



Energy Programs Office

Infrastructure and Investment Jobs Act
and Inflation Reduction Act Funding:

Clean Energy and Climate Focused Programs

April, 25, 2023

Josh Shapiro, Governor

Richard Negrin, Acting Secretary

Agenda

- Overview: Bipartisan Infrastructure Law (BIL or IIJA)
- Overview: Inflation Reduction Act (IRA)
- Energy Funds Overview
 - Formula - EPO
 - Competitive - EPO
 - Other Funding Opportunities
 - Big Stuff
 - Industry Stuff
 - Grid Stuff
 - Community Stuff
 - Potpourri

BIL & IRA

Federal Guidance

Clean energy and climate priorities for BIL and IRA:

- Invest in American manufacturing and workers.
- Expand access to energy efficiency and clean energy for families, communities and businesses.
- Reduce greenhouse gas emissions significantly by 2030.
- Deliver reliable, clean, and affordable power to more Americans.
- Build the technologies of tomorrow through clean energy demonstrations.

Spending requirements:

- Buy American
- Davis Bacon Act – Contractors and subcontractors must pay local prevailing wage
- National Environmental Policy Act – Assess environmental impacts of projects
- Historic preservation – Identify, evaluate, and preserve archaeological and cultural resources
- Justice 40 – 40% of funding impact dedicated to benefit Environmental Justice neighborhoods

Bipartisan Infrastructure Law

Signed into law on November 15, 2021

Allows for \$1.2 trillion in government spending:

Major Areas of Investment Include:

- Transportation
- Electric Vehicles
- Legacy Pollution
 - Abandoned Mine Reclamation
 - Abandoned Oil and Gas Well Plugging
 - Brownfields
- Clean Water
- Broadband and Digital Equity
- Clean Energy

Bipartisan Infrastructure Law

Energy Programs Office: Receiving approximately \$67 million in formula funding:

- Predetermined and noncompetitive, but must be applied for and approved.
- Can be used for existing or new energy/climate programs managed by EPO, provided as subgrants for local government or nonprofit energy efficiency programs, or invested in clean energy/energy efficiency revolving loan programs.

Required objectives:

- Invest in environmental justice communities to reduce energy burden.
- Expand access to energy efficiency solutions and measures for families, communities, and businesses.
- Increase the generation of reliable, clean, and affordable power.
- Deploy clean and resilient energy infrastructure to combat the effects of climate change.
- Develop a clean energy workforce and manufacturing capabilities.

Inflation Reduction Act

Signed into law on August 16, 2022

Largest Investment into addressing climate change in history

- Provides **\$369 billion** in spending on energy and climate change

Projected to reduce GHG emissions to 40% below 2005 levels by 2030

- IRA and IIJA together could reduce emissions by 1,000 million metric tons or about a gigaton in 2030

A launching pad for long-term GHG reductions

- Investments in new technologies will drive emissions toward **net-zero by 2050**

Major Areas of investment include:

- GHG Reduction, Climate, Environmental Justice via
 - Transportation
 - Buildings
 - Clean Energy Development
 - Tax Credits

Inflation Reduction Act

Energy Programs Office: Receiving over \$261 million formula funds:

- Predetermined and noncompetitive, but must be applied for and approved.
- Formula funds are for a new, prescribed, Residential Efficiency Program (energy efficiency and electrification)

Required Objectives:

- Invest in environmental justice communities to reduce energy burden.
- Expand access to energy efficiency solutions and measures for families, communities, and businesses.
- Increase the generation of reliable, clean, and affordable power.
- Develop a clean energy workforce and manufacturing capabilities.
- Plan for and support the deployment of the technologies of tomorrow to reduce GHGs.

DEP-EPO Investment Status Report

Clean Energy-Related Funding Groups

Delivery mechanisms for clean energy funding

1. **Formula grants to state energy offices:** DEP Energy Programs Office is the only recipient and identifies uses (within a list of broad categories).
2. **Eligible competitive grant programs:** DEP Energy Programs Office and partners are eligible to apply for specific subject areas.

Formula Grant to State Energy Office

State Energy Program: (IIJA - DOE)

- **\$14 million** to implement programs and initiatives to address energy efficiency and renewable energy sources—energy security and resilience planning, industry, buildings, transportation, electric power and renewable energy, energy education, policy, and planning.
 - ALRD issued 3/23/2022
 - Initial Application 5/3/2022 (submitted)
 - Full Application Due 9/30/2022 (submitted)
 - DOE Award Date X/XX/2023 (did not receive award yet)

What's in the Application:

- ✓ Planning for implementing energy efficiency and energy management systems for equitable outcomes.
- ✓ Shared Energy Manager for Local Communities w/emphasis on EJ
- ✓ Clean Energy Infrastructure Deployment Projects
- ✓ Energy Security/Energy Assurance Planning/Duties/Exercises

Formula Grant to State Energy Office

Energy Efficiency Revolving Loan Fund: (IIJA – DOE)

- **\$3.3 million** in new funding to capitalize or support a revolving loan fund for commercial (includes gov't and nonprofits) & residential energy efficiency loans.
 - ALRD issued 11/15/2022
 - Application Due 5/26/2023 (working on it)
 - DOE Award Date X/XX/2023

Energy Efficiency and Conservation Block Grant Program: (IIJA – DOE)

- **\$3.0 million** to support small local governments and nonprofits programs with grants/rebates/financing for energy efficiency, renewable energy, and zero-emission transportation.
 - ALRD issued 1/18/2023
 - Pre-Award Info Sheet 4/28/2023 (submitted)
 - Application Due 7/31/2023 (working on it)
 - DOE Award Date X/XX/2023

Formula Grant to State Energy Office

Preventing Outages and Enhancing the Resiliency of the Electric Grid: (IIJA – DOE)

- **\$40.5 Million** PA to receive \$8.1 million per year/5years to mitigate impacts to the grid from extreme weather. Requires matching funds 15%. Must apply each year
 - Notice of Intent Q2 2022
 - 1st ALRD Issued (yr. 1) 9/8/2022
 - 1st Application 11/22/2022 (submitted)
 - 2nd ALRD Issued (yr. 2) 12/8/2022
 - 2nd Application 3/31/2023 (submitted)
 - DOE Award Date X/XX/2023 (did not receive award yet)
 - Sub Grant Program Fall 2023 (anticipated)

What is in the application:

- ✓ EPO will focus on providing subawards to eligible entities for projects that enhance grid resiliency for communities, including upgrades to critical infrastructure and delivery of health benefits to disadvantaged Pennsylvanians in low-income and vulnerable communities within both rural, and urban areas.
- ✓ EPO anticipates awarding grants—without a capped award amount resulting in larger and high-quality projects. Also, there will be a small utility carve out.

Formula Grant to State Energy Office

HOMES and HEERA Rebates for Energy Efficiency: (IRA – DOE)

- Section 50121 Home Energy Performance-Based, Whole-House Rebates: Also known as Hope for Homes or HOMES rebates, provides **\$4.3 billion** for State Energy Offices to offer rebates for energy efficiency improvements.
- Section 50122 High-Efficiency Electric Home Rebate Program: provides **\$4.275 billion** for State Energy Offices to offer rebates for electric appliances.

PA to receive approx. \$129 Million for each program; a total of \$258 Million over 10 years.

- RFI Due 3/3/2023 (submitted)
- ALRD #1 Issued 3/23/2023 (for pre-award Admin costs)
- Application Due **Rolling (planning to submit)**
- ALRD #2 7/1/2023 (anticipated)
- Application Due 9/X/2023 (anticipated)
- DOE Award Date Winter 2023/24

Program details:

- ✓ Prescribed whole house EE programs: single family or multifamily, modeled or measured approach – higher rebate amounts (2x) for Low to Moderate Income households.
- ✓ EE Rebate for prescribed appliances for low income. Contractor incentives and training included.

Formula Grant to State Energy Office

Climate Pollution Reduction Grants (IRA – EPA)

Provides **\$250 million** to states, municipalities, air pollution control agencies, territories, and tribes to pursue climate planning activities tailored to unique needs and resources, delivery capacity, and key sectors responsible for emitting and absorbing greenhouse gas pollution.

State of PA to expect **~\$3 million**. Phila. area & Pgh. ~\$1 million each

- Guidance issued 3/1/2023
- NOI to participate 3/31/2023 (submitted)
- Application Due 4/28/2023 (working on it)
- DOE Award Date Summer (anticipated)

Content:

- Priority Climate Action Plan (PCAP) due March 1, 2024 (near term implementation ready).
 - At a later date, EPA will issue a separate notice of funding opportunity to access \$4.6 billion in CPRG implementation grants.
 - Implementation grants will be awarded through a competitive process for initiatives covered by the PCAP
- Comprehensive Climate Action Plan due in 2025 (near and long term GHG emission reduction goals and strategies)
- Status report due in 2027

Competitive Grant – SEO Only

Energy Auditors Training Program: \$40 Million (IIJA – DOE)

Maximum grant request of **\$2 million** for State Energy Offices to provide energy auditor training assistance – essentially workforce development for energy efficiency sector.

- RFI Due 1/26/2023 (submitted)
- ALRD Issued X/XX/2023
- Application Due X/XX/2023
- DOE Award Date X/XX/2023

Content:

- ✓ RFI was combined with Career Skills Training funding and IRA grants for Energy Efficiency training for Contractors (HOMES and HEERA \$200 Million contractor training program)
- ✓ Planning to work with energy efficiency training centers established within PA to expand in-person and online building science-based training designed for a new clean energy workforce in the residential and commercial sectors.
- ✓ Aim to support via funding; instruction to weatherization workers, instructors, and industry partners in the building performance field

Competitive Grant Programs

Building Codes Assistance/Training: \$225 million (IIJA – DOE)

Funds to be made available nationally over the next five years to be used for energy code workforce training, codes updates, implementation, and compliance. State Energy Offices (**EPO**) can also apply in partnership with other eligible entities to support energy code workforce development.

FOA issued	12/19/2022
Concept Paper	1/31/2023 (submitted)
Application Documents Due	3/27/2023 (submitted)
DOE Award Date	6/26/2023 (anticipated)

Content:

- ✓ Inventorying and mapping of curriculum and programs for building technical training programs at career and technical high schools and centers and 2-year colleges.
- ✓ Ensuring career and technical high schools and centers are instructing students in building science and codes, by providing improved lessons and curriculum, instructor professional development and tools for ensuring energy code compliance.

***2nd application: Northeast Energy Efficiency Partnerships as primary applicant with Delaware and Pennsylvania as partners to complete energy code field studies of single-family residential, multi-family, and commercial/mixed-use buildings.

Competitive Grant Programs

Building Energy Codes (IRA– DOE)

- **\$670 million** to be provided for grants to state and local governments to support efforts to achieve the zero energy provisions of the 2021 IECC and a plan to promote full compliance.
- **\$330 million** is directed to states and local governments to support adoption of codes that meet or exceed the 2021 IECC for residential buildings and ANSI/ASHRAE/IES Standards 90.1-2019 for commercial buildings, and to support a plan to achieve compliance, and include training, enforcement and measurement.

RFI/Notice of Intent	4/26/2023	(working on it)
FOA Released	October 2023	
Application Documents Due	Fall/Winter 2023	
DOE Award Date	X/XX/2024	

Competitive Grant Programs

Greenhouse Gas Reduction Grants (IRA – EPA)

The **\$27 Billion** Greenhouse Gas Reduction Fund provides competitive funding for financial and technical assistance to enable zero-emission technologies and projects that reduce or avoid greenhouse gas emissions and other air pollution, including in low-income and disadvantaged communities. These funds are available to EPA to award grants until September 30, 2024.

RFI	12/5/2022 (submitted)
Application Due	X/XX/2023
DOE Award Date	X/XX/2023

What is the Focus?:

Two programs: Zero Emissions Technology Program (ZETP) (**\$7 Billion**) & Clean Energy Financing Program (CEFP) (**\$20 Billion** – \$8 Billion dedicated to Low Income)

- ✓ ZETP - State and local clean energy finance institutions and grant programs who provide grants, loans, and other kinds of financial and technical assistance to enable low-income and disadvantaged communities to deploy zero-emission technologies and other GHG-reducing activities (State community and residential solar programs)
- ✓ CEFP – non-profit financial institutions that can rapidly deploy green finance (national green banks or green finance networks that can provide sustained, recycled, directed green finance for projects throughout the U.S.)

Note: Energy Infrastructure Reinvestment Financing - LPO (IRA - DOE) BILLIONS!

Competitive Grant Programs

Clean Heavy Duty Vehicles (IRA – EPA)

\$1 billion, with \$400 million set aside for communities located in nonattainment areas, for grants and rebates for up to 100% of costs for clean heavy-duty vehicles (e.g., school buses and garbage trucks) as well as associated maintenance, workforce training, and planning. States, municipalities, Tribes, and nonprofit school transportation associations are eligible.

RFI Submitted	1/18/2023 (submitted)
Application Due	X/XX/2023
DOE Award Date	X/XX/2023

Potential Submission:

- ✓ Support a round 2 MHD ZEV Fleet Demonstration program and/or supplement additional Truck and Bus Fleet Grant programs under Driving PA Forward Program.

Clean Energy-Related Funding Groups

Delivery mechanisms for clean energy funding

- 1. Competitive or formula grants directed at other programs or state agencies:** DEP Energy Programs Office is not eligible or is not the best state representative to apply – We are interested, tracking and encouraging others.
- 2. Competitive applications and tax credits:** DEP Energy Programs Office and other state agencies are not eligible to apply. Local governments, businesses, academic institutions, etc. are eligible. – We are interested, tracking and encouraging others.

Other Funding Opportunities

- **National Abandoned Mine Reclamation Fund (IIJA)** \$244.9 million to PA per year for 15 years (total of **\$3.2 billion**).
- **Orphaned Well Site Remediation Plugging (IIJA)** \$330 million to PA to plug abandoned and orphan wells through September 30, 2030
- **Brownfields (IIJA)** \$1.5 million to PA on 12/9/22 for EPA's 128(a) program
 - \$300,000 of that will be used to conduct Brownfields Inventories in 12 underserved communities.
 - Applied for competitive funding for Community Wide Assessment Grant \$2 million to target communities in Pennsylvania for assistance with reuse planning and assessing impacted sites. 5-year grant, Under review by EPA currently
- **National Electric Vehicle Charging Program (IIJA)** \$5 Billion
 - 2.5 Billion Formula Award: PennDOT \$171 million to PA over 5 years.
 - 2.5 Billion Competitive: Grants to state, local, and public entities to install alternative fuel infrastructure along Federal Highway Administration-designated Alternative Fuel Corridors. \$700 Million this round: Application due: 5/30/23
 - 50% of funds dedicated to “Community Grants”
 - Priority to rural, Low and Moderate Income, underserved communities, and multi-unit dwellings

Other Funding Industry/Decarb

- **Regional Clean Hydrogen Hubs: (IIJA – DOE \$8 billion)** Application due **4/7/2023**
 - Dedicated to establishing four to six diverse hubs; fossil fuels, nuclear, renewable; industrial, commercial transportation etc.
 - To support commercialization and deployment
- **Industrial Decarbonization Demonstration to Deployment (IIJA \$500 Million)** Concept papers due: **4/21/23**; Applications due: **8/4/23**
 - Industrial production processes, including technologies and processes that achieve emissions reduction in high emissions industrial/chemical materials production processes; achieve emissions reduction in chemical production processes; leverage smart manufacturing technologies or sustainable manufacturing, or increase the energy efficiency of industrial processes
- **Enhanced Geothermal Systems Pilot Demonstrations (IIJA \$74 million)** Applications due: **6/16/23**
 - EGS have the potential to provide the most growth for district heating and other direct-use applications including electricity generation.
- **Clean Energy Demonstration Program on Current and Former Mine lands (IIJA – DOE \$450 Million)** Concept Papers due **5/11/2023**, Applications due **8/31/23**.
 - 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.

Other Funding GRIPs

Grid Resilience and Innovation Partnerships (GRIP) Grants

- **Smart Grid Grants - (IIJA – DOE \$3 Billion FY 22-26)** Rd 1 Applications due **3/17/23**
 - Supports activities increasing the flexibility, efficiency, and reliability of the electric power system.
 - EPO provided Support letters to 2 applicants.
- **Grid Resilience Grants - (IIJA - DOE \$2.5 Billion FY 22-26)** RD 1 Applications due **4/6/23**
 - Supports activities that will modernize the electric grid to reduce impacts due to extreme weather and natural disasters.
 - EPO provided support letters to 2 applicants
- **Grid Innovation Program - (IIJA - DOE \$5 Billion FY 22-26)** Rd 1 Applications due **5/19/23**
 - Provides financial assistance to government entities 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.
- **Energy Improvement in Rural or Remote Areas (IIJA - DOE \$1 Billion FY 22-26)** Concept papers due **4/14/23**; Applications due **6/28/23**
 - Provides financial investment, technical assistance, and other resources to advance clean energy demonstrations and energy solutions in rural and remote areas.
 - Likely 1 letter of support (not yet submitted)

Other Funding GRID

- **Grants to Facilitate the Siting of Interstate Electricity Transmission Lines (IRA – DOE \$760 Million) RFI was due 2/28/23**
 - Provides grants to authorities to carry out activities that will facilitate the siting and permitting of certain interstate onshore and offshore electricity transmission lines.
- **Transmission Facility Financing (IRA – DOE \$2 Billion)**
 - Provides direct loan program for certain transmission project development to promote energy security or enabling the use of intermittent energy sources such as wind and solar.
- **Rural and Municipal Utility Advanced Cybersecurity Grant and Technical Assistance Program (IIJA – DOE 250 Million FY 22-26) RFI was due 12/19/22**
 - Provides grants and cooperative agreements to enhance the security posture of electric utilities through improvements in their ability to protect against, detect, respond to, and recover from cybersecurity threats.

Other Funding - Storage

- **Battery Manufacturing & Recycling (IIJA – DOE \$3 Billion)** Apps were due: 7/2022
 - To provide grants to ensure that the United States has a viable domestic manufacturing and recycling capability to support a North American battery supply chain
- **Advanced Energy Manufacturing and Recycling Grants (IIJA – DOE \$200 Million)** Concept papers were due 3/14/23, Applications due: 6/8/2023.
 - Research, development, and demonstration of electric vehicle battery recycling and second-life applications for vehicle batteries
- **Long Duration Energy Storage Demonstrations (IIJA – DOE \$150 Million)** RFI 6/16/2022, Applications were due: 3/8/2023
 - Projects that -- demonstrate promising long-duration energy storage technologies at different scales; and(ii) help new, innovative long-duration energy storage technologies become commercially viable.
- **Hydropower Research, Development, and Demonstration Program (IIJA - DOE \$36 Million)** Applications: open until expended
- **Innovative Technologies to Enable Low-Impact Hydropower and Pumped Storage Hydropower Growth (IIJA – DOE \$14.5 Million)** Applications were due: 3/5/23
 - To further the sustainable development of hydropower and pumped storage hydropower (PSH).

Other Funding - Community

- **Grants for Energy Efficiency and Renewable Energy Improvements at Public School Facilities (IIJA – DOE \$80 Million)** Application due: **4/21/23**
 - Improve, repair, renovate or install in a school: energy efficiency measures, e.g., HVAC, building envelope improvements, lighting retrofits, sensors and controls, renewable energy technologies, Alternative fueled vehicle infrastructure, purchase or lease of alternative fueled vehicles
- **Clean School Bus Program (IIJA – EPA \$5 Billion)** Round 2 Applications **Fall 2023**
 - To replace existing school buses with zero-emission and low-emission models. \$500 million was available through the [2022 Clean School Bus Rebates](#) for zero-emission and low-emission school bus rebates as the first funding opportunity. (Rd 1 Application closed 8/9/2022)
- **Industrial Assessment Centers (IIJA – DOE \$54 Million)**
 - To provide grants (two topic areas) to institutions of higher education to establish building training and assessment centers to educate and train building technicians and engineers on implementing modern building technologies.
 - **FOA Issue date 4/7/2023, Concept Papers 5/25/23; Application Due: 7/31/23**

Other Funding - Community

- **Weatherization Assistance Program (IIJA) \$3.5 Billion**
 - Formula Award, \$186 million to PA over 5 years to Department of Community and Economic Development
- **Low Income Home Energy Assistance Program (IIJA) DHS ~ \$20 million add**
- **Environmental and Climate Justice Block Grants (IRA – EPA \$3 Billion) RFI was due: 4/10/2023**
 - Empowering community efforts to confront and overcome persistent pollution challenges in underserved communities. Community-led air pollution monitoring, prevention and remediation; mitigating climate and health risks from extreme heat; climate resiliency and adaptation; and reducing indoor air pollution
- **Pollution Prevention Grants EJ in Communities (IIJA – EPA \$8 Million) Application due: 6/6/2023**
 - Grantees deliver technical assistance to businesses – including those communities with environmental justice concerns – to identify and adopt source reduction practices and technologies that benefit businesses, communities, and local economies.
- **Neighborhood Access and Equity Grants (IRA – FHWA \$3 Billion)**
 - Grants to entities such as state governments to district authorities for the improvement of walkability, safety, accessibility, and externality remediation as they relate to transportation, especially in disadvantaged communities.

Other Funding

- **Congestion Relief Program (IIJA – DOE 250 Million/5 years)**
 - Grants in the amounts of 10 million or greater to advance innovative, integrated, and multimodal solutions to reduce congestion and the related economic and environmental costs in the most congested metropolitan areas with an urbanized area population of 1 million or more.
- **Congestion Mitigation & Air Quality Improvement Program (IIJA FHWA \$12.5 Billion FY 22-26)**
 - Congestion Mitigation and Air Quality Improvement Program (CMAQ) to provide a flexible funding source to State and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act. Funding is available to reduce congestion and improve air quality for areas that do not meet the National Ambient Air Quality Standards for ozone, carbon monoxide, or particulate matter (nonattainment areas) and for former nonattainment areas that are now in compliance (maintenance areas)
- **Mobile Source Grants (IIJA EPA \$5 million)**
 - Available for states to adopt and implement zero-emission standards for mobile sources per Section 177 of the CAA. PA DEP's BAQ is evaluating.

Other Funding

- **Methane Emissions Reduction Program (IRA – EPA \$1.55 Billion)**
 - To reduce methane emissions through financial assistance (grants, rebates, contracts, loans, and other activities) and technical assistance as well as to implement a statutorily required waste emissions charge. Eligible recipients for these funds include, but are not limited to, air pollution control agencies, other public or nonprofit private agencies, institutions, and organizations, and to individuals. The grant program specifies that IRA allocates at least \$700 million that must be used for methane mitigation for activities at marginal conventional wells. RFI was due 1/18/23

- **Rural Energy for America Program (IRA – USDA \$2 Billion)**
 - Rural Business and Cooperative Service (RBCS) Rural Energy for America Program (REAP) with \$303 million set aside for underutilized technologies and technical assistance. Funds may be used for energy efficiency improvements & renewable energy systems, such as biomass (e.g., biodiesel and ethanol, anaerobic digesters, solid fuels); geothermal for electric generation or direct use; hydropower below 30 MW; hydrogen; small and large wind generation; small and large solar generation
 - REAP opened 4/1/2023 and has 6 application windows (quarterly)



pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION



Energy Programs Office

Questions and Discussion



Energy Programs Office

Thank you!

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