



Energy Programs Office

Preparing to Make Pennsylvania's Electric Grid Stronger

Background on the U.S. Department of Energy
Infrastructure Investment and Jobs Act-Funded
Grid Resilience Grants to States

August 2022

Overview

1. Background on U.S. Department of Energy state grants initiative, "Building a Better Grid," using Infrastructure Investment and Jobs Act funding
2. Grant program focus: "Preventing Outages and Enhancing Resilience of the Electric Grid"
3. Eligible subgrantees and projects and other information for potential applicants

DOE: Building a Better Grid

U.S. Department of Energy initiative to upgrade and expand the nation's electric transmission grid to support resilience, reliability, and decarbonization

- Funded by IIJA Section 40101(d)
- Enhancing Grid Resilience: Three programs
- Deploying Technologies to Increase Capacity and Flexibility of the Existing Grid: Two programs

DOE: Building a Better Grid

Enhancing Grid Resilience

Program: Preventing Outages and Enhancing the Resilience of the Electric Grid

Facilitate supplemental hardening activities to reduce risk of power lines causing wildfires and likelihood and consequence of impacts to the electric grid from extreme weather, wildfires, and natural disasters.

- \$2.5 billion: Formula grants to states and American Indian tribes
- \$2.5 billion: DOE administered matching grants for industry

DOE: Building a Better Grid

Program: Upgrading Our Electric Grid and Ensuring Reliability and Resiliency

Support electric sector owners and operators with innovative approaches to hardening and enhancing the resilience and reliability of transmission, storage, and distribution infrastructure.

- \$5 billion: DOE administered competitive financial assistance to states, local governments, and American Indian tribes

Program: Energy Improvement in Rural and Remote Areas

Improve resilience, safety, reliability, and availability of energy. Provide environmental protection from adverse impacts of energy generation.

- \$1 billion: Competitive grants to small cities, towns, and unincorporated areas

DOE: Building a Better Grid

Deploying Technologies to Increase Capacity and Flexibility of the Existing Grid

Program: Smart Grid Investment Grants – \$3 billion in matching grants to support advanced transmission technologies (dynamic line rating, flow control devices, network topology optimization etc.) and increase the operational transfer capacity of transmission networks.

Program: Transmission Facilitation – \$2.5 billion revolving fund managed by U.S. DOE to facilitate construction of high-capacity new, replacement, or upgraded transmission lines. DOE is authorized to:

1. Serve as an anchor customer on new and upgraded transmission lines to facilitate private financing and construction.
2. Make loans for the cost of carrying out eligible transmission projects.
3. Enter public-private partnerships to co-develop projects that are in a National Corridor or necessary to meet an increase in demand for interstate transmission.

Focus: Preventing Outages and Enhancing the Resilience of Electric Grid

**\$2.3 billion in grant funding to states over 5 years:
About \$459 million/year for FY 2022–2026**

Coming to Pennsylvania:

- \$8.1 million draft allocation for Year 1
 - Approximately \$40.5 million over 5 years
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- States required to apply each year.
 - States may subgrant to eligible applicants.
 - 15% state cost-share, more for subgrantees (percentage of federal funds).
 - Award period of performance (time) may be extended for recipients to complete subgrant projects. (up to 10 years)

Focus: Preventing Outages and Enhancing the Resilience of Electric Grid

Pennsylvania must submit to DOE by September 30:

- Head of Government Letter to apply for, receive, and administer the award;
- Evidence of notice and public hearing on the plan;
- Year 1 Plan for distribution of funds, specifying criteria and methods to award grants; and
- Objectives for all-hazards resilience investment decisions

Focus: Preventing Outages and Enhancing the Resilience of Electric Grid

Program Purpose

- Improve the resilience of current and future electric grids against disruptive events.
- Invest in clean energy and decarbonization solutions to achieve a carbon-free power sector by 2035 and net-zero greenhouse gas emissions economy-wide by 2050.
- Invest in a modernized grid infrastructure that can enable consumer access to lower-cost energy and accommodate increased electrification, increased penetrations of variable renewable electricity and distributed energy resources, and other evolving system needs over the coming decades
- Demonstrate measurable improvements in reliability and energy resilience.
 - May include upgrades of individual hardware, software, or both, as well as enhancements in operations or new configurations of the grid.
- Create good-paying jobs with the free and fair choice to join a union.

Focus: Preventing Outages and Enhancing the Resilience of Electric Grid

- States must lead an objectives-focused planning process to formulate strategies and set objectives and metrics:
 - Identify opportunities that will result in the greatest community benefit (whether rural or urban) by reducing the likelihood and consequences of disruptive events.
 - Identify the highest-priority opportunities for improving resilience in the near-term, and determines investments needed over the long-term that align with reducing risk.
 - Involve a coordinated effort by eligible applicants to include stakeholders from a diverse set of populations, including underserved and disadvantaged communities.
 - Identify appropriate measures to capture and report on the progress and performance of IJA investments.
- Process begins during the initial public hearing.

Details: Building a Better Grid

What will Pennsylvania use U.S. DOE Building a Better Grid grant funding for?

- Improve the all-hazards resilience of the electric grid and prevent outages
 - Determination and deployment of near-term solutions
 - Solutions determined by a strategic planning process
 - Solutions developed in concert with stakeholders including in crafting staged, “least-regrets” approaches for improving grid resilience to all hazards.
- Modernization investments focused on underserved communities (Biden Administration’s Justice40 Initiative)

Details: Building a Better Grid

What is the purpose of the strategic planning effort?

- Set the stage for identifying objectives and establishing a strategic planning process that may affect infrastructure investments proposed to DOE under other IJA sections:
 - Section 40101 – Competitive awards for grid resilience projects
 - Section 40103 – Awards supporting grid resilience and reliability research, development, and demonstration
 - Section 40107 – Qualified investments for improving smart grid functionality
- Align projects with the State Energy Security Plans and risk assessment efforts to inform grid resiliency strategies developed by States per Section 40108 of the IJA for an all-hazards approach to grid resilience

Details: Building a Better Grid

Who can be a subgrantee?

States will allocate funding to eligible entities, which may include:

- Electric grid operators
- Electricity storage operators
- Electricity generators
- Transmission owners or operators
- Distribution providers
- Fuel suppliers
- Any other relevant entities, as determined by the Secretary of DOE

Details: Building a Better Grid

What will this funding pay for?

- Hardening of assets to decrease vulnerability to threats
- Real-time control and coordination of system assets, including inverter-based resources (DERs) and microgrids to quickly provide services under emergency situations
- Provision of tools for supporting modeling and analysis efforts that can assist in determining solutions to improve all-hazards resilience

Details: Building a Better Grid

What types of activities are eligible?

- Weatherization technologies and equipment
- Fire-resistant technologies and fire prevention systems
- Monitoring and control technologies
- Undergrounding of electrical equipment
- Utility pole management
- Relocation of power lines or the reconductoring of power lines with low-sag, advanced conductors
- Vegetation and fuel-load management
- Use or construction of distributed energy resources for enhancing system adaptive capacity during disruptive events, including:
 - Microgrids
 - Battery-storage subcomponents
- Adaptive protection technologies
- Advanced modeling technologies
- Hardening of power lines, facilities, substations, of other systems
- Replacement of old overhead conductors and underground cables

Note: Funding can be used for training, recruitment, retention, and reskilling of skilled and properly credentialed workers to perform the work required for the resilience measures listed above.

Details: Building a Better Grid

What can we *not* use federal funds for?

1. Construction of a new:
 - a) Electric generating facility
 - b) Large-scale battery-storage facility that is not used for enhancing system adaptive capacity during disruptive events

2. Cybersecurity

Note: While grant monies under this section cannot fund new cybersecurity investments, the resilience investments under the Program should be in alignment with cybersecurity standards and best practices, including the North American Electric Reliability Corporation Critical Infrastructure Protection standards and National Institute of Standards and Technology Cybersecurity Framework.

Details: Building a Better Grid

What are the key additional terms and conditions?

- The following will apply:
 - Davis-Bacon Act Requirements
 - Requirements pertaining to foreign nationals
 - Buy-American Act Requirements
 - National Energy Policy Act (NEPA) Requirements (costs to prepare the necessary records may be included as part of the project costs)
 - Performance of work in the U.S.
- The Recipient agrees that 100% percent of the direct labor cost for the project (including subrecipient labor) shall be incurred in the United States, unless the Recipient can demonstrate to the satisfaction of DOE that the United States economic interest will be better served through a greater percentage of the work being performed outside of the United States.

Details: Building a Better Grid

How much funding?

- Pennsylvania: \$8.1 million for program year 2022; total ~ \$40.5 million for five years; funding amount may vary
- Pennsylvania must match 15 percent of each grant (\$1.2 million PY 22).
- Subgrantees must match 100 percent of the amount of the subgrant (minimum).
- Subgrantees who are eligible entities that sell 4,000,000 megawatt hours of electricity or less per year must only match one-third of the amount of the subgrant and will be identified as small utility set-asides.
- Any cost matching used to meet a subaward cost matching requirement may not be used by Pennsylvania as part of the 15 percent cost match.

Details: Building a Better Grid

What are Pennsylvania's duties to administer the award?

- DOE will award a single grant agreement to Pennsylvania.
- Upon receipt of the award, PA will have access to the DOE-provided funding and will be permitted to begin work per a Statement of Project Objectives.
- PA is required to provide a Project Management Plan during the initial phases of the grant agreement, followed by quarterly progress reports.
- The grant agreement between DOE and PA will cover multiple years, as needed, with one-year budget periods.
- The scope for each budget period may be adjusted to include activities proposed in successive-year grant applications submitted by PA to DOE.
- Throughout the term of the grant agreement, PA is required to submit subaward packages for approval by DOE that describes the work to be done by each eligible entity within the guidelines of Section 40101.

Details: Building a Better Grid

What is the Small Utility Set-Aside?

- A state receiving a grant under the program shall ensure that, of the amounts made available to eligible entities, the percentage made available to eligible entities that sell less than 4,000,000 megawatt hours of electricity per year is not less than the percentage of all customers in the state that are served by those eligible entities.
 - Must make amounts available to small utilities in an amount greater than or equal to the percentage of customers in the state that is served by those eligible entities

Virtual Public Meeting: Pennsylvania's Draft Plan

Building a Better Grid Pennsylvania Application

August 31, 2022 | 10 am – noon

Microsoft Teams

Join on your computer or mobile app

[Click here to join the meeting](#)

Meeting ID: 212 060 421 383

Passcode: S55CuJ

Or call in (audio only)

+1 267-332-8737 United States, Philadelphia

Phone Conference ID: 774 814 388#

For more information: www.dep.pa.gov/IIJA



Energy Programs Office

Thank you!

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