDC (electromagnetic transient, load flow, short-circuit, transient stability)
    - Converter station and back-to-back (B2B) design and operational considerations. Power electronic circuits and rectifier circuits. Multilevel modular converters
    - Wind energy conversion systems and power electronics.
    - Transmission lines and submarine cables design and operational considerations
    - DC grid Protection including multi-terminal protection and protection of the conversions from DC to AC.
    - Controls
    - Offshore specific considerations including networks
    - Physical and cyber security considerations in HVDC systems
    - Use of the benchmark system developed in Subtopic 1a.

Topic Area 2: Advancing Deployment of Distributed (ADD) Wind: Through this topic, the funding agency envisions seeding collaboration between the distributed wind industry, local and/or state governments, utilities, and other important stakeholders with the goals of 1) addressing challenges in particular locations, 2) contributing to the development of a zoning, planning and permitting framework that jurisdictions can use more broadly when undertaking DW planning and permitting reform, and 3) developing metrics for measuring the impacts of planning and permitting reform and support communities in demonstrating DW market development readiness. In achieving these goals, ADD Wind projects should result in a growing toolkit for DW planning, zoning, and permitting applicable to multiple scales of DW technology that can be implemented broadly in locations across the country. Projects deliverables should:

- Address key zoning and permitting challenges related to DW at multiple scales of technology, including:
    - Identify specific permitting opportunities or challenges facing the deployment of distributed wind and specific solutions to overcome them
    - Specify the types and scales of DW applications (e.g., multi-MW turbines at industrial facilities) they propose to address and provide a compelling justification as to why their focus is appropriate, if not proposing to address the full range of DW types and scales

    - Make a compelling case that the proposed solution will address the applicant identified opportunity or challenge
    - Establish clear project performance metrics to measure success, for example cost of permitting, time associated with permitting, or number of local governments reached
- Show the commitment of relevant local and/or state government and other important stakeholders to address those challenges
- Show a clear pathway to scaling the proposed zoning and permitting solutions beyond the targeted or participating locations
- Provide mechanisms such as technical assistance to support adoption and implementation of proposed solutions
- Demonstrate that the solution will be replicable and broadly applicable
- If the project has a regional focus, make a compelling case that the region has favorable wind and economic conditions for DW deployment and market development
- Demonstrate that the solution will generate clear benefits for disadvantaged communities
- Provide a compelling plan on how the solution will be disseminated and adopted.

Topic Area 3: Offshore Wind Energy Social Science Research: This topic area seeks to better understand the positive and negative effects of expanded offshore wind development on affected communities' workforce, economies, and relationships to the marine environment and other resources, and to help communities build capacity to participate in the offshore wind development process. The funding agency is particularly interested in projects that consider cumulative impacts of offshore wind development–including but not limited to impacts of multiple wind farms in one geography and of one wind farm across multiple parts of a local economy; include community members and community organizations as full members of the project team; and include participatory methods such as Community-Based Participatory Research methods The funding agency is soliciting projects in two subtopic areas:

- Subtopic 3a: Research on Community Impacts of Offshore Wind Development: This subtopic area aims to define impacts (positive and negative) of offshore wind development on communities and assess the magnitude and reach (temporal and geographic) of those impacts over time and through multiple phases of offshore wind development, from planning to construction to operations. Proposals should describe practical and broad implications of the proposed research. Cross-sectional approaches, mixed methods strategies (e.g. surveys, case studies, focus groups, and/or expert elicitations), and participatory approaches are encouraged where appropriate
- Subtopic 3b: Capacity Building for Community Participation in Offshore Wind: This subtopic area focuses on bridging communities with the full offshore wind development process through community-driven, collaborative capacity building. Potential activities could include offshore wind education, structured dialogue on issues of concern, peer-to-peer learning, and the creation of tools and resources that communities need to engage in offshore wind development more fully. The funding agency is particularly interested in proposals that will develop sustainable communities of practice or design tools and/or resources in partnership with communities that target needs expressed by community members.

Topic Area 4: Bat Deterrent Technology Development: This topic area supports the advancement of bat deterrent technologies to expand the toolbox of effective, reliable, and predictable measures that reduce impacts to bats and enable cost-effective and sustainable wind-wildlife coexistence. Particular interests under this Topic Area are:

- Targeted behavioral research studying deterrent stimuli on bats: The objectives are to 1) address knowledge gaps related to how bat species of concern react and respond to various stimuli, and 2) develop novel or updated deterrent stimuli recommendations for field testing at a wind energy facility.
- In situ bat deterrent testing at one or more commercial scale wind energy facilities: The objectives of in situ bat deterrent testing at one or more commercial scale wind energy facilities are to 1) validate the effectiveness of novel deterrent stimuli/signals or novel deterrent configurations across one or more operational wind energy facilities, and 2) understand how bats behave around deterrents installed at a commercial wind energy facility.
- Hardware Advancement: The objective of hardware advancement is to advance bat deterrent technology hardware, software, communications, and installation infrastructure to improve performance, reliability, and compatibility with wind turbines.

The following types of applications will be deemed nonresponsive and will not be reviewed or considered under specific Topic Areas or Subtopic Areas:

- Topic Area 1, Subtopic 1a:
  - Applications that propose standards that are not related to offshore wind development
  - Applications that propose standards work that is already being developed
- Topic Area 1, Subtopic 1b:
  - Applications that propose hardware design of HVDC converters.
  - Applications that propose vendor specific controls. •
  - Applications that propose functional requirements specifically targeting LCC technologies.
- Topic Area 1, Subtopic 1c:
  - Applications that propose individual courses.
  - Applications that propose in-house training that cannot be offered to the industry as a whole
- Topic Area 3, Subtopic 3b:
  - Applications with participatory Geographic Information System (GIS) projects
- Topic Area 4:
  - Applications for research projects focused solely on curtailment
  - Applications for research projects not specific to bats

Projects funded under this program are expected to:

- Advance diversity, equity, inclusion and accessibility
- Contribute to energy equity; and
- Invest in America's workforce

Applicant Eligibility

Eligible applicants are local and state governments, nonprofits, for-profits, and institutions of higher education who are domestic entities. To qualify as a domestic entity, the entity must be organized, chartered, or incorporated (or otherwise formed) under the laws of a particular state or territory of the United States; have majority domestic ownership and control; and have a physical place of business in the United States. Federal agencies and instrumentalities (other than DOE) are eligible to participate as a subrecipient but are not eligible to apply as a prime recipient.

Under Topic Area 1 (all subtopics), Topic Area 3 (all subtopics), and Topic Area 4: Department of Energy Funding Agreements with Federally Funded Research and Development Centers are eligible to apply for funding as a prime recipient and participate as a subrecipient. Under Topic Area 2: Department of Energy Funding Agreements with Federally Funded Research and Development Centers are eligible to participate as a subrecipient but are not eligible to apply for funding as a prime recipient.

Funding

In FY 2023, approximately $27.9 million is available to support between 18 and 35 awards ranging from $500,000-$8 million. Specific funding amounts for each topic area is as follows:

Topic Area 1: High-Voltage Direct Current (HVDC) for Offshore Wind: Under this topic area an estimated $9.7 million is available to support between 2-6 awards. Funding for each subtopic area is as follows:

- **Subtopic 1a**: This subtopic area will support approximately 1-2 awards ranging from $1 million-$2 million. The minimum cost-share requirement is 20 percent of the total project's costs. The project period is 36 months.
- **Subtopic 1b**: This subtopic area will support approximately 2-4 awards ranging from $1 million-$3 million. The minimum cost-share requirement is 20 percent of the total project's costs. The project period is 36 months.
- **Subtopic 1c**: This subtopic area will support approximately 1 award ranging from $500,000-$700,000. There is no cost-share requirement for this subtopic area. The project period is 36 months.

Topic Area 2: Advancing Deployment of Distributed (ADD) Wind: Under this topic area an estimated $3.3 million is available to support between 2-4 awards ranging from $1 million-$2 million. The minimum cost-share requirement is 20 percent of the total project's costs. The project period is 24-36 months.

Topic Area 3: Offshore Wind Energy Social Science Research: Under this topic area an estimated $6.9 million is available to support between 4-8 awards ranging from $1 million-$2.5 million. Funding for each subtopic area is as follows:

- **Subtopic 3a**: This subtopic area will support approximately 2-4 awards ranging from $1 million-$2.5 million. The minimum cost-share requirement is 20 percent of the total project's costs. The project period is 60 months.
- **Subtopic 3b**: This subtopic area will support approximately 2-4 awards ranging from $200,000-$500,000. There is no cost-share requirement for this subtopic area. The project period is 18-36 months

Topic Area 4: Bat Deterrent Technology Development: Under this topic area an estimated $8 million is available to support between 3-8 awards ranging from $750,000-$2.75 million. The minimum cost-share requirement is 20 percent of the total project's costs. The project period is 36-72 months.

Contact Information

Program Staff
WETOFOA@ee.doe.gov

https://eere-exchange.energy.gov/Default.aspx#FoaIdac8901f4-e765-482b-9931-f425cb8e1fbd

FEDERAL
GRANT PROFILE

Department: U.S. Department of Energy
Agency: Water Power Technologies Office

FY 2023 Bipartisan Infrastructure Law Section 40334: Pumped Storage Hydropower Wind and Solar Integration and System Reliability Initiative

Grant Overview

This program supports the project design, transmission studies, power market assessments, and permitting for pumped storage hydropower projects to facilitate the long-duration storage of intermittent renewable electricity. Eligible applicants are domestic entities including electric utilities, including municipally owned electric utilities, electric cooperatives, and investor-owned utilities; Indian Tribes or Tribal organizations; state energy offices; institutions of higher education; and consortium.

Program History

This is a new program created through the Infrastructure Investment and Jobs Act.

Key Information

Total Funding: $10 million
Award Range: $2 million - $10 million
Match: one-to-one
Solicitation date: October 19, 2022
Proposal due: November 17, 2022 (Letter of Intent)
December 15, 2022 (Full Application)

https://eere-exchange.energy.gov/Default.aspx#FoaIdb17d3d22-7004-4f33-8e0f-66a2d43e7c0d

Tips

- Preference will be given to applicants proposing studies for new PSH projects, but upgrades to existing projects may also be considered for funding.
- The funding agency encourages meaningful engagement and participation of workforce organizations, including labor unions, as well as underserved communities and underrepresented groups, including consultation with Tribal Nations.

Department: U.S. Department of Energy
Agency: Water Power Technologies Office

FY 2023 Bipartisan Infrastructure Law Section 40334: Pumped Storage Hydropower Wind and Solar Integration and System Reliability Initiative

Detailed Summary

The purpose of this program is to support the project design, transmission studies, power market assessments, and permitting for pumped storage hydropower (PSH) projects to facilitate the long-duration storage of intermittent renewable electricity. The funding agency seeks applications to support studies that facilitate the licensing and eventual construction and commissioning of new PSH facilities. Proposed PSH plants eligible for support will enable long-duration storage of intermittent renewable electricity located on Tribal lands and support broader power system decarbonization. Eligible projects must meet the following qualifications:

- Be designed to provide not less than 1,000 megawatts of capacity;
- Be able to provide energy and capacity for use in more than one organized electricity market;
- Be able to store electricity generated by intermittent renewable electricity projects located on Tribal land; and
- Have received a preliminary permit from the Federal Energy Regulatory Commission

Technical aspects of the project will be evaluated along with nontechnical aspects such as impacts on surrounding communities (both positive and negative) and stakeholder acceptance. Projects partnering with and/or improving ability to develop variable renewable energy on Tribal lands, disadvantaged or underserved communities, and which have appropriate federal, state, local, and non-government organization support are encouraged.

Projects through this program will enable increased integration of clean energy resources such as wind and solar, and support power system decarbonization while improving grid reliability. Projects will also support the broader government-wide approach to create jobs for communities in the U.S. if the proposed PSH projects, supported by this funding, progress toward construction and commissioning.

This program is designed to help meet the goal that 40 percent of the overall benefits of certain federal investments in clean energy and climate solutions flow to disadvantaged communities. Projects should also drive the creation of good-paying jobs with the free and fair chance for workers to join a union.

Applicant Eligibility

Eligible applicants are domestic entities including electric utilities, including municipally owned electric utilities, electric cooperatives, and investor-owned utilities; Indian Tribes or Tribal organizations; state energy offices; institutions of higher education; and consortium.

To qualify as a domestic entity, the entity must be organized, chartered or incorporated (or otherwise formed) under the laws of a particular state territory of the United States; have majority domestic ownership and control; and have a physical place of business in the United States.

Federal agencies, instrumentalities, and corporations, other than the Department of Energy, are eligible to participate as a subrecipient but are not eligible to apply as a prime recipient.

The funding agency is compiling a "Teaming Partner List" to facilitate the formation of new project teams for this program. The Teaming Partner List allows organizations who may wish to participate on an application to express their interest to other applicants and to explore potential partnerships. Any organization that would like to be included on this list should email background information to WPTOPSH@ee.doe.gov with the subject line "Teaming Partner Information".

Funding

In FY 2023, approximately $10 million in funding is available to support approximately 1 award ranging from $2 million - $10 million through this program. DOE may issue one, multiple, or no awards.

Eligible entities must provide a cost-share of one-to-one of the total projects costs.

The project period will be between 12 and 60 months in length and be comprised of one or more budget periods.

Contact Information

Program Staff
WPTOPSH@ee.doe.gov

https://eere-exchange.energy.gov/Default.aspx#FoaIdb17d3d22-7004-4f33-8e0f-66a2d43e7c0d

FEDERAL
GRANT PROFILE

Department: U.S. Department of Energy
Agency: Office of Energy Efficiency and Renewable Energy

FY 2023 Bipartisan Infrastructure Law Section 41006. Water Power Projects Innovative Technologies to Enable Low Impact Hydropower and Pumped Storage Hydropower Growth

Grant Overview

This program seeks applications to address innovative solutions to retrofit non-powered dams with environmentally sustainable hydropower at a reasonable cost; applications to address development and testing technologies that mitigate challenges to pumped storage power deployment. Eligible entities are domestic for-profit entities, educational institutions, nonprofits, state and local governments, and tribal nations.

Program History

This is a new program created through the Infrastructure Investment and Jobs Act.

Key Information

Total Funding: $14.5 million
Award Range: Varies
Match: Varies
Solicitation date: October 19, 2022
Proposal due: December 1, 2022 (Concept Papers)
March 5, 2023 (Full Application)

https://eere-exchange.energy.gov/Default.aspx#FoaId9b761a62-5f04-4b67-a9d6-b7b74c9e86c6

Tips

- Applicants are encouraged to validate the need and value of the innovation by considering the likelihood of success based on past projects as well as the remaining resource potential
- Applicants are required to include a Community Benefits Plan
- Applicants may submit more than one application for separate projects

Department: U.S. Department of Energy
Agency: Office of Energy Efficiency and Renewable Energy

FY 2023 Bipartisan Infrastructure Law Section 41006. Water Power Projects Innovative Technologies to Enable Low Impact Hydropower and Pumped Storage Hydropower Growth

Detailed Summary

This program seeks application to address innovative solutions to retrofit non-powered dams (NPDs) with environmentally sustainable hydropower at a reasonable cost; applications to address development and testing technologies that mitigate challenges to pumped storage power (PSH) deployment, including market and revenue uncertainty, development costs and financing, long development timelines, permitting challenges, construction risks, and environmental impacts; and applications to address and encourage emerging organizations to support hydropower development. The program supports projects through the following topic areas:

Topic Area 1: Hydropower Retrofits for Non-Powered Dams: This topic area seeks applications to support studies and designs that facilitate the licensing, construction, and commissioning for retrofits to NPDs. NPDs are defined as dams that do not have any electricity generation equipment installed. Proposed retrofits should advance the state of the industry through providing novel and advanced methods of power production, construction, intake design, and interconnections to the larger power grid. The overall goal of this effort will support the broad decarbonization of the larger power system. This topic area focuses on projects that propose technologies and/or methodologies to advance the state of the industry for development of hydropower at NPDs. Work should improve feasibility assessments, project design, interconnection, power market assessment, or combination of other necessary topics for the technology to advance towards the prototype or pilot-scale testing stage. A partnership with a hydropower owner or operator is preferred.

Projects under this topic area will be performed in two separate budget periods:

- Budget Period One: Conceptual Verification (BP1) – In this budget period applicants will test innovations through desktop analysis and modeling, computer-based simulations, laboratory scale tests, or a combination of both. This phase will also serve to further develop the business case for further testing and industry adoption.
- Budget Period Two: Final Design, Fabrication, and Testing (BP2) - In this budget period applicants will propose the necessary items to validate the viability of the innovation and project. Based on the proposed site(s), technology(s), and progress that has occurred to date, applicants will propose the necessary steps to fully validate the long-term viability. This should occur through a detailed scope, timeline, and sequence of proposed work products, identifying the critical path and dependencies.

Projects should aim for prototype or pilot-scaling testing of the innovation to improve feasibility assessments, project design, interconnection, power market assessment, or combination of other necessary topics for the technology.

Topic Area 2: Innovative Pumped Storage Hydropower Technologies: This topic area seeks applications to advance development and testing for innovative technologies that could accelerate the deployment of PSH. Innovations developed under this topic area will be supported by the funding agency's HydroWIRES Initiative, which seeks to understand, enable, and improve hydropower and PSH's contributions to reliability, resilience, and integration in the rapidly evolving U.S. electricity system. Broadly, this funding opportunity will support work that de-risks PSH components, construction processes, and/or alternative PSH configurations that could reduce costs and/or improve value. Ideally, an awardee would have the necessary analysis to finance and permit a demonstration of their technology following the completion of this award.

Topic Area 3: Hydropower R&D by Emerging Organizations: This topic seeks to support hydropower related research and development (R&D) that is not covered in other topic areas under this program and helps to meet one or more of the outcomes described in the funding agency's Multi-Year Program Plan related to the Hydropower Program. The Hydropower Program comprises five R&D activity areas, which represent the program's strategic approach to addressing the challenges faced by U.S. hydropower stakeholders. These five activity areas are:

- Innovations for Low-Impact Hydropower Growth
- Grid Reliability, Resilience, and Integration
- Fleet Modernization, Maintenance, and Cybersecurity
- Environmental and Hydrologic Systems Science
- Data Access, Analytics, and Workforce Development

This topic area seeks R&D projects from institutions that have not engaged with the funding agency through significant research projects and have limited familiarity with funding agency programs and research support mechanisms.

The funding agency encourages applications from organizations and institutions that are located in and/or serve disadvantaged communities, or have a history of training and mentoring students from populations that are under-represented in water power technologies, such as those served by Historically Black Colleges and Universities and minority-serving institutions.

This program follows the current administration's Justice40 initiative that aims for 40 percent of the overall benefits of climate and clean energy investments through this program to flow to disadvantaged communities.

Applicant Eligibility

Eligible applicants are for-profit entities, educational institutions, and nonprofit entities that are organized, chartered or incorporated (or otherwise formed) under the laws of a particular state or territory of the United States and have a physical location for business operations in the United States are eligible to apply for funding as a prime recipient or subrecipient.

State and local governmental entities, and tribal nations are eligible to apply for funding as a prime recipient or subrecipient. Federal agencies, instrumentalities, and corporations, other than the Department of Energy, are eligible to participate as a subrecipient but are not eligible to apply as a prime recipient. Domestic incorporated consortia are eligible to apply for funding as a prime recipient or subrecipient. Unincorporated

Consortia must designate one member of the consortium to serve as the prime recipient/consortium representative.

The funding agency is compiling a "Teaming Partner List" to facilitate the formation of new project teams for this program. The Teaming Partner List allows organizations who may wish to participate on an application to express their interest to other applicants and to explore potential partnerships. Any organization that would like to be included on this list should email background information to HydropowerFOA@ee.doe.gov with the subject line "Teaming Partner."

Funding

In FY 2023, approximately $14.5 million in funding is available to support approximately 13 awards through this program. Funding for each topic area is as follows:

- Topic Area 1: Hydropower Retrofits for NonPowered Dams: this topic area will provide an estimated $8 million in total funding. In BP1, the funding agency will make up to 6 awards of $300,000-$350,000. Awards will have a project period of 12 months. In BP2, the funding agency will make up to 3 awards of $1.3 million-$2 million. Awards will have a period of 24 months.
- Topic Area 2: Innovative Pumped Storage Hydropower Technologies: this topic area will provide an estimated $6 million in total funding to support 2-3 awards ranging from $2 million-$4 million. The project period will be between 24-36 months.
- Topic Area 3: Hydropower R&D by Emerging Organizations: this topic area will provide an estimated $500,000 in total funding to support 3-4 awards ranging from $125,000-$200,000. The project period will be 12-24 months.

Institutions of higher education and non-profit organizations will not be required to provide a cost-share. All other entities must provide at least 20 percent of the total project costs for research and development projects.

Contact Information

Program Staff
HydropowerFOA@ee.doe.gov

https://eere-exchange.energy.gov/Default.aspx#FoaId9b761a62-5f04-4b67-a9d6-b7b74c9e86c6

FEDERAL
GRANT PROFILE

Department: U.S. Department of Energy
Agency: Office of Clean Energy Demonstrations

FY 2023 Carbon Capture Large-Scale Pilot Programs

Grant Overview

This program provides funding for projects designed to further the development of transformational technologies that capture carbon emissions from existing coal or natural gas electric generation facilities and existing industrial facilities not purposed for electric generation. Eligible applicants are Institutions of higher education, non-profit entities, for-profit entities, Tribal Nations, state and local governments, incorporated consortia and unincorporated consortia.

Program History

This is a new program.

Key Information

Total Funding: $820,000,000
Match: 30 percent
Solicitation date: February 23, 2023
Due Dates: April 5, 2023 (Concept Paper), June 21, 2023 (Application)

https://www.energy.gov/oced/carbon-capture-large-scale-pilot-programs

Tips

- Carbon capture large-scale pilot projects must be integrated with commercial plant operations and conducted in the United States.
- Applicants are required to include a Community Benefits Plan (CBP) tailored to the scope of this FOA, discussing community and labor engagement; investing in the American workforce; Diversity, Equity, Inclusion and Accessibility (DEIA), and the Justice40 Initiative.
- Applicants are strongly encouraged to look for opportunities to securely geologically store or utilize or monetize the captured carbon.

Department: U.S. Department of Energy
Agency: National Renewable Energy Laboratory

FY 2023 Carbon Capture Large-Scale Pilot Programs

Detailed Summary

The purpose of this program is to provide funding for projects designed to further the development of transformational technologies that capture carbon emissions from existing coal or natural gas electric generation facilities and existing industrial facilities not purposed for electric generation. Carbon capture large-scale pilot projects will provide the support needed to test transformational technologies (i.e., novel technologies or applications) at intermediate scale and under relevant conditions in both the power and industrial sector to:

1. De-risk transformational carbon capture technologies8 and through meaningful engagement and robust analysis of impacts, risks and benefits such as emissions, water usage, and jobs
2. Catalyze significant follow-on investments from the private sector for first-of-a-kind (FOAK) commercial-scale demonstrations on carbon emission sources across the power and industrial sectors

These carbon capture large-scale pilot projects must be integrated with commercial plant operations and conducted in the United States.
Pursuant to section 962(a)(1) of the Energy Policy Act of 2005 as amended (42 U.S.C. § 16292(a)(1)), the term "large-scale pilot project" means a pilot project that:

A. represents the scale of technology development beyond laboratory development and bench scale testing, but not yet advanced to the point of being tested under real operational conditions at commercial scale
B. represents the scale of technology necessary to gain the operational data needed to understand the technical and performance risks of the technology before the application of that technology at commercial scale or in commercial-scale demonstration
C. is large enough-
    a. to validate scaling factors
    b. to demonstrate the interaction between major components so that control philosophies for a new process can be developed and enable the technology to advance from large-scale pilot project application to commercial-scale demonstration or application

Funded projects will generate operational data for verification and validation of the commercial potential of innovative technologies, including data on technology performance, non-CO2 air emissions, process models, life cycle impacts, costs, scaling factors, and community benefits or negative impacts of carbon capture technologies. These pilots will help mitigate risks and aid in commercial adoption as learnings obtained from these pilots are expected to inform subsequent large-scale demonstration or commercial deployment plans.

Applicants must demonstrate their ability to achieve at least 90% carbon capture efficiency and CO2 product purity of at least 95% by end of the project period. The funding under this solicitation is focused on developing carbon capture technologies towards market liftoff. However, the applicants are strongly encouraged to look for opportunities to securely geologically store or utilize or monetize the captured carbon.

There are two Topic Areas (TAs) available for funding:

- Carbon Capture Large-Scale Pilot Projects at Industrial Facilities Not Purposed for Electric Generation (TA-1)
- Carbon Capture Large-Scale Pilot Projects at Coal or Natural Gas Electric Generation Facilities (TA-2)

The overall objective of a project under TA-1 is to test a transformational carbon capture technology that:

- Separates carbon emissions from a stream at an industrial facility
- Has the ability to validate at least 90% carbon capture efficiency and 95% CO2 purity under real exhaust conditions. DOE will preference applications that propose transformational technologies with documented potential to achieve greater than 90% carbon capture efficiency during the proposed large-scale pilot project.

The overall objective of a project under TA-2 is to test a transformational carbon capture technology that:

- Separates carbon emissions from a flue gas stream at an electric generation facility
- Has the ability to validate at least 90% carbon capture efficiency and 95% CO2 purity under real flue gas conditions. Large-scale pilot projects under TA-2 are pilot projects with the documented potential to achieve a 90% carbon capture efficiency from a recommended minimum 25 MWe slipstream at an existing domestic coal electric generation or natural gas (NG) electric generation facility. NG electric generation facilities include both simple cycle and combined cycle (NGCC) plants, combined heat and power plants, and steam methane reformers that produce hydrogen from natural gas for use in the production of electric energy.

Carbon capture technologies proposed for both TA-1 and TA-2 under this FOA are expected to:

- Have achieved TRL 5, preferably 6, for the proposed process
- Have completed a successful validation of an integrated small-pilot scale prototype capturing a minimum of 1,000 tonnes CO2/yr for the proposed process or a process having a similar composition, impurities/contaminant profile, temperature, and pressure.

Preference will be given to applications that propose carbon capture technologies that have already achieved TRL 6. It is expected that the projects, if awarded, will achieve TRL 7 at the completion of the project performance period. TRL definitions are provided in Appendix C of the FOA.

For both TA-1 and TA-2, projects are expected to:

- Have a design life of around 5 years, with plans to decommission or operate after the award period is completed
- Achieve at least 90% capture efficiency
- Achieve at least 95% purity in the product oxides stream, iv. Complete at least one (1) year of large-scale pilot testing of a carbon capture technology under actual exhaust conditions (e.g., normal steady-state and flexible operations) covering the full spectrum of performance conditions, parametric variable studies, meeting key technical performance targets, and collect required data to quantify other project benefits or negative impacts
- Achieve at least 2,000 hours of continuous operation under stable conditions at performance targets that can enable validation of commercial scale process using Technoeconomic Analysis (TEA), Life Cycle Analysis (LCA) models that are informed with data from the testing
- Collect and report the inlet and outlet criteria pollutants (e.g., NOx, SOx, PMs) and technology related emissions (e.g., solvent/sorbent losses and their degradation byproducts such as potential formation

of nitrosamines) during the large-scale pilot testing to assess the co-benefit emissions reduction of installing carbon capture technology
- Develop and utilize first-principles based, multi-scale process and scale-up models to guide pilot scale experiments and parametric variable studies to reduce the technical risks in scale-up and further deployment
- Collect data sufficient to validate scaling factors, process models and demonstrate major component interactions to support future technology scale up and application in a variety of potential commercial environments
- Demonstrate significant progress towards commercial applications via final TEA and LCA analyses that incorporate large-scale pilot data and can support scaling to commercial scale demonstration or commercial applications
- Collect data to demonstrate sufficient understanding of surrounding community and workforce impacts of the pilot project construction, operations, and decommissioning.

Applicant Eligibility

The following types of entities are eligible to participate as an applicant or subrecipient: institutions of higher education; non-profit entities; for-profit entities; tribal nations; state and local governmental entities; incorporated Consortia; and unincorporated consortia.

Funding

In FY 2023, a total of $820 million is available to fund up to 10 projects through this program. Funding will be broken down as follows:

- For TA-1, awards of up to $4 million are available for an anticipated 6 projects in phase 1

For TA-2, awards of up to $6 million are available for an anticipated 4 projects in phase 1. The maximum project period is a total of 78 months, and the scope of the proposed project would determine the specific project period within the maximum project period. Phase 1 projects, including Detailed planning and FEEDs, have a project period of 18 months.

Awards are expected to be announced in Fall 2023.

A non-federal cost share of at least 30% of the total project costs is required. Cost share may be provided in the form of cash or cash equivalents, or in-kind contributions.

Contact Information

General Contact
CCpilotsprogram@hq.doe.gov.

All questions and answers related to this FOA will be posted on OCED eXCHANGE at: https://OCED-exchange.energy.gov.

More information can be found here.

FEDERAL
GRANT PROFILE

Department: U.S. Department of Energy
Agency: Office of Clean Energy Demonstrations

FY 2023 Clean Energy Demonstration Program on Current and Former Mine Land

Grant Overview

This program will provide financial investment, technical assistance, and other resources to advance replicable clean energy projects on current and former mine land across the nation. Eligible applicants are domestic institutions of higher education, nonprofits, for-profit entities, Indian Nations, state and local governmental entities, incorporated consortia, and unincorporated consortia.

Program History

This is a new program created through the Infrastructure Investment and Jobs Act.

Key Information

Total Funding: $450 million
Award Range: $10 million - $150 million
Match: 50 percent
Solicitation Date: April 4, 2023
Proposal due: May 11, 2023 (Concept Papers), August 31, 2023 (Full Application)

https://oced-exchange.energy.gov/Default.aspx#FoaId2461a5fb-be76-4b89-90c1-8673e138f290

Tips

- The funding agency will prioritize projects that directly flow benefits to former mining and manufacturing communities, especially where there are displaced local workers from the fossil fuel and manufacturing industry, as well as other economically distressed areas.
- The funding agency encourages projects where community members are partners and/or equity co-owners in the project and have played a key role in determining how the benefits of the project are distributed throughout the community.

Department: U.S. Department of Energy
Agency: Office of Clean Energy Demonstrations

FY 2023 Clean Energy Demonstration Program on Current and Former Mine Land

Detailed Summary

The purpose of this program is to demonstrate replicable clean energy projects on current and former mine land that help resolve key barriers to commercial adoption of these energy systems. This program will advance place-based energy solutions that address specific community needs. The funding agency seeks projects that can inspire the next generation of clean energy on mine land projects. This program will demonstrate:

- Pathways to deploy clean energy projects across the 1.5 million acres of mine land across the nation
- Preservation of natural and agricultural land through the development of clean energy projects on existing or reclaimed mine land
- Pathways for mining companies to achieve near net-zero operations
- Economic benefits of integrating clean energy into mining operations
- Community ownership, and equity inclusion models that provide new economic development, including job opportunities, for communities
- Repurposing of land, including existing facilities commonly found on mine land, including fossil fuel infrastructure that has been retired early

Eligible projects will demonstrate one or more of the following clean energy technologies:

- Solar
- Micro-grids
- Geothermal
- Direct air capture
- Fossil-fueled electricity generation with carbon capture, utilization, and sequestration
- Energy storage, including pumped storage hydropower and compressed air storage
- Advanced nuclear technologies.

In order to be eligible, a clean energy project will need to be substantially on mine land. Under this program “mine land” is defined as:

- Land subject to titles IV and V of the Surface Mining Control and Reclamation Act of 1977 (30 U.S.C. 1231 et seq.; 30 U.S.C. 1251 et seq.); or
- Land that has been claimed or patented subject to sections 2319 through 2344 of the Revised Statutes (commonly known as the "Mining Law of 1872") (30 U.S.C. 22 et seq.)

Applicants must be able to demonstrate proof of land control and that the proposed site is conducive for clean energy projects, including geotechnical considerations and availability of critical project infrastructure.

Funding will be available through the following areas of interest (AOI):

- AOI A: PV Solar with/without battery energy storage on current mine land: Projects proposed under this AOI should demonstrate the potential to generate clean energy on reclaimed land, tailing ponds, surface water reservoirs, and/or disturbed flat areas from solar with/without energy storage, for current mining operations. The funding agency is particularly interested in projects that reduce greenhouse gas (GHG) emissions at active mines which support other aspects of the clean energy transition, including the production of lithium, cobalt, and/or copper. The funding agency also encourages projects that deploy innovative solutions that make mine operations more sustainable and economically viable (i.e. demand shaving, load shifting, etc.).
- AOI B: All technologies on current mine land: This AOI includes one or more of the following technologies on current mine land: solar; microgrids; geothermal; direct air capture; fossil-fueled electricity generation with carbon capture, utilization, and sequestration; energy storage; advanced nuclear technologies. This includes a combination of solar and another technology listed above. Projects under this AOI should demonstrate the potential for the use of current mine land for clean energy generation and storage. The funding agency encourages projects that support all aspects of the clean energy transition.
- AOI C: PV Solar with/without battery energy storage on former mine land: Projects under this AOI should demonstrate the potential to utilize former mine land to generate clean energy from solar with or without storage to revitalize local communities by creating jobs and revenue streams to economically distressed areas and former mining communities. The funding agency is particularly interested in projects that incorporate a community ownership or equity business model, where community members can participate in and share the economic benefits of a solar energy system. The program encourages clean energy projects that are aggregations of multiple solar projects/sites. Aggregation refers to conducting more than one project at multiple locations in a manner that leads to a demonstrable benefit relative to conducting that project at only one location.
- AOI D: All technologies on former mine land: This AOI includes one or more of the following technologies on former mine land: solar; microgrids; geothermal; direct air capture; fossil-fueled electricity generation with carbon capture, utilization, and sequestration (CCUS); energy storage; advanced nuclear technologies. Projects under this AOI should utilize former mine land for clean energy generation and storage projects that create new jobs and community-focused revenue streams for economically distressed areas and former mining communities

Although the funding agency will fund site preparation activities including some reclamation activities as necessary to successfully deploy the clean energy project being proposed, the department will not consider projects that are primarily about reclamation of sites.

The funding agency will prioritize projects that directly flow benefits to former mining and manufacturing communities, especially where there are displaced local workers from the fossil fuel and manufacturing industry, as well as other economically distressed areas.

Applicant Eligibility

Eligible applicants are domestic institutions of higher education, nonprofits, for-profit entities, Indian Nations, state and local governmental entities, incorporated consortia, and unincorporated consortia. To qualify as a domestic entity, the entity must be organized, chartered, or incorporated (or otherwise formed) under the laws of a particular state or territory of the United States; have majority domestic ownership and control; and have a physical place of business in the United States.

Funding

In FY 2023, approximately $450 million in funding is available to support an estimated five awards between $10 million and $150 million. Applicants are required to provide 50 percent cost-share of the total project's cost. The anticipated maximum project period is seven years, and the scope of the proposed project would determine that specific project period within the maximum project period.

Contact Information

Program Staff
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https://oced-exchange.energy.gov/Default.aspx#FoaId2461a5fb-be76-4b89-90c1-8673e138f290

Electric FEDERAL
GRANT PROFILE



Department: U.S. Department of Energy
Agency: National Renewable Energy Laboratory

FY 2025 Clean Energy to Communities Program: Peer-Learning Cohorts

Grant Overview

This program provides an opportunity for local, regional, and tribal governments to participate in peer-learning cohorts regarding clean energy. Rather than providing monetary awards, this program will provide technical assistance to cohorts, including strategic and technical support; helpful materials, such as templates, trainings, tools, best practices, and analyses; and opportunities for collaboration with other communities across the United States facing similar challenges. Eligible applicants vary depending on the cohort topic focus. In general, eligible applicants include local governments, tribal governments, metropolitan planning organizations, and regional planning organizations.

Program History

	Total Funding	# of Awards
2024	N/A	3
2023	N/A	3

Key Information

Total Funding: Rather than providing monetary awards, this program will provide technical assistance
Match: Not Required
Solicitation date: September 24, 2024
Proposal due: October 31, 2024

https://www.nrel.gov/state-local-tribal/c2c-peer-learning-cohorts.html

Awardee Profile

Implementing an Agrivoltaics Project Cohort

AMOUNT: N/A
YEAR: 2024

The Implementing an Agrivoltaics Project Cohort contained the following entities: Appalachian Sustainable Development, Black Oaks Center, Community Power Collaborative, Equitable Solar Investments, Florida Educational Development, Nature Conservancy Florida, Oregon State University/Sheba LLC, Paragon Cooperative, Phoenix Community Farm, Piedmont Environmental Council, Spark Northwest; Strengthen ND, The Bronx Land Trust, The Latino Coalition of San Benito County (California) and Costanoan Indian Research.

Department: U.S. Department of Energy
Agency: National Renewable Energy Laboratory

FY 2025 Clean Energy to Communities Program: Peer-Learning Cohorts

Detailed Summary

The purpose of this program is to provide an opportunity for participation in peer-learning cohorts. Each peer-learning cohort will convene regularly to exchange strategies and best practices; learn in a collaborative environment; and workshop policy or program proposals, action plans, or strategies to overcome challenges around a common clean energy topic. Experts will provide each cohort with case studies, analysis and modeling tools, templates, training materials, and facilitated collaboration to enable accelerated clean energy progress.

Peer-learning cohorts will bring together communities with similar clean energy goals, opportunities, or challenges to:

- Learn from subject matter experts who will provide education, best practices, analysis tools, templates, and other resources as needed
- Exchange case studies, experiences, and insights with other communities that can inform their own activities
- Gain insights that will help them access upcoming funding or programmatic opportunities
- Develop proposals, action plans, and strategies to overcome common challenges and enable accelerated clean energy progress

This program's cohort topics include:

- Planning for microgrids to increase community resilience: This cohort will cover the types and scales of microgrids, the basics of how they work, the costs and benefits, and funding and procurement strategies. Participants will learn from, and exchange ideas with, other participants while receiving assistance and support from national lab subject matter experts; access tools and strategies to conduct community engagement to align microgrid projects with community resilience priorities; share experiences and approaches for working with varying regulatory and utility situations; and learn how to maximize microgrid benefits by exploring site characteristics, technology designs, electrical performance goals, and financial considerations.
- Expanding capacity for distributed wind in rural and agricultural communities: This cohort will introduce entities representing rural and agricultural communities to distributed wind technologies. Distributed wind consists of small-scale wind turbine installations that allow individuals, communities, and businesses to reduce electricity costs and increase revenue through local, carbon-free energy generation. Participants will explore key levers for success, including permitting, zoning, financing and ownership models, and building awareness in key markets, such as the agricultural sector. Additionally, participants will learn about available tools and technical assistance that can help them explore resource and economic viability of distributed wind in their own contexts.

- Renewable energy and energy efficiency improvements in Appalachia: This cohort will explore available renewable energy and energy efficiency technologies, including their procurement processes, available funding and financing opportunities, and other deployment factors. Participants will learn about community engagement and other strategies to ensure the new energy economy results in community benefits, and they will outline next steps to leverage these technologies for economic and workforce opportunities in Appalachia.

Applicant Eligibility

Eligible applicants are entities that have decision-making power or influence in their community entities but need access to additional clean energy expertise to inform upcoming opportunities. Specific eligibility requirements will vary according to cohort topic, as follows:

Planning for microgrids to increase energy resilience:

- Eligible applicants are local governments, including cities, towns, villages, and counties; regional organizations, such as councils of governments; municipal utilities or electric co-ops; tribes, including Alaska Native villages, Alaska Native corporations, and state-recognized tribes; community-based nonprofit organizations; and nonprofit colleges or hospitals.

Expanding capacity for distributed wind in rural and agricultural communities:

- Eligible applicants are local governments, especially rural counties, towns, and villages; tribes, including Alaska Native Villages, Alaska Native Corporations, and state-recognized tribes; regional development organizations, including councils of governments; economic development corporations; university cooperative extension; and cooperative and municipal utilities. All participants must represent a rural, remote, or agricultural community.

Renewable energy and energy efficiency improvements in Appalachia:

- Eligible applicants are local governments, including cities, towns, villages, and counties; regional organizations, including councils of governments; economic development organizations; tribes, including state-recognized tribes and tribal organizations; and community-based organizations that are working in partnership with a specific local government, regional government, or tribe. Ideal participants for this cohort are local governments and regional organizations, economic development districts, and tribes that are interested in learning more about renewable energy and energy efficiency and want to connect and exchange ideas with aligned peers in the region.

Applicants may be located within U.S. territories.

For the renewable energy and energy efficiency improvements in Appalachia cohort, applicants must be located in Appalachia.

Priority applicants will also vary according to cohort, as follows:

Planning for microgrids to increase energy resilience:

- Entities in areas with significant risk of weather-related emergencies, grid instability, or power outages, including those that are located in islanded or remote communities

Expanding capacity for distributed wind in rural and agricultural communities:

- Entities that work directly with farmers

Primary applicants may benefit from including secondary partners, such as electric utilities, community-based organizations, and other public agencies, on their application, especially those that may play a significant role in planning, decision-making processes, and implementation efforts.

Applicants will be required to indicate their primary community representative, which must be a member of the applicant organization, on their application.

Applicants may apply for up to two cohorts in a single cohort cycle.

Funding

Rather than providing monetary awards, this program provides an opportunity for participation in peer-learning cohorts. Each peer-learning cohort will convene regularly to exchange strategies and best practices; learn in a collaborative environment; and workshop policy or program proposals, action plans, or strategies to overcome challenges around a common clean energy topic.

Each cohort is estimated to consist of 8 to 15 communities; however, in some cases, cohorts may be larger or smaller.

Communities will be selected and notified in early December 2024.

Cohorts will launch in July 2025. Each cohort is expected to last approximately six months on average; however, some cohorts may be shorter or longer depending on the content and time needed to effectively meet participant needs.

Matching and Cost Sharing

Matching funds are not required for this program.

Contact Information

Program Staff
c2c@nrel.gov

https://www.nrel.gov/state-local-tribal/c2c-peer-learning-cohorts.html

FEDERAL
GRANT PROFILE



Department: U.S. Department of Energy
Agency: Office of Energy Efficiency and Renewable Energy

FY 2024 Communities Local Energy Action Program (LEAP) Cohort 2 Competitive Technical Assistance Opportunity

Grant Overview

The purpose of this program is to help communities access the economic and environmental benefits of clean energy and clean energy manufacturing. This program will provide technical and financial assistance to eligible disadvantaged and/or energy communities to develop and advance their own community-driven clean energy transition approach Eligible applicants are multistakeholder teams consisting of community-based organizations; local, tribal or territorial government entities; nonprofits; faith-based organizations; private organizations; and academic organizations.

Program History

	Total Awards
2022	24

Key Information

Total Funding: Rather than providing monetary awards, this program will provide technical assistance services
Match: Not required
Solicitation date: September 27, 2021
Proposal due: December 14, 2021
https://www.energy.gov/communitiesLEAP/communities-leap

Tips

- Multistakeholder Teams must represent communities in which at least 30 percent of the population is low-income, and who experience a high energy burden
- Communities must be either have a historical economic dependence on the fossil fuel industry, or be an environmental justice community

Department: U.S. Department of Energy
Agency: Office of Energy Efficiency and Renewable Energy

FY 2024 Communities Local Energy Action Program (LEAP) Cohort 2 Competitive Technical Assistance Opportunity

Detailed Summary

The purpose of this program is to help communities access the economic and environmental benefits of clean energy and clean energy manufacturing. This program will provide technical and financial assistance to eligible disadvantaged and/or energy communities to develop and advance their own community-driven clean energy transition approach. This program is intended to facilitate sustained community-wide economic empowerment through clean energy, improved local environmental conditions, and opening the way for other benefits, primarily through the funding agency's clean energy deployment work. This program has been designed with the aim of:

- Recognizing each community's specific energy-related challenges and opportunities
- Supporting community member and stakeholder leadership in designing and implementing actions to address those challenges and opportunities
- Building toward long-term community economic and environmental change and a more sustainable, resilient, and equitable energy future

Participating communities may pursue one or more of the following approaches toward clean energy-related economic development:

- Clean energy planning and development
- Energy efficient buildings and beneficial electrification
- Clean energy transportation
- Carbon capture and storage
- Critical minerals resource potential from energy wastes and by-products
- Community resilience microgrids
- New or enhanced manufacturing
- Advanced nuclear technology and support for existing reactors
- Puerto Rico community resilience

Participating communities are encouraged to integrate multiple approaches to increase community benefits. Each approach may also include an emphasis on developing energy jobs and workforce skills, as well as promoting minority-owned businesses and small- to mid-size businesses. Participating communities may explore opportunities beyond the specific approaches listed above, provided that the proposed approach is in line with program objectives.

Participating communities must commit to work with the funding agency and its technical assistance provider network. Technical assistance provided through this program will focus on the development of community-driven clean energy planning and implementation with economic, environmental, and other benefits based on each community's unique combination of:

- Energy-related resources, assets, or potential
- Social, institutional, and economic strengths and opportunities
- The specific clean energy approach the community hopes to pursue

In particular, participating communities will receive the following technical assistance:

- A dedicated point of contact within the national laboratory system to coordinate all program-related activities
- Extensive technical support from the U.S. Department of Energy (DOE) national laboratory complex as well as other experts based on individualized needs
- Facilitation and community engagement support, as needed, to bring together community stakeholders to identify local clean energy objectives, core community assets, and data and resource requirements

Community team partners in participating communities may also have the opportunity to serve as a subcontractor within the funding agency's technical assistance network and receive financial compensation for services rendered. At the end of the technical assistance period, each participating community will have an action plan or other deliverables that will prepare the community to take further steps toward realizing its goals, including leveraging federal, state, and local funding or financing opportunities; participating in programs offered by philanthropic organizations; and/or partnering with private-sector investment. The funding agency intends to assist participating communities in identifying specific resource opportunities to take such further steps.

Applicant Eligibility

Eligible applicants are multistakeholder teams consisting of community-based organizations; local, tribal or territorial government entities; nonprofits; faith-based organizations; private organizations; and academic organizations. Eligible multistakeholder teams must:

- Include a community-based organization with a demonstrated track record of working with community stakeholders, which may be the same entity as the lead organization
- Include at least one local, tribal, or territorial government entity, which may be the same entity as the lead organization
- Include entities and organizations that together have sufficient authority and influence to ensure overall success in applying the awarded technical assistance within the community

Multistakeholder teams must represent communities that meet the following criteria

- Thirty percent of the community population is classified as low-income
- High or severe energy burden, meaning a median spending of household income on energy bills of at least 6 percent

In addition, communities must also meet one of the following criteria:

- Historical economic dependence on fossil fuel industrial facilities including extraction, processing, or refining
- Environmental justice communities, as indicated by high exposure to energy-related environmental hazards, pollution, and toxicity from the siting of large-scale energy or industrial facilities

A map of eligible census tracts that meet the above criteria can be found online at arcgis.netl.doe.gov.

Applicants may apply in support of more than one community as long as the applications are separate and the applicant organization can demonstrate a meaningful role with each community. Applicant organizations may not serve as a team lead for more than one multistakeholder team.

Funding

Rather than providing monetary awards, this program will provide technical assistance services valued at up to $17.5 million to support 24 to 32 communities through this program. Technical assistance provided through this program will include:

- A dedicated point of contact within the national laboratory system to coordinate all program-related activities
- Extensive technical support from the U.S. Department of Energy (DOE) national laboratory complex as well as other experts based on individualized needs
- Facilitation and community engagement support, as needed, to bring together community stakeholders to identify local clean energy objectives, core community assets, and data and resource requirements

In addition, up to $1.5 million is available through this program to support awards of up to $50,000 for community team partners serving as a subcontractor within the DOE's technical assistance network and requesting financial compensation for services rendered.

Award selections will be made in March 2024.

The technical assistance period will last approximately 12 to 18 months.

Matching and Cost Sharing

No match is required for this program.

Contact Information

Program Staff
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https://www.energy.gov/communitiesLEAP/communities-leap

FEDERAL
GRANT PROFILE

Department: U.S. Department of Energy
Agency: Office of Electricity

FY 2024 Community Microgrid Development Partnership (C-MAP)

Grant Overview

The purpose of the Community Microgrid Development Partnership (C-MAP) is to support implementation or improving operation of existing or new microgrid energy systems.
This program aims to lay a pathway for underserved and Indigenous communities to access the benefits of advanced microgrid systems while delivering much-needed information to the energy technology market. Eligible applicants include nonprofits, including energy cooperatives; state and local governmental entities; and any federally recognized American Indian and Alaska Native tribes and villages.

Program History

This is a new funding opportunity launched by the U.S. Department of Energy's Office of Electricity.

Key Information

Total Funding: Not Specified
Award Range: $200,000 - $500,000
Match: Not Required
Solicitation date: October 2, 2024
Proposal due: December 20, 2024

Click here for more information.

Tips

- Informational webinar: November 2024
- Communities selected: Spring 2025
- Applicants may submit multiple proposals.
- Proposals must address individual topic areas.
- Communities or community groups may be part of multiple proposals.

Department: U.S. Department of Energy
Agency: Office of Electricity

FY 2024 Community Microgrid Development Partnership (C-MAP)

Detailed Summary

The purpose of this program is to support communities interested in taking advantage of advanced microgrid technology to support their future community and energy needs. For the purposes of this program, a microgrid is defined as a group of interconnected loads and distributed energy resources within clearly defined electrical boundaries that acts as a single controllable entity with respect to the grid, that can connect and disconnect from the grid to operate in grid-connected or island mode. In addition to monetary awards, this program will provide direct and indirect technical assistance and additional community-based services that align with funding agency goals. Program funding will support implementation or improving operation of existing or new microgrid energy systems through one or more of the following pathways:

- Develop and implement multicommunity support efforts to better support or develop advanced microgrid energy system;
- Develop detailed engineering designs and financial assessments in support of developing advanced microgrid system; and/or
- Assess and improve the operation of existing microgrid energy systems.

C-MAP aims to lay a pathway for underserved and Indigenous communities to access the benefits of advanced microgrid systems while delivering much-needed information to the energy technology market. This program focuses on microgrid energy systems serving the needs of underserved and Indigenous communities that are electrically isolated or are designed to operate independently of the grid for prolonged periods of time.

All projects should lead to an eventual improvement in performance, such as improved efficiency, reduced use of imported energy, or increased reliability or resilience; improved system operability; decreased capital costs; reduced project development, construction, and commissioning times; and/or improved long-term operations and maintenance. Projects should also be implemented to allow improved industry-wide learning on microgrid energy systems, allowing other parties or communities to take advantage of the lessons obtained through the project.

Funding will be provided for the following program components:

Part A – Regional Microgrid Community Operations Assistance: The purpose of the Regional Microgrid Community Operations Assistance component is to help energy service providers from multiple communities collaborate to improve the operations of microgrid power systems across their communities. This program will cover the costs of expanding community-based development, planning, and operation, leading to expanded support for the operation or improvement of microgrids that will impact multiple communities.

Areas of collaboration must be identified across three to six communities that address operational, training, or staffing challenges faced by most of these communities; develop a plan to expand collaboration while addressing the challenges; and then implement those plans to the extent possible. An example of an eligible

project would be the development of a multicommunity maintenance collaborative that would support the cross-training of maintenance staff, development of coordinated maintenance procedures, and the development of monitoring systems that could be implemented on each microgrid to allow for system operational monitoring from partner communities.

Program funding must be used for multiple communities to support staff time, staff training or skills development, analysis efforts, and power system-focused training to improve operations or management with a focus on increasing intracommunity collaboration, leading to the adoption or improvement of microgrid energy systems across applicant communities.

Part B – Regional Microgrid Community Development Assistance: The purpose of the Regional Microgrid Community Development Assistance component is to expand community-based microgrid development and planning, leading to the identification of regional approaches that support the implementation of improved microgrids for or in multiple communities. Projects may also include work to support regional microgrid development or improvement plans, such as incorporating advanced controls or renewable energy systems on individual community microgrids. Program funding may support staffing, analysis efforts, data collection and monitoring equipment, regional optimization assessments, and/or identification of regional approaches to lower the costs for microgrid system improvement or replacement for multiple communities.

Part C – Microgrid Development: The purpose of the Microgrid Development component is to allow individual communities to complete detailed engineering design and investment plans for a new or major retrofit of an existing microgrid power system, enabling communities to obtain project funding. Communities are expected to have completed preliminary design or development assessments for the microgrid power system being considered, but need additional resources to develop detailed development plans to support project financing and implementation. An example of an eligible project is conducting a detailed conceptual design of a proposed advanced microgrid based on a previously completed general feasibility study. Funds are expected to be used to conduct detailed engineering studies, perform needed resource assessments, develop financial models, and identify funding sources for potential project implementation.

Part D – Microgrid Transformation: The purpose of the Microgrid Transformation component is to allow individual communities to assess, design, and implement microgrid improvement efforts to operational microgrid systems. Communities must be operating a microgrid power system that has limited operability due to design or other constraints, where optimization, hardware innovation, or the implementation of new operational concepts would lead to transformational improvements in system operation. Preference will be given to projects that are implementing potentially transformational improvements to existing microgrid systems, providing insights that may be applicable to other communities. An example of an eligible project is assessing the operational performance of an existing microgrid power system and analyzing the implementation of an improvement, such as upgrading system controls to implement active load control or upgrading a power converter to maximize the output from an energy storage or expanded renewable energy system.

Funds are expected to be used to identify technical needs for improvement, support required engineering, and implement identified improvements.

Applicant Eligibility

Eligible applicants are:

- Nonprofit entities, including energy cooperatives;

- State and local governmental entities; and/or
- Any federally recognized American Indian and Alaska Native tribes and villages, inclusive of any Alaska Native village or regional corporation as defined in or established pursuant to the Alaska Native Settlement Act.

Applicants must be from, or directly represent, specific underserved and Indigenous communities in remote, rural, and islanded regions of Alaska, Hawai'i, and tribal lands in the West and Midwest. For the purposes of this program, rural or remote areas are defined as a city, town, or unincorporated area that has a population of not more than 10,000 inhabitants.

C-MAP defines underserved communities are those in which at least 30 percent of the population is classified as low-income, and there is high or severe energy burden, defined as median spending of household income on energy bills of at least 6 percent. Interested parties that do not specifically meet these data points are still encouraged to contact their regional partner and describe how they may be eligible.

Funding

In FY 2024, an unspecified amount of funding is available overall to support awards through this program. Funding for each component is as follows:

Part A – Regional Microgrid Community Operations Assistance: Funding will support three to five awards for this component with a base award of $200,000 and an additional $75,000 per community, up to a maximum award of $650,000. The project period will span 24 months from contract execution.

Part B – Regional Microgrid Community Development Assistance: Funding will support three to five awards for this component with a base award of $300,000 and an additional $50,000 per community, up to a maximum award of $550,000. The project period will span 24 months from contract execution.

Part C – Microgrid Development: Funding will support three to five awards for this component with a maximum award of $300,000. The project period will span 22 months from contract execution.

Part D - Microgrid Transformation: Funding will support three to five awards for this component with a maximum award of $400,000. The project period will span 18 months from contract execution.

Matching and Cost-Share

There are no stated matching or cost-share requirements for this program.

Contact Information

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*Note that technical questions must be received by 2:00 p.m. MT on November 1, 2024

Click here for more information.

FEDERAL
GRANT PROFILE



Department: U.S. Department of Energy
Agency: Office of Energy Efficiency and Renewable Energy (EERE)

FY 2024 Connected Communities 2.0: Innovations to Manage Growing Transportation, Building, and Industrial Loads to the Grid

Grant Overview

This program will support research, development, and demonstration (RD&D) at the grid edge – the portion of the electric grid between the feeder and the plug – to evaluate how to right size future electricity infrastructure using various technical measures, which can also improve customer benefits and grid resilience. Eligible applicants are local governments, institutions of higher education, nonprofits, for-profit entities, and Indian tribes.

Program History

	Total Funding	# of Awards
2022	$61 million	10

Key Information

Total Funding: $65 million
Award Amounts: $3 million - $6 million
Match: Varies
Solicitation Date: July 22, 2024
Proposal Due: August 20, 2024 (Concept Papers), October 10, 2024 (Full Application)

https://www.energy.gov/eere/funding-notice-connected-communities-20

Awardee Profile

IBACOS, NC

AMOUNT: $6,650,000
YEAR: 2022

This project will deploy a coordinated control program to optimize the energy use of a comprehensive mix of distributed energy resources in 1,000 new and existing homes, including single-family and multifamily homes and both owner-occupied and rental properties.

Department: U.S. Department of Energy
Agency: Office of Energy Efficiency and Renewable Energy (EERE)

FY 2024 Connected Communities 2.0: Innovations to Manage Growing Transportation, Building, and Industrial Loads to the Grid

Detailed Summary

The purpose of this program is to address major new loads from transportation, industry, and buildings on the electric grid by providing new tools for users, planners, and operators of the electric grid. The program will support research, development, and demonstration (RD&D) at the grid edge – the portion of the electric grid between the feeder and the plug – to evaluate how to right size future electricity infrastructure using various technical measures, which can also improve customer benefits and grid resilience. Overall goals of this program include:

- Demonstrating how smart and coordinated management of electric vehicles (EVs) and other Distributed Energy Resources (DERs), including the integration of efficiency, smart electrical panels, solar, heat pumps, controls, EV charging, and storage can together provide grid support, reduce system costs, and improve the economics of customer technology adoption, at a scale sufficient to enable confidence in wide-scale adoption.
- Demonstrating approaches that enable acceptance by utilities, PUCs, and communities of smart charge management, technical measures at the grid edge, and innovative planning strategies as valid methods towards right sizing investments in the distribution system
- Demonstrating approaches towards improved resilience for communities, end-use customers, and the overall grid in the face of growing loads, extreme weather events, cyber threats, and increasing reliance on the electric grid through the use of grid edge technical measures

The program seeks projects that will:

- Help move beyond small scale pilots and provide the learnings necessary to move to larger scale implementation
- Address practical barriers to implementation that can allow for successful support among customers, utilities, and utility regulators
- Provide data and analysis on energy use, grid operations, and integration of innovative grid edge technologies
- Enable learning in this sector through practical demonstrations of grid edge technical measures
- Develop new frameworks to plan, operate, and regulate the electricity system for grid edge technical measures
- Engage broad stakeholder groups to address new load growth and resilience, including system planners and operators, industry, original equipment manufacturers (OEMs), policy makers, regulators, communities, end-use customers, and technology developers

- Reduce technological and institutional uncertainty and enhance confidence in grid edge technical measures for all communities

Projects seeking funding under this program will apply to one of the following topic areas:

- Topic Area 1: Connected Communities 2.0: This topic area focuses on grid-edge technical measures in buildings, industry, and transportation to prepare the electric grid for new loads and improve customer benefits and grid resilience. Specific areas of interest include:
    - Field validation of grid edge technical measures that reduce the necessary level of investment into distribution infrastructure
    - Demonstration of increased customer benefits and grid resilience using grid edge technical measures, both in front of and behind the meter
    - Data collection to assess system readiness for new loads
- Topic Area 1A: Smart Charge Management of Electric Vehicles for Grid Support and Integration: The objective of this area of interest is to conduct wide-scale demonstrations of Smart Charge Management (SCM) in various unique urban, suburban, and rural use cases to create confidence in SCM technology as an approach to effectively utilize the flexibility and value that EVs provide to the grid. SCM entails communication between the vehicles and/or charging equipment and the grid distribution network to balance the changing needs of multiple electric vehicles with the ability of the grid to supply the requested energy. A specific area of interest under this topic area is field validation of SCM for EVs.

Applicant Eligibility

Eligible applicants are domestic local governments, institutions of higher education, nonprofits, for-profit entities, and Indian tribes.

Projects are expected to have utilities as a primary or a substantial contributing partner (including financially), along with other partners who can engage with the local PUCs or the governing authority for the utility

Funding

In FY 2024, approximately $65 million is available to support an estimated 8-20 awards ranging from $3 million to $6 million in funding. Funding for each topic area are as follows:

Topic Area 1: Connected Communities 2.0: an estimated $50 million in funding is available to support 8-20 awards ranging from $3 million to $ 6 million through this topic area. The anticipated period of performance is 36-60 months.

Topic Area 1A: Smart Charge Management of Electric Vehicles (EVs) for Grid Support and Integration: an estimated $15 million in funding is available to support 4-6 awards ranging from $3 million to $ 6 million through this topic area. The anticipated period of performance is 36-60 months.

Matching and Cost Sharing

Generally, projects must have a cost share of at least 30 percent of the total allowable costs for commercial application projects and must come from nonfederal sources unless otherwise allowed by law. Projects seeking funding under topic area 1A must provide a cost share of 50 percent.

Contact Information

Program Staff
CCPilotsFOA@ee.doe.gov

https://www.energy.gov/eere/funding-notice-connected-communities-20

FEDERAL
GRANT PROFILE

Department: U.S. Department of Energy
Agency: Office of Electricity

FY 2024 Critical Facility Energy Resilience (CiFER)

Grant Overview

This program advances innovative energy storage technologies from early-stage research and development (R&D) to widespread commercialization and demonstrate the capabilities of these technologies to support critical infrastructure or facilities that have identified resiliency needs. In addition, projects will perform an analysis of the resiliency benefits provided by the storage system and disseminate the results to end user, investor, and community stakeholders. Eligible applicants are state and local governments, nonprofits, for-profits, and institutions of higher education.

Program History

This is a new program.

Key Information & Tips

Total Funding: $15 million
Award Range: Up to $5 million
Cost-Share: Varies
Solicitation date: August 5, 2024
Proposal due: October 4, 2024

https://www.grants.gov/search-results-detail/355876

Tips

- Partnerships between storage technology providers, beneficiary organizations, and resiliency analytics partners are encouraged.
- Applicants may submit more than one application, as long as each is unique and scientifically distinct.

Department: U.S. Department of Energy
Agency: Office of Electricity

FY 2024 Critical Facility Energy Resilience (CiFER)

Detailed Summary

The purpose of this program is to advance innovative energy storage technologies from early-stage research and development (R&D) to widespread commercialization and demonstrate the capabilities of these technologies to support critical infrastructure or facilities that have identified resiliency needs. In addition, projects will perform an analysis of the resiliency benefits provided by the storage system and disseminate the results to end user, investor, and community stakeholders to share details about the technical performance of the storage technology and a quantitative understanding of the value of resiliency it provides.

Specifically, supported projects will:

- Deploy an innovative energy storage technology at a host site with identified resiliency needs at the required scale, performance, and technology maturity level appropriate to advance technology toward commercialization
- Demonstrate the benefits of an innovative energy storage technology being used in the field to the large energy storage end-user and potential investor ecosystem
- Identify a host site that has a compelling need for a dependable supply of energy based on potential impact if the site were not able to maintain normal operations during a grid outage or other emergency event
- Learn from industry and community stakeholders the type of criteria they consider are crucial for "validation" of a new technology
- Conduct analysis on the value of resiliency provided by the energy storage system and use or develop valuation methods that could be leveraged by others that are considering similar projects
- Disseminate results and methods used for quantifying value of energy resiliency to a broad set of stakeholders interested in resiliency solutions
- Demonstrate that the project will provide community benefits and address workforce considerations
- Be willing to participate in the Rapid Operational Validation Initiative (ROVI) data sharing program with national labs

To accomplish these goals, the funding agency encourages partnerships between storage technology providers, beneficiary organizations, and resiliency analytics partners.

All applicants must address the following technical details in their applications:

- Energy storage system (ESS) technical details
    - ESS must be a bi-directional electricity-in, electricity out system and provide information on expected performance metrics that explain the technical capabilities of the technology.
    - ESS must have the capability to discharge at least 100 kW of electricity for at least 10 hours at the maximum rated power.
- Innovative ESS demonstrations

- Critical facility or infrastructure host site
- Resiliency analytics
- Results dissemination
- ROVI

Applicant Eligibility

Eligible applicants are domestic state and local governments, nonprofits, for-profits, and institutions of higher education.

Funding

In 2024, approximately $15 million is available to support approximately three cooperative agreements of up to $5 million through this program. Generally, awards for research and development (R&D) phases of projects will not exceed $3.5 million, and awards for demonstration phases of projects will not exceed $1.5 million.

Award notifications are expected to be issued on February 18, 2025. Awards are expected to be issued on May 19, 2025. Project periods are expected to span three years. Demonstrate phases must span at least 12 months.

Matching and Cost Sharing

Generally, applicants must provide at least 20 percent of total allowable costs for research and development projects and 50 percent of total allowable costs for demonstration and commercial application projects. Match must consist of nonfederal cash and/or in-kind contributions.

Contact Information

Questions should be directed to the program staff online using the federal government's FedConnect system, at www.fedconnect.net.

https://www.grants.gov/search-results-detail/355876

FEDERAL
GRANT PROFILE

Department: U.S. Department of Energy
Agency: Advanced Research Projects Agency - Energy

FY 2025 Disruptive DC Converters for Grid Resilient Infrastructure to Deliver Sustainable Energy

Grant Overview

This program supports transformative technologies that enable a multi-terminal high voltage direct current (MT-HVDC) transmission macrogrid. Projects will enable multi-directional power routing, flexible interconnections between existing and new alternating current (AC) and direct current (DC) lines, and the easier addition of sustainable energy sources. Eligible applicants include U.S. Institutions of Higher Education, national laboratories, industry, and individuals. Other entities may be eligible as a project team member rather than a lead applicant.

Program History

Program history is unavailable.

Key Information

Total Funding: $38 million
Award Range: $500,000 - $10 million
Match: Varies
Solicitation Date: November 7, 2024
Due Date: December 10, 2024 (Concept Papers); TBD (Full applications)

https://arpa-e-foa.energy.gov/#FoaIdf98a04cf-9440-4f13-afb6-4f8d6e8cffee

Tips

- The funding agency encourages applications focused on modular high-voltage power electronic valves; novel high-performance compact submodules; technologies that enable highly compact multi-terminal stations with multi-port converters; converter topologies without a low-frequency transformer; HVDC converter stations that use gas, liquid, and/or solid insulations and coolants with minimal global warming potentials; and solutions for AC-to-DC substation conversion

Department: U.S. Department of Energy
Agency: Advanced Research Projects Agency - Energy

FY 2025 Disruptive DC Converters for Grid Resilient Infrastructure to Deliver Sustainable Energy

Detailed Summary

This program supports transformative technologies that enable a multi-terminal high voltage direct current (MT-HVDC) transmission macrogrid. Projects will enable multi-directional power routing, flexible interconnections between existing and new alternating current (AC) and direct current (DC) lines, and the easier addition of sustainable energy sources. The goal of this program is to enable the rapid expansion of the grid's capacity by making HVDC transmission systems cost-comparable with conventional AC technology. This will lead to higher grid resiliency, energy availability, performance, and lower deployment time (if HVDC can use the existing overhead and underground transmission infrastructure rights-of-way). The program will also enable true multi-directional power routing with flexible interconnections between new and existing AC and direct current (DC) lines, making integration of sustainable energy sources faster and easier. This program will focus on two technical categories:

- Category A: Novel submodules and modular high-voltage power electronic valves: Technological breakthroughs under Category A will enable the availability of low-cost, vendor-agnostic valves that can be plug-and-play-ready and able to flexibly operate together in the same HVDC converter station. This would lead to a competitive economy that will drive down the cost of valves, and consequently converters, enabling their wider deployment.

- Category B: Technologies that enable highly compact multi-terminal converter stations: Technologies under Category B will make conversion of existing AC substations into HVDC converter stations possible. By realizing a higher-capacity grid where DC and AC transmission operates in a highly coordinated fashion, DC-GRIDS can lead to higher grid resiliency and significantly improved flexibility when integrating new electricity sources (e.g., offshore wind) onto the U.S. grid.

ARPA-E encourages applications specifically focused on the following areas:

- Modular high-voltage power electronic valves;
- Novel high-performance compact submodules;
- Technologies that enable highly compact multi-terminal stations with multi-port converters;
- Converter topologies without a low-frequency transformer;
- HVDC converter stations that use gas, liquid, and/or solid insulations and coolants with minimal global warming potentials; and
- Solutions for AC-to-DC substation (and AC-to-DC transmission line) conversion.

Applicant Eligibility

Eligible applicants include U.S. Institutions of Higher Education, national laboratories, industry and individuals.

Individuals may include U.S. citizens or permanent residents may apply for funding in their individual capacity as a Standalone Applicant, as the lead for a Project Team, or as a member of a Project Team. Funding may only be awarded to an entity formed by the applicant.

Domestic entities that are eligible include for-profit entities (including large and small businesses), educational institutions, and nonprofits that (A) are organized, chartered, or incorporated (or otherwise formed) under the laws of a particular state or territory of the United States; (B) have majority domestic ownership and control; and (C) have a physical place of business in the United States, including U.S. territories, are eligible to apply for funding as a Standalone Applicant, as the lead organization for a Project Team, or as a member of a Project Team. Entities that do not meet these criteria may still be eligible to apply as a Standalone Applicant, lead organization or member of a Project Team, but must either (1) designate in the Full Application a subsidiary or affiliate that meets the above criteria to receive funding (the Full Application must state the nature of the corporate relationship between the foreign entity and domestic subsidiary or affiliate); or (2) request a Foreign Entity Waiver via the Business Assurances & Disclosures Form.

- If a Foreign Country of Concern or individual citizen(s) of a Foreign Country of Concern has any ownership interest in any of the entities included in a proposal, then the Full Application must include a Foreign Entity Waiver request for each such entity in order for ARPA-E to consider the participation of such entities.
- All work under this award must be performed in the United States unless a separate Foreign Work Waiver request is granted.

Federally Funded Research and Development Centers (FFRDCs)/DOE Labs are eligible to apply for funding as the lead organization for a Project Team or as a member of a Project Team that includes Institutions of Higher Education, companies, research foundations, or trade and industry research collaborations, but not as a Standalone Applicant. State, local, and tribal government entities are eligible to apply for funding as a member of a Project Team, but not as a Standalone Applicant or as the lead organization for a Project Team. Federal agencies and instrumentalities (other than DOE) are eligible to apply for funding as a member of a Project Team, but not as a Standalone Applicant or as the lead organization for a Project Team.

Consortia may include domestic and foreign entities but must designate one member of the consortium as the consortium representative to the Project Team. The consortium representative must be incorporated in the United States. Each consortium must have an internal governance structure and a written set of internal rules. Unincorporated consortia must provide the Grants Officer with a collaboration agreement, commonly referred to as the articles of collaboration, which sets out the rights and responsibilities of each consortium member. This collaboration agreement binds the individual consortium members together and shall include the consortium's management structure, method of making payments to consortium members, means of ensuring and overseeing members' efforts on the project, provisions for members' cost sharing contributions and provision for ownership and rights in intellectual property developed previously or under the agreement.

Funding

In FY 2025, approximately $38 million in funding is available to support awards between $500,000 and $10 million through this program. Awards will be announced in June 2025. The period of performance will span from September 2025 to September 2028.

Matching and Cost Share

Applicants are required to provide at least 20 percent of the total project cost as cost share. Large businesses are strongly encouraged to provide more than 20 percent of the total project cost as cost share. A reduced cost share is available for:

- a domestic educational institution or domestic nonprofit applying as a Standalone Applicant (5%)
- Project Teams composed exclusively of domestic educational institutions, domestic nonprofits, and/or FFRDCs/DOE Labs/Federal agencies and instrumentalities (other than DOE) (5%)
- Small businesses or consortia of small businesses may provide 0% cost share from the outset of the project through the first 12 months of the project (hereinafter the “Cost Share Grace Period”). If the project is continued beyond the Cost Share Grace Period, then at least 10% of the Total Project Cost (including the costs incurred during the Cost Share Grace Period) will be required as cost share over the remaining period of performance
- Project Teams where a small business is the lead organization and small businesses perform greater than or equal to 80% of the total work under the funding agreement (as measured by the Total Project Cost) are entitled to the same cost share reduction and Cost Share Grace Period as provided above to Standalone small businesses or consortia of small businesses.
- Project Teams where domestic educational institutions, domestic nonprofits, small businesses, and/or FFRDCs perform greater than or equal to 80% of the total work under the funding agreement (as measured by the Total Project Cost) are required to provide at least 10% of the Total Project Cost as cost share. However, any entity (such as a large business) receiving patent rights under a class waiver, or other patent waiver, that is part of a Project Team receiving this reduction must continue to meet the statutory minimum cost share requirement (20%) for its portion of the Total Project Cost.

Under an “other transaction” agreement (not a cooperative agreement), the recipient is normally expected to provide at least 50% of the total project Cost as cost share. The funding agency may reduce this cost share requirement, as appropriate.

Project Teams may provide cost share in the form of cash or in-kind contributions. Cash contributions may be provided by the Recipient or Subrecipients.

Contact Information

Program Staff
ARPA-E-CO@hq.doe.gov

https://arpa-e-foa.energy.gov/#FoaIdf98a04cf-9440-4f13-afb6-4f8d6e8cffee

FEDERAL
GRANT PROFILE

Department: U.S. Department of Energy
Agency: Office of Clean Energy Demonstrations

FY 2024 Energy Improvements in Rural or Remote Areas: Notice of Intent

Grant Overview

This program assists rural and remote communities in building clean energy projects that benefit their communities. Benefits could include cleaner, more resilient, more reliable, and/or cheaper local energy sources for rural and remote communities. These projects could also increase local energy independence, tax revenue, economic development and diversification, and local jobs. Eligible applicants include tribal nations; state, territorial, and local governments; nonprofits; labor unions; for-profit entities; rural electric cooperatives; farming associations and cooperatives; and institutions of higher education.

Program History

	Total Funding	# of Awards
2023	$444 million	36

Key Information

Total Funding: $400 million
Award Range: Varies
Match: Varies
Solicitation Date: September 2024 (This announcement is only a notice of intent and the full solicitation will be released at a later date)

https://oced-exchange.energy.gov/Default.aspx#FoaId30e04ed5-7532-4e64-8336-8557132d338c

Awardee Profile

National Association of Community Health Centers, NC

AMOUNT: $57,010,000
YEAR: 2023

This project plans to build energy resilience in Community Health Centers to improve access to reliable health care in low-income, rural communities across eight states in the southeast.

Department: U.S. Department of Energy
Agency: Office of Clean Energy Demonstrations

FY 2024 Energy Improvements in Rural or Remote Areas: Notice of Intent

Detailed Summary

The purpose of this program is to support rural and remote communities in building clean energy projects that benefit their communities. Benefits could include cleaner, more resilient, more reliable, and/or cheaper local energy sources for rural and remote communities. These projects could also increase local energy independence, tax revenue, economic development and diversification, and local jobs. This program will enable projects and people to demonstrate inspiring and practical paths so an even broader range and number of rural and remote communities can benefit from clean energy.

The overall goals of this program are to:

- Deliver measurable and sustained benefits to people who live in rural or remote areas by funding replicable clean energy projects that lower energy costs, improve energy access and resilience, increase economic opportunity, and/or reduce environmental harm
- Demonstrate rural or remote energy system approaches using climate-resilient technologies, business structures that promote economic resilience, accessible and appropriate financing mechanisms, and/or best practices in community leadership and engagement, and workforce development
- Build clean energy knowledge, capacity, and self-reliance in rural and remote parts of America

Eligible projects must support at least one of the following activities:

- Improving overall cost-effectiveness of energy generation, transmission, or distribution systems
- Siting or upgrading transmission and distribution lines
- Reducing greenhouse gas emissions from energy generation in rural or remote areas
- Providing or modernizing electric generation facilities
- Developing microgrids
- Increasing energy efficiency

Eligible projects must include commercially available technologies. For the purposes of this funding opportunity, commercially available technology is defined as a product that has been offered for sale, lease, or license to the public. Applicants can establish that the technology is commercially available by showing the product can be warrantied, can be purchased from a commercial vendor for the intended purpose, or some other justification the applicant chooses. The technology must be considered Technology Readiness Level (TRL) 8–9 (the highest two levels) as defined by the Department of Energy before construction begins.

Funding will be available through the following topic areas:

Topic Area 1 - Open Category: The objective of this topic area is to offer a path to funding rural or remote clean energy infrastructure for many different project types, demonstrating approaches to addressing one or more relevant adoption barriers. This topic area prioritizes the following project types:

- Solar, battery energy storage systems, wind, water power (marine energy and hydropower), geothermal (heating and cooling or power generation), biomass/biofuels, microgrids, distribution, converting fossil fuel-powered equipment to electric, and repowering existing renewable energy systems.

Topic Area 2 - Dual Use and Co-Location: The objective of this topic area is to support clean energy demonstration projects in rural and remote communities that either allow for using land or water for both energy supply and other activities; or are co-located with other activities and result in other benefits beyond energy supply and reduced pollution. Demonstrations could help to:

- Address potential conflicts between clean energy and other land and water uses in rural or remote areas
- Maximize tangible, measurable co-benefits of clean energy projects beyond supplying energy and reducing pollution—including but not limited to economic, workforce, and environmental benefits
- Increase equitable access to clean energy through new business models and financing structures.

Applicants may propose projects that provide co-benefits to communities beyond supplying energy and reducing pollution, e.g., reducing land use conflicts, conserving water, diversifying incomes, and/or enhancing partnerships.

Example projects include: agrivoltaics, distributed wind for farmers and farm groups, conduit hydro in irrigation systems, community geothermal heating and cooling systems.

Topic Area 3 - Smaller-Scale Community Centered: The objective of this topic area is to fund smaller-scale clean energy projects that are initiated, driven, and/or broadly supported by residents of the host community(ies). Projects should increase long-term local capacity for future clean energy projects in the applying community and/or in nearby or peer communities. This could include increasing the availability of technical expertise to plan and develop projects, or improved community perception. The funding agency encourages applicants to collaborate with relevant partners, particularly Tribal governments and community-based organizations that are familiar with the local community, and/or entities (e.g., nonprofits or extension schools) that have experience with developing renewable energy projects in similar areas. This topic area prioritizes the following project types:

- Solar, battery energy storage systems, wind, water power (marine energy and hydropower), geothermal (heating and cooling or power generation), biomass/biofuels, microgrids, distribution, converting fossil fuel-powered equipment to electric, and repowering existing renewable energy systems.

Topic Area 4 - Isolated Microgrids and Unelectrified Buildings: The objective of this topic area is to build clean energy projects for either isolated microgrids (often located in ultra-remote areas and served primarily by diesel generators); or unelectrified homes or community buildings not currently served by an electrical grid.

Across all topic areas priority will be given to communities and populations with at least one of the following characteristics:

- Disadvantaged communities as defined by the Justice40 Initiative and identified in the Climate and Economic Justice Screening Tool
- Energy communities as defined by the Inflation Reduction Act or communities that are likely to become energy communities in the near future
- Low-income communities and populations
- Underserved and/or underrepresented communities and populations
- High energy burden communities and populations
- Frontline communities and populations, i.e., those hit first and worst by climate change
- Communities with a low Rural Capacity Index

Priority will also be given to project teams that include members who are:

- Highly familiar with local community priorities and dynamics
- Members of (or who represent) priority communities or populations (as referenced above)
- Labor unions or other local workforce development organizations
- Credible with and trusted by community members
- Residents of proposed host community(ies)
- Experienced in project development with proposed technologies in similar geographic and cultural contexts
- Capable of efficiently and effectively administering government funding

Projects not of interest include:

- Large transmission projects (i.e., projects >69kV, or proposals of lines >20 miles).
- Single-campus projects that serve only the regular operation of that facility (e.g., solar on individual hospitals or schools). For topic areas 3 and 4, applicants may propose single-campus projects that include backup power from emission-free sources for critical community-serving buildings (e.g., solar plus battery storage for a cultural center that serves as a command center and warming shelter during power outages).
- Electric vehicles (EVs) or projects solely focused on EV charging. EV charging infrastructure may be a component of a broader, otherwise eligible project.
- Projects including only weatherization

Applicant Eligibility

Eligible applicants include tribal nations; state, territorial, and local governments; nonprofits; labor unions; for-profit entities; rural electric cooperatives; farming associations and cooperatives; and institutions of higher education.

Funding

In FY 2024, approximately $400 million in funding is available to support awards through this program. Funding for each topic area is as follows:

- Topic Area 1: Open Category – approximately $150 million in funding is available to support awards ranging from $10 million to $50 million through this topic area.

- Topic Area 2: Dual Use and Co-Location - approximately $175 million in funding is available to support awards ranging from $10 million to $50 million through this topic area.
- Topic Area 3: Smaller-Scale Community Centered - approximately $50 million in funding is available to support awards ranging from $2 million to $10 million through this topic area.
- Topic Area 4: Isolated Microgrids and Unelectrified Buildings - approximately $25 million in funding is available to support awards ranging from $2 million to $10 million through this topic area.

The funding agency anticipates announcing awards in mid-late 2025.

Matching and Cost Share

Cost share requirements for each topic area are as follows:

- Topic Area 1: Open Category – applicants are required to provide a 50 percent cost share requirement; however, tribal and local governments may apply for a waiver reducing the cost share requirement to 20 percent of a project's total cost.
- Topic Area 2: Dual Use and Co-Location - applicants are required to provide a 50 percent cost share requirement; however, tribal and local governments may apply for a waiver reducing the cost share requirement to 20 percent of a project's total cost.
- Topic Area 3: Smaller-Scale Community Centered – applicants are required to provide a 20 percent cost share requirement; however, tribal and local governments may apply for a waiver reducing the cost share requirement to 5 percent of a project's total cost.
- Topic Area 4: Isolated Microgrids and Unelectrified Buildings - applicants are required to provide a 20 percent cost share requirement; however, tribal and local governments may apply for a waiver reducing the cost share requirement to 5 percent of a project's total cost.

Contact Information

Program Staff
OCED-ExchangeSupport@hq.doe.gov

https://oced-exchange.energy.gov/Default.aspx#FoaId30e04ed5-7532-4e64-8336-8557132d338c

FEDERAL
GRANT PROFILE

Department: U.S. Department of Energy
Agency: Office of Clean Energy Demonstrations

FY 2025 Joint Assessment of Resilience in Vulnerable Infrastructure Systems (JARVIS)

Grant Overview

This program will provide funding to utilities to enhance grid resilience against extreme weather, improve flexibility through data analytics and smart grid technologies, and facilitate the integration of distributed energy resources. Eligible applicants are utilities and partner technical assistance providers which includes companies, research institutions, consulting firms, technology companies, for-profit and non-profit organizations

Program History

A program history is unavailable.

Key Information

Total Funding: $35 million
Award Range: Up to $1 million
Match: Varies
Solicitation Date: January 8, 2025
Due Date: April 18, 2025

https://www.techwerx.org/opportunities/GDO-JARVIS

Tips

- The funding agency is particularly interested in smaller electric utilities (defined as those selling less than 4,000,000 megawatts) as these utilities often serve geographically dispersed, vulnerable populations and may lack the resources for significant grid modernization projects.

Department: U.S. Department of Energy
Agency: Grid Deployment Office

FY 2025 Joint Assessment of Resilience in Vulnerable Infrastructure Systems (JARVIS)

Detailed Summary

The purpose of this program is to provide funding to utilities to enhance grid resilience against extreme weather, improve flexibility through data analytics and smart grid technologies, and facilitate the integration of distributed energy resources. Funding will support the following three project themes:

Theme 1: Understanding and Predicting Grid Performance – Data Analysis and Modeling: This theme focuses on leveraging data-driven approaches to gain a deeper understanding of grid performance and predict its behavior under various operating conditions, including extreme weather scenarios. This involves sophisticated analytics, advanced modeling, and the incorporation of climate data to create highly accurate simulations. The technical assistance topics for Theme 1 are:

- Advanced Data Analytics and Modeling: This topic centers on applying cutting-edge data analytics techniques to comprehensively analyze grid operational data. Projects will utilize advanced statistical methods, machine learning algorithms, and other innovative tools to identify patterns, predict failures, and optimize grid performance. A key deliverable will be the development of predictive models that incorporate historical and projected weather data to accurately simulate grid behavior under various climate scenarios.
- 1.2 Digital Twin Development: This involves creating highly detailed, virtual replicas ("digital twins") of specific grid infrastructure components or entire systems. Deliverables would include a functional digital twin model, validated against physical data, and documentation demonstrating its use for scenario testing.
- 1.3 Climate Data and Guidance: This focuses on acquiring, evaluating, and utilizing climate data relevant to grid resilience planning. Projects will identify and assess the suitability of available climate data, including projected changes in temperature, precipitation, wind speed, and other relevant factors. They will address data gaps and uncertainties by integrating diverse data sources and employing advanced statistical techniques. Deliverables will include a comprehensive assessment of climate hazards, recommendations for addressing data gaps, and guidance for incorporating climate projections into grid resilience planning.

Theme 2: Identifying and Mitigating Grid Vulnerabilities – Risk Assessment and Vulnerability Evaluation: This theme focuses on identifying and evaluating risks and vulnerabilities within the grid system to develop and implement effective resilience strategies. It emphasizes a proactive approach to risk management, enabling utilities to proactively strengthen grid infrastructure and mitigate potential failures. The technical assistance topics for Theme 2 are:

- 2.1 Risk Assessments and Resilient Strategies: This topic centers on conducting comprehensive risk assessments for specific grid assets or systems. Projects will use localized data, including historical

weather event data, to identify vulnerabilities and develop tailored resilience strategies. Back testing of past events will validate the effectiveness of proposed strategies. Deliverables will include detailed risk assessments, specific resilience strategies, and a prioritization framework for implementing resilience measures.

- 2.2 Failure-Mode Studies and Accelerated Lifetime Testing: This involves employing comprehensive failure-mode and effects analysis techniques to identify potential points of failure within grid components. Projects will combine analytical studies with accelerated lifetime testing to evaluate the durability and reliability of critical grid equipment under stress conditions. Deliverables will include an analysis of potential failure modes, recommendations for improving component design and maintenance practices, and results from accelerated lifetime tests.
- 2.3 Asset Exposure and Vulnerability: This topic entails conducting in-depth evaluations of vulnerabilities at both the component and asset levels. Projects will assess the vulnerability of individual grid components (e.g., transformers, transmission lines, substations) to various threats (e.g., extreme weather, cyberattacks). Deliverables will include a comprehensive inventory of critical assets, identification of their vulnerabilities, and a prioritization framework for resilience investments.

Theme 3: Strategic Planning and Execution for Grid Resilience – Planning, Implementation and Compliance: This theme focuses on the strategic planning and practical implementation of resilience measures, ensuring compliance with all relevant environmental and sustainability standards. The technical assistance topics for Theme 3 are:

- 3.1 Investment Planning: This involves conducting real-world testing and simulations of resilience measures under realistic conditions. Projects could use microgrids or other controlled environments to test modern technologies and strategies before widespread deployment. Deliverables will include data from real-world testing and simulations, and assessments of the performance and efficacy of the tested resilience measures.
- 3.2 Real-World Testing and Simulations: This topic will guide the prioritization of investments in grid hardening and resilience measures. Projects will use a cost-benefit analysis framework to assess the economic and societal value of various resilience improvements. Deliverables will include detailed investment plans with cost-benefit analyses, supporting documentation and a rationale for the prioritization of projects.
- 3.3 Environmental and Sustainability Standards Support: This focuses on ensuring that resilience projects comply with all relevant environmental regulations and sustainability standards. Deliverables will include guidance on complying with environmental regulations, recommendations for integrating sustainability into resilience planning, and documentation demonstrating compliance with relevant standards.

The funding agency is particularly interested in smaller electric utilities (defined as those selling less than 4,000,000 megawatts) as these utilities often serve geographically dispersed, vulnerable populations and may lack the resources for significant grid modernization projects.

Applicant Eligibility

Eligible applicants are utilities and partner technical assistance providers working together. Eligible technical providers include companies, research institutions, consulting firms, technology companies, for-profit and non-profit organizations.

Funding

In FY 2024, approximately $35 million in funding is available to support awards through this program of up to $1 million in funding. The project period is up to 24 months.

Matching and Cost Share

A 20 percent cost share requirement is necessary for projects that include a research and development component.

Contact Information

Program Staff
info@techwerx.org

https://www.techwerx.org/opportunities/GDO-JARVIS

FEDERAL
GRANT PROFILE



Department: U.S. Department of Energy
Agency: Golden Field Office

FY 2025 Restoring Reliability: Coal Recommissioning and Modernization

Grant Overview

The purpose of this program is to catalyze the recommissioning, retrofitting, and strategically repurposing of coal-fired generation assets to offer the fastest and most cost-effective path to restoring energy stability while supporting the nation's industrial and security priorities. Activities funded under this solicitation are expected to preserve or create high-wage jobs, strengthen domestic energy resilience, and ensure affordable and reliable power for American communities. Eligible entities vary by project topic area but generally include domestic U.S. entities that own or operate coal-fired generation assets.

Program History

Program history is not available.

Key Information

Total Funding: $525 million
Match: 50 percent
Solicitation Date: October 3, 2025
Proposal due: November 13, 2025

https://grants.gov/search-results-detail/360731

Useful Tips

- DOE requires applications to include proposed milestones with defined work scope and related milestone payments and to include in their application a project spend plan which shows the total anticipated project cost at the time of each milestone completion.
- DOE will establish program goals and objectives during negotiations and incorporate them into the award terms and milestones.

Department: U.S. Department of Energy
Agency: Golden Field Office

FY 2025 Restoring Reliability: Coal Recommissioning and Modernization

Detailed Summary

The purpose of this program is to catalyze the recommissioning, retrofitting, and strategically repurposing of coal-fired generation assets to offer the fastest and most cost-effective path to restoring energy stability while supporting the nation's industrial and security priorities. Activities funded under this solicitation are expected to preserve or create high-wage jobs, strengthen domestic energy resilience, and ensure affordable and reliable power for American communities. By unlocking the latent value of America's coal-fired generation assets, this program will secure the grid, power the nation's industrial resurgence, and protect communities from reliability shortfalls.

The funding agency intends to support projects with the potential to:

- Commission, Recommission, or reactivate coal-fired generation assets through initiating new construction, overhaul, repair, or system upgrades
- Modernize operating assets to improve fuel and load flexibility (e.g., co-firing, combustion upgrades, supply chain improvements, or selective retrofits)
- Deliver reliable, affordable and secure generation in service of high-priority loads such as defense installations, semiconductor fabs, AI/data centers, and industrial clusters, and residential areas

The funding agency also seeks to address barriers that have historically limited coal recommissioning, including:

- Investment confidence: Market and policy uncertainty have deterred capital for coal-based generation that is reliable, affordable, and secure despite reliability need
- Fuel logistics: Restarting or extending coal units requires secure fuel supply, stockpiles, and transportation arrangements
- Workforce continuity: Many affected communities have seen energy workers dispersed and displaced following past plant retirements, underscoring the need for workforce recruitment, training, and retention strategies.

Awards will be made across two Topic Areas, each mapped to available program appropriations:

- Topic 1 – Coal Recommissioning, Retrofit, and Modernization Projects: Recommissioning inactive or retiring units and modernizing existing facilities, with phased CCUS integration in later stages.
    - Proposals should demonstrate readiness to commission, recommission or modernize units to provide near-term reliability, with capacity to integrate carbon capture demonstration phases as part of project milestones.
- Topic 2 – Rural Capacity and Energy Affordability: Projects in rural or remote communities where coal assets provide reliable, affordable, and secure generation.

Applicant Eligibility

Eligible applicants vary by project topic area.

Topic 1 – Coal Commissioning, Recommissioning, Retrofit, and Modernization Projects

- Eligible applicants include entities that own or operate coal-fired generation assets that are currently inactive or scheduled for retirement prior to 2032.

Topic 2 – Rural Capacity and Energy Affordability Projects

- Eligible applicants include entities that propose, own, or operate coal-fired generation assets located in rural or remote communities as defined by a "city, town, or unincorporated area that has a population of not more than 10,000 inhabitants."

For all topic areas, the proposed prime awardees must be domestic entities. To qualify as a domestic entity, the entity must be organized, chartered, or incorporated (or otherwise formed) under the laws of the U.S. or of a particular state or territory of the U.S.; have majority domestic ownership and control; and have a physical place of business in the U.S.

Entities that are eligible as team members or that can be contracted under this solicitation include, but are not limited to:

- An institution of higher education
- Nongovernmental organization, including Tribal entities
- National Laboratory
- Tribal or governmental entities
- Private entity
- Partnership or consortium of two or more entities described in this list

Funding

In FY 2025, an anticipated $525 million will be made available to support up to 10 awards. Awards will be provided through milestone-based Other Transaction Agreements (OTAs). This program contains two different funding topic areas, and funding details vary by topic area.

Topic 1 – Coal Recommissioning, Retrofit, and Modernization Projects

- Up to $350 million will be made available to support up to 5 awards
- Awarded project period will last up to 6 years

Topic 2 – Rural Capacity and Energy Affordability Coal Projects

- Up to $175 million will be made available to support up to 5 awards
- Awarded project period will last up to 4 years

Matching and Cost Share

Funds awarded by the Department of Energy can never exceed 50 percent of total project cost, unless approved by the Department at its sole discretion and authorized by law. At every point in time from the

initiation of the award, the applicant must have contributed at least 50 percent of the total project costs incurred from the time of award.

Applicant project cost share must come from non-federal sources, such as private investment from project participants, state or local governments, or third-party financing, unless otherwise allowed by law.

Contact Information

Office of the Under Secretary for Energy
CCRM-BAA@hq.doe.gov

https://grants.gov/search-results-detail/360731

FEDERAL
GRANT PROFILE

Department: U.S. Department of Energy
Agency: Grid Deployment Office

FY 2024 Section 242: Hydroelectric Production Incentive Program

Grant Overview

This program will provide incentive payments to qualified hydroelectric facilities for electricity generated and sold. Eligible applicants include any owner or authorized operator of a qualified hydroelectric generation facility.

Program History

	Total Funding	# of Awards
2023	$36.7 million	66

Key Information and Tips

Total Funding: Unspecified
Award Range: Varies
Match: Not required
Solicitation date: March 14, 2024
Due Date: April 23, 2024

https://www.energy.gov/gdo/section-242-hydroelectric-production-incentive-program

Awardee Profile

City of Lawrence, KS

AMOUNT: $119,512

YEAR: 2023

BMPC Expanded Kansas River Hydropower Project received funding as a result of increased energy production.

Department: U.S. Department of Energy
Agency: Grid Deployment Office

FY 2024 Section 242: Hydroelectric Production Incentive Program

Detailed Summary

The purpose of this program is to provide incentive payments to qualified hydroelectric facilities for electricity generated and sold. To qualify for an incentive payment, an eligible applicant must demonstrate that its hydroelectric facility meets all of the following criteria of a qualified hydroelectric facility:

- Is located in a State or in U.S. jurisdictional waters
- Has a water-powered turbine or other generating device (including conventional or new and innovative technologies capable of continuous operation)
- Is owned by a non-Federal entity and operated by a non-Federal entity. The owner or authorized operator must be applying on behalf of:
    - A Federal Energy Regulatory Commission (FERC)-jurisdictional hydroelectric facility, as the holder of a license or exemption issued by FERC for the operation of such hydroelectric facility; or
    - A non-FERC-jurisdictional hydroelectric facility, as the holder of the exclusive rights to the beneficial use of the hydroelectric facility, including legal title
- Began producing hydroelectric energy for sale on or after October 1, 2005, either through added generation capability, or at a facility where operations began prior to October 1, 2005, so long as the facility had been offline because of disrepair or dismantling for at least five consecutive years prior and underwent significant changes
- Has either:
    - Added generation capability to an existing dam or conduit (as defined above), and began operation between October 1, 2005 and September 30, 2027 or;
    - A generating capacity of not more than 20 megawatts, must be a non-Federal entity which received a construction authorization from FERC, if applicable, and is constructed in an area in which there is inadequate electric service. To be considered an area in which there is inadequate electric service, the facility must demonstrate one of the following:
        - A lack of access to the electric grid, as demonstrated by a lack of connection to a regional or national interconnected transmission system, such as the Eastern Interconnect, the Western Interconnect, or the Texas Interconnect;
        - A significantly high frequency of electric outages, as demonstrated by a reported annual common reliability metric, including but not limited to SAIFI without MED, that is in the highest 10% of total annual reported outages;
        - A significantly high cost of electricity, as demonstrated by a reported annual average price of retail residential electricity that is in the highest 10% of total annual reported average retail residential electricity price.

To be eligible for funding a project must have produced electrical power produced from a hydroelectric generation facility placed in operation on or after October 1, 2005, and on or before September 30, 2027.

Applicant Eligibility

Eligible applicants include any owner or authorized operator of a hydroelectric generation facility may apply for incentive payments for net electric energy generated by and sold from its operation during the eligibility window.

Funding

In FY 2024, an unspecified amount of funding is available to support awards through this program. Specific award amounts will be calculated as follows:

- The amount of eligible kWhs produced by the hydroelectric generation facility is multiplied by the statutory incentive rate of $0.018/kWh, which is adjusted as required by 42 U.S.C. § 15881(e)(2).
- A payment to a qualified hydroelectric facility shall not exceed the statutory limit established in 42 U.S.C. 15881(e)(1) per applicant per calendar year

Subject to the availability of appropriated funds, a hydroelectric generation facility may receive payments for a period of 10 consecutive fiscal years. Such period shall begin with the first fiscal year in which the facility began producing hydroelectric energy for sale. For example, a hydroelectric generation facility that began producing hydroelectric energy for sale on September 30, 2027, and continued to produce and sell hydroelectric energy through September 30, 2036, would be eligible to apply for incentive payments, subject to future appropriations, for fiscal year 2027 through the end of fiscal year 2036 but not beyond that time period.

Matching and Cost Sharing

Not required

Contact Information

Program Staff
hydroelectricincentives@hq.doe.gov

https://www.energy.gov/gdo/section-242-hydroelectric-production-incentive-program

FEDERAL
GRANT PROFILE

Department: U.S. Department of Energy
Agency: Grid Deployment Office

FY 2023 Section 243: Hydroelectric Efficiency Improvement Incentives Program

Grant Overview

This program will make incentive payments to the owners or authorized operators of a hydroelectric facility at an existing dam for capital improvements directly related to improving facility efficiency by at least three percent.

Program History

This is a new program created through the Infrastructure Investment and Jobs Act.

Key Information

Total Funding: $75 million
Award Range: Varies
Match: Not required
Solicitation date: March 22, 2023
Due Date: June 20, 2023

https://www.energy.gov/gdo/section-243-hydroelectric-efficiency-improvement-incentives-program

Tips

- An applicant must demonstrate an increase of at least three percent in the efficiency improvement percentage for the hydroelectric facility where the capital improvement(s) were made or are to be made.

Department: U.S. Department of Energy
Agency: Grid Deployment Office

FY 2023 Section 243: Hydroelectric Efficiency Improvement Incentives Program

Detailed Summary

The purpose of this program is to make incentive payments to the owner or authorized operator of a hydroelectric facility at an existing dam, for capital improvements directly related to improving facility efficiency by at least three percent.

In order to be eligible for a hydroelectric efficiency improvement incentive payment under this program, the following qualifications must be met:

- The hydroelectric facility at the dam must have been placed in service before November 15, 2021
- The hydroelectric facility must be operable at the time an application is submitted
- The capital improvement(s) are made:
    - On the hydroelectric facility side of the point of interconnection or common coupling with the electric utility, or
    - In a facility that remotely controls hydroelectric facility operations
- The capital improvement(s) must increase the efficiency of the hydroelectric facility by at least 3 percent.

To be eligible to apply for a hydroelectric efficiency improvement incentive payment, a capital improvement project at an eligible hydroelectric facility must have applied for or already received all Federal, State, and/or Tribal authorizations and have initiated, requested, or completed any required federal environmental review processes under the National Environmental Policy Act of 1969 (NEPA).

The funding agency seeks eligible projects that not only contribute to the country's energy technology and climate goals, but also promote the following goals:

- Create good paying, high quality, local jobs
- Advance diversity, equity, inclusion, and accessibility for all, including people of color and others who have been historically underserved, marginalized, and adversely affected by persistent poverty and inequality
- Support meaningful community and labor engagement
- Contribute to the goal that 40 percent of the overall benefits from certain federal investments flow to disadvantaged communities

Applicant Eligibility

Eligible applicants include any owner or authorized operator of a hydroelectric facility at an eligible existing dam that meets the eligibility criteria mentioned above.

Funding

In FY 2023, approximately $75 million is available to support awards of up to $5 million per facility through this program. Under this program incentive payments shall not exceed 30 percent of the costs of the applicable capital improvement.

The funding agency may set aside up to 25 percent of the funding under this program for small projects, defined as hydropower projects that have a nameplate capacity of less than 10 MW and owned by small businesses, municipal entities, nonprofit organizations, electric cooperatives, and/or Indian Tribes.

Contact Information

Program Staff
hydroelectricincentives@hq.doe.gov

https://www.energy.gov/gdo/section-243-hydroelectric-efficiency-improvement-incentives-program

FEDERAL
GRANT PROFILE

Department: U.S. Department of Energy
Agency: Grid Deployment Office

FY 2023 Section 247: Maintaining and Enhancing Hydroelectricity Incentives

Grant Overview

This program will make incentive payments to the owner or authorized operator of a qualified hydroelectric facility for capital improvements directly related to improving grid resilience (including the addition of energy storage such as reservoir capacity, pumped storage hydropower, and batteries) and dam safety and related to environmental improvements. Eligible applicants include any owner or authorized operator of an existing facility that is licensed or has received an exemption from licensing from FERC pursuant to the Federal Power Act (16 U.S.C. 791a et seq.) or is a hydroelectric project constructed, operated, or maintained pursuant to a permit or valid existing right-of-way granted prior to June 10, 1920, or a license granted pursuant to the Federal Power Act prior to November 15, 2021.

Program History

This is a new program created through the Infrastructure Investment and Jobs Act.

Key Information

Total Funding: $553.6 million
Award Range: Up to $5 million
Match: Not required
Solicitation date: May 8, 2023
Due Date: June 22, 2023 (Letter of Intent) October 6, 2023 (Full Application)

https://www.energy.gov/gdo/section-247-maintaining-and-enhancing-hydroelectricity-incentives

Tips

- A public webinar will be held on May 24th to provide an overview of the application guidance document. Click here to register.
- A letter of Intent must be submitted to be eligible to apply under the full application
- Only materials procured or other costs incurred after November 15, 2021, are eligible for incentive payments.

Department: U.S. Department of Energy
Agency: Grid Deployment Office

FY 2023 Section 247: Maintaining and Enhancing Hydroelectricity Incentives

Detailed Summary

The purpose of this program is to make incentive payments to the owner or authorized operator of a qualified hydroelectric facility for capital improvements directly related to improving grid resilience (including the addition of energy storage such as reservoir capacity, pumped storage hydropower, and batteries) and dam safety and related to environmental improvements. Under this program all developments within an individual Federal Energy Regulatory Commission (FERC)-licensed hydroelectric project will be treated as a single hydroelectric facility and may receive one incentive payment subject to the above limitations per fiscal year.

A qualified hydroelectric facility:

- Is licensed by FERC or is a hydroelectric project constructed, operated, or maintained pursuant to a permit or valid existing right-of-way granted prior to June 10, 1920, or a license granted pursuant to the Federal Power Act (16 U.S.C. 791a et seq.), or has a FERC-issued exemption;
- Was placed into service before November 15, 2021; and
- Is in compliance with all applicable Federal, State, and Tribal requirements, or would be brought into compliance with all applicable Federal, State, and Tribal requirements as a result of the capital improvements carried out using an incentive payment

Funding will be available through the following categories:

Category 1: Improving grid resiliency: eligible capital improvement projects will directly relate to improving grid resiliency and include:

- Adapting more quickly to changing grid conditions
- Providing ancillary services (including black-start capabilities, voltage support, and spinning reserves).
- Integrating other variable sources of electricity generation
- Managing accumulated reservoir sediments.

Category 2: Improving dam safety: eligible capital improvement projects will improve dam safety to ensure acceptable performance under all loading conditions (including static, hydrologic, and seismic conditions) and include:

- The maintenance or upgrade of spillways or other appurtenant structures
- Dam stability improvements, including erosion repair and enhanced seepage controls
- Upgrades or replacements of floodgates or natural infrastructure restoration or protection to improve flood risk reduction

Category 3: Environmental improvements: eligible capital improvement projects will directly relate to environmental improvements and include:

- Adding or improving safe and effective fish passage, including new or upgraded turbine technology, fish ladders, fishways, and all other associated technology, equipment, or other fish passage technology to a qualified hydroelectric facility
- Improving the quality of the water retained or released by a qualified hydroelectric facility
- Promoting downstream sediment transport processes and habitat maintenance
- Improving recreational access to the project vicinity including roads, trails, boat ingress and egress, flows to improve recreation, and infrastructure that improves river recreation opportunities.

The funding agency seeks eligible projects that not only contribute to the country's energy technology and climate goals but also promote the following goals:

- Create good paying, high-quality, local jobs
- Advance diversity, equity, inclusion, and accessibility for all, including people of color and others who have been historically underserved, marginalized, and adversely affected by persistent poverty and inequality
- Support meaningful community and labor engagement
- Contribute to the goal that 40 percent of the overall benefits from certain federal investments flow to disadvantaged communities

Applicant Eligibility

Eligible applicants include any owner or authorized operator of an existing facility that is licensed or has received an exemption from licensing from FERC pursuant to the Federal Power Act (16 U.S.C. 791a et seq.) or is a hydroelectric project constructed, operated, or maintained pursuant to a permit or valid existing right-of-way granted prior to June 10, 1920, or a license granted pursuant to the Federal Power Act prior to November 15, 2021.

There is no limit to the number of facilities for which applications can be filed by a single owner. Applications for capital improvements across different categories (i.e., grid resiliency, dam safety, and environmental improvements) must be filed in separate applications. However, developments within an individual FERC-licensed hydroelectric project will be treated as a single hydroelectric facility and only one incentive payment may be made to each hydroelectric facility per fiscal year.

Funding

In FY 2023, approximately $553.6 million is available to support awards up to $5 million. An estimated 25 percent of this total funding will be reserved for small projects defined as hydropower projects that have a nameplate capacity of less than 10 MW and are owned by small businesses, municipal entities (including electric cooperatives), and nonprofit organizations or Indian Tribes. Incentive payments shall not exceed 30 percent of the costs of the applicable capital improvement.

Matching and Cost Share

There is no matching requirement for this program.

Contact Information

Program Staff

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https://www.energy.gov/gdo/section-247-maintaining-and-enhancing-hydroelectricity-incentives

Electric FEDERAL
GRANT PROFILE



Department: U.S. Department of Energy
Agency: Grid Deployment Office

FY 2025 Transmission Acceleration Grants Program

Grant Overview

This program will accelerate transmission deployment in order to enhance grid reliability, lower energy costs for families and businesses, and connect more clean energy resources to the grid. Funding will allow states and tribes to engage in transmission planning and conduct efficient and effective siting and permitting processes, which will collectively help advance transmission infrastructure at a faster rate, increasing access to a diverse array of energy sources, reducing transmission congestion and energy prices, and delivering reliable, affordable power to consumers when and where they need it. Eligible applicants are states, tribal governmental entities, or entities working with them such as regional transmission planning organizations, regional-state committees, or nonprofit organizations.

Program History

A program history is not available.

Key Information

Total Funding: $10 million
Award Range: Up to $3 million
Match: Not Required
Solicitation date: October 31, 2024
Proposal due: January 21, 2025

https://www.energy.gov/gdo/transmission-acceleration-grants-tag-program

Tips

- An informational webinar will be held on November 13, 2024, at 1:00 pm EST. Registration is required.
- Applications should present a plan of no more than 12 months of activities in support of State and Tribal efforts

Department: U.S. Department of Energy
Agency: Grid Deployment Office

FY 2025 Transmission Acceleration Grants Program

Detailed Summary

The purpose of this program is to accelerate transmission deployment in order to enhance grid reliability, lower energy costs for families and businesses, and connect more clean energy resources to the grid. Funding will allow states and tribes to engage in transmission planning and conduct efficient and effective siting and permitting processes, which will collectively help advance transmission infrastructure at a faster rate, increasing access to a diverse array of energy sources, reducing transmission congestion and energy prices, and delivering reliable, affordable power to consumers when and where they need it. This program will also help ensure that local communities are heard and impacts from new transmission infrastructure are effectively addressed.

Funding will support the following four main categories of activities:

- Efforts to identify and/or evaluate corridors, zones, or other types of areas that may be designated as preferred locations for siting transmission infrastructure; these may be collaborative, multijurisdictional initiatives or single-state efforts
- Efforts to streamline and centralize transmission siting and permitting processes and approvals, especially in jurisdictions where permitting authority is spread among many different actors, such as through establishing a single statewide permitting authority or joining together with one or more neighboring states to establish a shared multistate permitting authority
- Efforts to centralize, or otherwise enhance or expand, transmission-related activities other than siting and permitting, such as engaging in transmission planning, establishing state- or tribal-based funding or financing programs for transmission facilities, developing new transmission-focused governmental organizations, pursuing coordination among entities within the state or with other states, or other related activities, either encompassing only one state or including multiple states
- Surge funding to increase capacity of state and tribal siting authorities to help meet rising siting and permitting workloads, particularly where the siting and permitting authority faces unprecedented levels of demand

Applicant Eligibility

Eligible applicants are states, tribal governmental entities, or entities working with them such as regional transmission planning organizations, regional-state committees, or nonprofit organizations.

Applications may include multiple entities; however, teams must have a clearly defined lead organization. Joint applications with multiple co-lead organizations will not be accepted. Teams do not need to include a state or tribal entity; however, if the application is submitted by an entity that is not itself a state or tribal

entity, it must sufficiently demonstrate how the funding will be utilized to support efforts by state or tribes consistent with the goals of this program.

Funding

In FY 2025, a total of $10 million in funding is available to support partnership intermediary agreements (PIAs) of up to $3 million through this program. PIAs are agreements between the federal government and nonfederal partners, or partnership intermediaries (PIs), designed to support the funding agency's mission to expand the development and deployment of transmission solutions, heighten energy security, and strengthen national energy ecosystems.

Payments will be made based on progress towards milestones. Upon completion of each milestone, the award recipient will submit the associated deliverable for the funding agency to review. Within 30 days of receiving the deliverable, the award recipient will receive the payment associated with that milestone.

Matching and Cost Sharing

Matching funds are not required for this program.

Contact Information

Program Staff
info@techwerx.org

https://www.energy.gov/gdo/transmission-acceleration-grants-tag-program

FEDERAL
GRANT PROFILE

Department: U.S. Department of Energy
Agency: Energy Efficiency and Renewable Energy (EERE)

FY 2025 Vehicle Technologies Office (VTO) Program Wide Funding Opportunity Announcement

Grant Overview

This program will seek innovative solutions for on-road and off-road vehicles in the areas of improved battery technology for both light- and heavy-duty applications, smart charging infrastructure, sustainable farming, workforce development, and demonstration and deployment of these new technologies. Eligible applicants are for-profit entities, nonprofit entities, individuals, state governments, local governments, and tribal governments.

Program History

	Total Funding	# of Awards
2022	$85,793,110	43

Key Information

Total Funding: $88 million
Award Range: $1- $6 million
Match: Varies
Solicitation Date: January 17, 2025
Proposal due: April 1, 2025 (Concept Papers), June 18, 2025 (Full Application)

https://www.energy.gov/eere/vehicles/articles/funding-notice-fiscal-year-2025-vehicle-technologies-office-vto-program-wide

Awardee Profile

City of Arlington
Texas

AMOUNT: $780,182
YEAR: 2022

The City of Arlington received funding for a Multimodal/Drone Delivery Demonstration project focused on Disadvantaged Communities and Mobility Challenged Populations.

Department: U.S. Department of Energy
Agency: Energy Efficiency and Renewable Energy (EERE)

FY 2025 Vehicle Technologies Office (VTO) Program Wide Funding Opportunity Announcement

Detailed Summary

The purpose of this program is to address improved battery technology for both light- and heavy-duty applications, smart charging infrastructure, sustainable farming, workforce development, and demonstration and deployment of these new innovative technologies. The research and development work performed under this program will lead to economic and environmental benefits including extended battery reliability, improved battery packaging, decreased cost of driving, increased vehicle and system efficiency, and a competent workforce serving the transportation sector. Detailed technical descriptions of the specific Topic Areas are provided in the sections that follow:

- Topic Area 1: Technologies for Enhanced Lithium-ion Cell Safety: The objective of this topic area is to improve on abuse tolerance parameters at the cell level, such as, but not limited to: total heat release, rate of heat release, reduction in cell-to-cell propagation and/or the flammability of ejected cell materials. Successful applications will improve the abuse tolerance of individual cells, ultimately reducing the likelihood of cascading effects of EV fires. The cells used to demonstrate improved abuse tolerance should be at least 5Ah and should have energy densities and performances appropriate to plug-in electric vehicle requirements. The technology will have to meet life performance equivalent to commercial cells.
- Topic Area 2a: Low-Cost Production of Lithium: The objective of this topic area seeks innovative approaches for producing battery-grade lithium at a lower cost, with reduced energy consumption, improved production yield, and minimal environmental impact compared to the current process. These new methods should harness U.S. lithium resources to bolster supply chain resilience for next-generation batteries that rely on metallic lithium as the anode material. Projects should clearly describe the R&D innovations in the proposed application, including the process cost, energy use, purity, and final lithium cost.
- Topic Area 2b: Lithium Metal Surface Protection: The objective of this topic area is to develop novel materials that can form a beneficial passivation layer on the surface of the lithium foil for use in rechargeable lithium batteries containing liquid or solid-state electrolytes. The materials must exhibit excellent stability against lithium, a high ionic conductivity and low electronic conductivity, and compatibility with a high-speed, high-volume roll-to-roll manufacturing process. The applied film should be ultra-thin (nanoscale order), uniformly thick, and exhibit strong adhesion to both lithium and solid-state electrolytes.
- Topic Area 3: Optimized Li-Ion Battery Solutions for Heavy-Duty Electric Vehicles: Medium- and heavy-duty vehicles (MHDVs) make up 5% of the on-road fleet but consume over 51 billion gallons gasoline equivalent (GGE) annually and contribute 21% of transportation emissions [1,2]. Heavy-duty Class 8 trucks account for 67% of fuel use in the MHDV sector [3], averaging >10,700 GGE annually

[4], representing a significant fraction of operation cost and total cost of ownership. Electrification of heavy-duty trucks would eliminate nitrogen oxides and particulate matter emissions, a significant public health benefit, and substantially reduce carbon emissions from the on-road transportation sector. The subtopics below aim to stimulate U.S.-made innovations that accelerate a domestic battery industry that can support lower cost options for long haul U.S. trucks. Among MHDVs, Class 8 long-haul trucks are uniquely challenging due to energy density requirements implied by significant onboard capacity to handle disparate routes with full cargo loads (i.e., no offset of cargo due to mass, volume of batteries, 500-mi range). Although this topic targets ultra-high-cycle life and modular batteries for the especially challenging Class 8 long-haul truck vocation, the benefits in performance and cost will extend to many other MHDV applications. Cost reduction through improved battery cell and pack design is particularly important for competitiveness in the MHDV sector due to the low production volume relative to other battery end uses. Optimizing chemistry and modularity for MHDV applications for cross-sector use helps alleviate the economies of scale challenge.

    - Subtopic Area 3b: Standardized Battery Module Design for Heavy-Duty Electric Trucks: The objective of this topic seeks innovative standardized modules or scale packs (for cell-to-pack design) suitable for Class 8 long-haul trucks. The pack should be based on commercial-relevant Li-ion battery cells (i.e., no chemistry/cell development in this topic), target at least a 60% cell-to-pack weight and volume ratio, minimum projected life of 2,000 cycles and 10-year calendar life, and be rugged, resilient, and safe.

- Topic Area 4: Thermal Technologies for Zero-Emission Vehicles: The objective of this topic area is to research, develop, and demonstrate innovative technologies capable of significantly decreasing the on-board energy use of vehicle thermal systems, including but not limited to heating, ventilation, and air conditioning (HVAC) systems, for medium- and heavy-duty on-highway zero-emission vehicles. Proposed technologies could include, but are not limited to, phase change materials, heat pumps, electric compressors, advanced controls, novel thermal system designs, energy capture, high-efficiency components, load reduction technologies, load thermal management, and novel applications of existing technologies. Awarded projects must demonstrate resulting improvements in overall vehicle energy efficiency on duty/drive cycles appropriate for the chosen vehicle type(s) and environmental conditions and appropriate for the proposed technology improvements.
- Topic Area 5: Optimized Grid Planning for Electric Vehicles Using Advanced Metering Infrastructure: The objective of the area of interest is to research, develop, and validate novel and innovative tools leveraging Advanced Metering Infrastructure (AMI) and smart metering as a sensory network to improve the EV charging infrastructure energization process, accelerate EV charging infrastructure deployment, and provide an efficient and secure EV load management platform. Projects in this topic area should look to use advanced metering hardware and backend software to leverage the wide range of front-of-the-meter granular electricity usage data, as well as provide a bi-directional communication stream between the service provider and the connection node smart meter to optimize load profiles and support vehicle-grid integration (VGI). Projects awarded must show how the proposed technology will utilize deployed AMI to accelerate EV charging infrastructure deployment timelines and improve grid transparency and resiliency. Awardees must also detail how the resulting improvements to infrastructure will provide quantitative and qualitative impacts for both EV charging infrastructure and the utility distribution grid.
- Topic Area 6: CROP - Co-located Renewable-Fuel and Off-road Vehicle Pilots: Through a two-phased approach, demonstrate locally produced, renewable fuels for agricultural use. The initial phase focuses on feasibility, engineering design and lab-scale testing; as funds are available in the future, a

second phase will build and test the complete design. The projects selected will reduce costs, advance novel powertrains in a real-world environment, and decrease emissions. Phase 1 is the focus of this current Notice of Funding Opportunity (NOFO), while Phase 2 is intended to be released in a future, separate NOFO.

- Topic Area 7: Vehicle Life Cycle Analysis Baseline: The objective of this area of interest is to conduct LCA including energy usage, critical materials requirements, sustainability, and Greenhouse Gas (GHG) Emissions on up to four vehicles. The LCA must include two baseline vehicles: MY2022 Ford Mach-E and Chevrolet Suburban. Two additional vehicles selected by applicants should also be 2022 models. A passenger car or small SUV utilizing either a plug-in electric hybrid drivetrain or the strong hybrid drivetrain is preferred for these additional baseline vehicles. A cost analysis must also be included. The LCAs should include break downs to sub-assemblies as identified in the R&D GREET model, including body structure, powertrain, transmission, chassis, traction motor, generator, electronic controller, and onboard energy storage.
- Topic Area 8: Quality Improvements of Battery Busbar Joining: The objective of this area of interest is to focus on joining methods implemented for 'foil-to-tab' manufacturing for use in electric vehicles and the ability to monitor joining performance in real time. The quality of foil-to-tabs manufacturing has seen an improvement over the years, including minimizing the heat-affected zone and achieving precision welding, challenges have also arisen in the case of joining dissimilar materials within battery cells themselves leading to issues ranging from the low absorptivity of non-ferrous materials such as Copper (Cu) and Aluminum (Al) when welded using lasers, to the formation of brittle intermetallic connections. These challenges increase the probability of a joint being defective in terms of low electrical conductivity and/or pure mechanical strength and the inability to monitor such defects in real time comes at a financial cost for battery cell manufacturers. The development of scientific quality guidelines for implementing 'foil-to-tab' real time monitoring and feedback loop during manufacturing in medium to high volume production is of critical importance. In addition, the ability to develop non-destructive evaluation methods to monitor joint quality in real time is also a key objective.
- Topic Area 9: Electric Vehicle Workforce Development: The objective of this area of interest is to address the development of local, state, regional, or national outreach, awareness, and partnership building efforts. Efforts should include training and education of professionals who work with vehicles and/or transportation infrastructure to address situations involving zero emission vehicles and infrastructure technologies. Existing training materials, curricula, websites, online tools, and other relevant information resources previously developed in cooperation with EERE or accepted by EERE should be leveraged to the maximum extent possible. Projects can develop training in areas where gaps exist in current training curricula. Projects are encouraged to provide in-person training workshops or build partnerships to incorporate existing online training materials into training programs and encourage widespread reach of these training sessions. Projects addressing communities that are among the top zero emission vehicle markets in the United States are highly encouraged.
- Topic Area 10: Vehicle Technology Integration - Open Topic: The objective of this topic area is to explore novel solutions to transportation and related clean energy and infrastructure challenges through demonstration and deployment projects that will spur market development. This would include projects to address challenges unique to their geographic areas and solutions with potential for replication in other areas across the country. Projects of interest focus on the advancement of medium and heavy-duty on-road vehicles and can include, but are not limited to:

- Extended vehicle demonstration projects of medium and heavy-duty vehicles (some examples include vocational trucks and regional and long-haul tractors)
- Projects that accelerate the transition of high-impact heavy duty fleets to zero emission vehicle technologies
- Projects that develop planning models for fleet transition to zero emission vehicles
- Projects that develop actionable plans for medium and heavy-duty vehicles or associated freight corridor infrastructure
- Projects that help leverage innovations developed by the VTO portfolio to expand their adoption
- Innovative charging solutions to address out-of-home charging needs
- Projects that demonstrate unique workplace charging solutions
- Projects that reduce the cost of at-home charging

Applicant Eligibility

Eligible applicants are institutions for higher education, for-profit entities, nonprofit entities, state governments, local governments, Indian Tribes, as defined in section 4 of the Indian Self-Determination and Education Assistance Act, and a consortium of entities as described in the bullets above.

Funding

In FY 2025, approximately $88 million is available to support up to 47 awards ranging from $1-$6 million. Specific funding amounts for each topic area are as follows:

- Topic Area 1: Technologies for Enhanced Lithium-ion Cell Safety: an estimated $12 million to support 3-5 awards ranging from $2 million to $4 million under this topic area. The project period is 36 months.
- Topic Area 2a: Low-Cost Production of Lithium: an estimated $7 million to support 2-3 awards ranging from $2 million to $4 million under this topic area. The project period is 36 months.
- Topic Area 2b: Lithium Metal Surface Protection: an estimated $8 million to support 2-3 awards ranging from $3 million to $6 million under this topic area. The project period is 36 months.
- Topic Area 3a: Ultra-Long-Cycle Life Li-Ion Batteries for Heavy-Duty Electric Trucks: an estimated $12 million to support up to 4 awards and up to $3 million per award. The project period is 36 months.
- Topic Area 3b: Standardized Battery Module Design for Heavy-Duty Electric Trucks: an estimated $8 million to support 2 awards up to $4 million each under this topic area. The project period is 36 months.
- Topic Area 4: Thermal Technologies for Zero Emission Vehicles: an estimated $4 million to support 1-2 awards ranging from to $2 million to $4 million under this topic area. The project period is 36 months.
- Topic Area 5: Optimized Grid Planning for Electric Vehicles Using Advanced Metering Infrastructure: an estimated $2 million to support 1-2 awards ranging from $1 million to $2 million under this topic area. The project period is 36 months.
- Topic Area 6: CROP – Co-located Renewable Fuel and Off-road Vehicle Pilots: an estimated $6 million to support 3-4 awards ranging from $1.5 million to $2 million under this topic area. The project period is 36 months.
- Topic Area 7: Vehicle Life Cycle Analysis Baseline: an estimated $3 million to support 2 awards ranging from $1 million to $3 million under this topic area. The project period is 36 months.

- Topic Area 8: Quality Improvements of Battery Busbar Joining: an estimated $6 million to support 2-4 awards ranging from $1.5 million to $3 million under this topic area. The project period is 36 months.
- Topic Area 9: Electric Vehicle Workforce Development: an estimated $10 million to support 4-6 awards ranging from $1.6 million to $$2.5 million under this topic area. The project period is 36 months.
- Topic Area 10: Vehicle Technology Integration – Open Topic: an estimated $10 million to support 5-10 awards ranging from $1 million to $2 million under this topic area. The project period is 36 months.

Matching and Cost Share

Cost share requirements for each topic area are as follows:

- Topic Area 1: 20 percent
- Topic Area 2a: 20 percent
- Topic Area 2b: 20 percent
- Topic Area 3a: 20 percent
- Topic Area 3b: 50 percent
- Topic Area 4: 20 percent (of the total project costs for the first two years), 50 percent (of the total project costs in the final year for the demonstration)
- Topic Area 5: 20 percent
- Topic Area 6: 20 percent
- Topic Area 7: 20 percent
- Topic Area 8: 20 percent (of the total project costs for the R&D phase;), 50 percent (of the total project costs in the final year for the demonstration)
- Topic Area 9: Not required
- Topic Area 10: 50 percent

Contact Information

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https://www.energy.gov/eere/vehicles/articles/funding-notice-fiscal-year-2025-vehicle-technologies-office-vto-program-wide

FEDERAL
GRANT PROFILE

Department: U.S. Department of Energy
Agency: National Renewable Energy Laboratory

FY 2024 Waste-to-Energy (WTE) Technical Assistance for State, Local, and Tribal Governments

Grant Overview

This program enables organic waste energy and/or resource recovery at the state, local, and tribal level by leveraging technical expertise and relevant data to address specific and unique issues each municipality encounters with its waste streams. Eligible applicants are states, counties, municipalities, tribal governments, airport authorities and municipal utilities authorities.

Program History

	Total Funding	# of Awards
2023	N/A	17
2022	N/A	17

Key Information & Tips

Total Funding: Rather than provide monetary awards this program provides technical assistance.
Cost-Share: Not Required
Solicitation date: March 4, 2024
Proposal due: April 15, 2024

https://www.nrel.gov/bioenergy/waste-to-energy-technical-assistance.html

Tips

- Communities do not have to have an existing or planned waste resource or energy recovery project to be eligible. Communities in the strategic planning phase are eligible and encouraged to apply.
- Information about project-level finance and financial policies, such as feed-in tariffs, clean renewable energy bonds, and power purchase agreements, will be provided.

Department: U.S. Department of Energy
Agency: National Renewable Energy Laboratory

FY 2024 Waste-to-Energy (WTE) Technical Assistance for State, Local, and Tribal Governments

Detailed Summary

The purpose of this program is to enable organic waste energy and/or resource recovery at the state, local, and tribal level by leveraging technical expertise and relevant data to address specific and unique issues each municipality encounters with its waste streams. This program will provide technical assistance to advance waste-to-energy (WTE) technologies that will address knowledge gaps, specific challenges, decision-making considerations, planning, and project implementation strategies related to WTE.

The WTE resources considered include organic waste such as food waste; wastewater sludge; animal manure; and fats, oils, and greases, as well as other municipal solid waste streams, such as paper, cardboard, wood, yard waste, and plastic waste. Ultimately, this program aims to mobilize data and information compiled about organic waste streams to provide this data to local decision makers, deploy the analyses that have been developed for a variety of energy/resource recovery strategies, and foster local public-private partnerships.

Types of technical assistance available through this program include:

- Providing resource, technology, market, and policy data and information
- Analysis assistance
- Targeted discussions with stakeholders
- Assistance in strategic energy planning
- Education through webinars
- Consultations with technical experts
- Program review and evaluation
- Request for proposal (RFP) development support and review

The technical assistance process is expected to be collaborative, and award recipients are expected to demonstrate active engagement.

Applicant Eligibility

Eligible applicants are states, counties, tribal governments, airport authorities, municipal utilities authorities, and municipalities, including those in the lower 48 states, Alaska, Hawaii, and the U.S. territories. Entities representing multiple municipalities are eligible to apply. Individual municipalities represented by these entities may also apply separately.

Funding

Rather than providing monetary awards, this program provides technical assistance to advance WTE technologies. Award recipients may receive up to 40 hours of technical assistance per municipality.

Technical assistance can begin shortly after the initial phone call between applicants and the funding agency following the submission of applications, based on staff availability and the urgency of requests.

Matching and Cost Sharing

There are no stated matching requirements for this program.

Contact Information

Program Staff
wte.assist@nrel.gov

https://www.nrel.gov/bioenergy/waste-to-energy-technical-assistance.html

FEDERAL
GRANT PROFILE

Department: U.S. Department of Energy
Agency: Office of State and Community Energy Programs (SCEP)

FY 2024 Weatherization Program Assistance (WAP) Enhancement & Innovation

Grant Overview

The purpose of this program is to expand the impact of existing residential weatherization programs by utilizing leveraged resources and enhanced community partnerships to perform deep energy retrofits of low-income residential buildings and empower local community representation within the energy workforce. The funding agency seeks proposals that drive innovative approaches to program coordination and service delivery, while fostering the collaboration of dynamic and diverse teams. Eligible prime applicants include current WAP grantees and subgrantees, and 501(c)(3) nonprofit organizations.

Program History

	Total Funding	# of Awards
2023	$37.9 billion	21

Key Information

Total Funding: $36 million
Award Range: $500,000 - $2 million
Match: None
Solicitation Date: July 30, 2024
Proposal due: September 27, 2024

https://infrastructure-exchange.energy.gov/FileContent.aspx?FileID=7c2bf017-9059-4b6c-9960-6385b4ec2637

Awardee Profile

Central Coast Energy Services, Inc.

YEAR: 2023

AMOUNT: $512,082

Electrify Monterey Bay will be the first equity-based building electrification and deep retrofit program of its kind in the region that is transformational, replicable and has the capacity to develop a workforce ready to expand electrification programming everywhere. The goal of Electrify Monterey Bay is to provide whole-house electrification, health and safety remediation, building envelope improvements, and energy efficiency retrofits for low-income households.

Department: U.S. Department of Energy
Agency: Office of State and Community Energy Programs (SCEP)

FY 2024 Weatherization Program Assistance (WAP) Enhancement & Innovation

Detailed Summary

The purpose of this program is to expand the impact of the funding agency's existing residential weatherization programs by utilizing leveraged resources and enhanced community partnerships to perform deep energy retrofits of low-income residential buildings and empower local community representation within the energy workforce. The funding agency seeks proposals that drive innovative approaches to program coordination and service delivery, while fostering the collaboration of dynamic and diverse teams.

Applicants may apply for one of the following three topic areas:

Topic area 1: multifamily housing: to accelerate an equitable transition to a clean energy economy, this topic area aims to increase the number of multifamily buildings receiving comprehensive, deep energy retrofits by making units weatherization-ready, while also ensuring healthy indoor environments and protecting against the displacement of low-income residents; funds may be used to pilot innovative approaches to serving multifamily housing, including:

- Developing protocols for identifying and preparing homes to become all-electric or electrification-ready, while also ensuring reduction in household energy burden;
- Developing innovative methods of braided awarded program funds with leveraged resources to execute comprehensive deep energy retrofits, including enhanced health and safety measures, energy efficiency technologies, and renewable energy systems;
- Developing innovative methods for combining DOE awarded funds with leveraged resources to address the causes of poverty and economic mobility for low-income households;
- Developing streamlined methods for identifying, marketing, confirming eligibility, and coordinating with prospective property owners to bring more multifamily buildings into the weatherization pipeline;
- Developing new methods and partnerships to shorten the timeframe for moving multifamily buildings through the retrofit process, from energy audit to completion and inspection; and
- Developing new, scalable methods for incorporating non-energy benefits in the cost-effectiveness calculation performed during the pre-weatherization energy audit.

Topic area 2: single-family and manufactured housing: this topic area aims to increase the number of single-family and manufactured housing buildings receiving comprehensive, deep energy retrofits by making homes weatherization-ready, while also ensuring healthy indoor environments; applications must describe how projects will increase the number of single-family and/or manufactured houses weatherized and outline the enhancements proposed for retrofits, which may include:

- Developing protocols for identifying and preparing homes to become all-electric or electrification-ready, while also ensuring reductions in household energy burden;
- Developing innovative methods for braiding DOE awarded funds with leveraged resources to execute comprehensive deep energy retrofits, including enhanced health and safety measures, energy efficiency technologies, and renewable energy systems;
- Developing innovative methods for braiding DOE awarded funds with leveraged resources to address the causes of poverty and economic mobility for low-income households;
- Developing new scalable methods for incorporating non-energy benefits in the cost effectiveness calculation performed during the pre-weatherization energy audit;
- Bringing previously unserved homes off deferral/waitlists and into the weatherization pipeline by addressing high-cost repairs and health and safety hazards; and
- Developing new methods for targeting services to high energy-burden households and coordinating outreach and marketing with community-based organizations, utility programs and other federally funded low-income programs.

Topic area 3: workforce development: this topic area aims to develop and implement innovative approaches not commonly used in WAP to recruit, hire, train, retain, and support employees in their career development who are individuals from the community in which assistance is provided and from under-represented groups in the home energy performance and energy efficiency workforce; applicants may propose workforce development initiatives and activities including:

- Addressing and enhancing outreach, recruitment, hiring, and retention processes;
- Shortening the administrative time from initial recruitment to field readiness of new hires;
- Building a pipeline of fully trained workers to higher-level careers within and beyond the WAP network;
- Developing registered job-readiness, pre-apprenticeship, and apprenticeship programs for individuals to gain necessary skills before entering the home performance or clean energy industries;
- Including support services that reduce barriers to employment of underrepresented populations (e.g., mentoring, counseling, coaching, stipends for trainees [wages, childcare, transportation]);
- Developing formal partnerships with workforce development organizations, labor organizations and unions, trade schools, technical colleges, local agencies, and community-based organizations); and
- Establishing partnerships with existing training providers, labor, and community-based organizations to improve and expand existing workforce training programs in lieu of building new training center facilities.

Across all three topic areas, funds may be used for any combination of the following eligible activities:

- Making homes weatherization-ready
- Installing renewable energy systems and energy efficiency technologies
- Ensuring healthy indoor environments by improving indoor air quality, accessibility, and enhancing measures and resources provided under the WAP
- Best practices and monitoring, including:
    - Innovative outreach and education regarding the benefits and availability of weatherization assistance and other assistance available
    - Quality control of work performed

- Data collection, measurement, and verification
- Program monitoring, oversight, evaluation, and reporting
- Labor, training, and technical assistance

Applicant Eligibility

Eligible prime applicants include current WAP grantees and subgrantees, and 501(c)(3) nonprofit organizations. Eligible subrecipients include institutions of higher education, for profit entities, nonprofit entities, state and local governmental entities and federally recognized Indian Tribes (Indian Tribes). Applicants may be located within U.S. territories.

Funding

In FY 2024, approximately $36 million is expected to be available through this program to support approximately 18 to 36 awards anticipated to range from $500,000 to $2 million. Approximately 6 to 12 awards are expected to be available for each of this program's three topic areas. Funds will be provided on a reimbursement basis.

The project period is expected to last 36 months and be comprised of one budget period.

Matching and Cost Sharing

Matching funds are not required for this program; however, applicants are encouraged to use awarded program funds in conjunction with WAP formula awards and leverage other funding sources, with a goal of at least a two-to-one ratio of leveraged resources to awarded program funds, to deploy demonstration projects that have potential to be scaled nationally, enhance the benefits realized by underserved communities, and accelerate an equitable transition to a clean-energy economy.

Contact Information

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https://infrastructure-exchange.energy.gov/FileContent.aspx?FileID=7c2bf017-9059-4b6c-9960-6385b4ec2637