Financing Clean Energy

Montana New Energy Generation Workshop

Presented by

Stephen Boyd • Senior Advisor (Contractor)
LPO Outreach & Business Development

June 25, 2024

Wide Array of Federal Resources to Support Clean Energy

Bi-Partisan Legislation has created the Largest Ever Support for US Leadership on Clean Energy, Advanced Transportation, and related Manufacturing/Supply Chain. Highlights include:

- **US Department of Energy** Grants, Loan Programs, and other Resources
  - LPO, MESC, OCED, FECM, Federal Lab resources and programs, others
  - Funding and Technical Support
- **Interagency Working Group** programs
  - Whole of Federal Government collaboration to enhance progress in energy communities
- **US Dept of Agriculture -** Rural Utility Service Grants, Loans, Other Resources
  - NewERA grants and loans program
- **EPA** - Grants and Other Resources
  - CPRG Planning & Implementation Grants
  - Solar for All Grants
  - GGRF – NCIF and CCIA funding to organizations and green banks
- **HUD** funding for housing / buildings projects including energy elements
- **US Treasury** – Extensive range of Tax Credits

What is the Loan Programs Office (LPO)?

LPO is…

the **premier public financing partner** accelerating high-impact energy and manufacturing investments to advance America's economic future.

How do we do it?

TITLE 17
Innovative Energy Projects

TITLE 17
Innovative Supply Chain Projects

TITLE 17
State Energy Financing Institution (SEFI) – Supported Projects

TITLE 17
Energy Infrastructure Reinvestment Projects

ATVM
Advanced Technology Vehicles Manufacturing Program

TRIBAL
Tribal Energy Financing Program

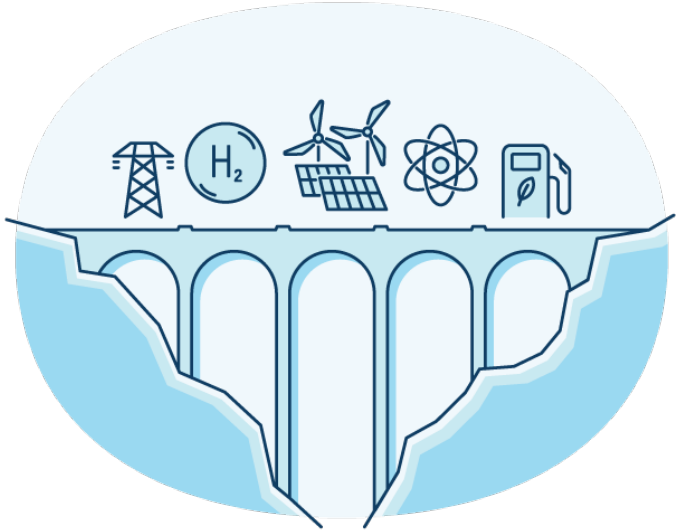
CIFIA
Carbon Dioxide Transportation Infrastructure Finance and Innovation

✓ By **providing attractive debt financing** for high-impact, large-scale ($100M+) energy infrastructure projects in the U.S.

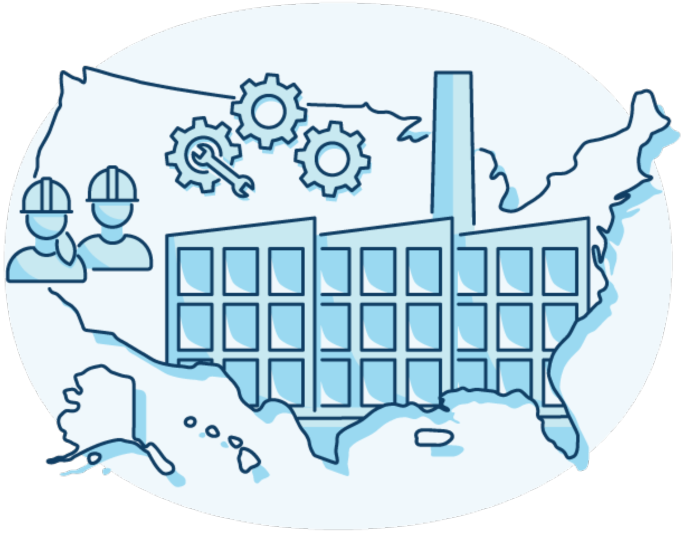
✓ With **tens of billions of dollars** in available loan and loan guarantee authority.

✓ Via **seven loan programs & project categories** supporting both innovative and commercial technologies.

LPO Administers Loan Programs that:



Provide a bridge to bankability for emerging clean energy and decarbonization technologies on a path to commercial liftoff



Enable the expansion of domestic manufacturing and supply chains to support a cleaner and stronger energy economy

Make the clean energy transformation affordable and achievable for workers, consumers, and communities who stand to benefit from LPO support

The Next Generation of LPO Financing

LPO is working with stakeholders across innovative clean energy & advanced transportation sectors

Advanced Vehicles & Components
Vehicles • Components • Lightweighting • Manufacturing • Electric Vehicle (EV) Battery Manufacturing

Biofuels
Advanced Biofuels • Biodiesel • Cellulosic Biofuels • Renewable Diesel • Renewable Natural Gas (RNG) • Sustainable Aviation Fuel (SAF)

Critical Materials
Extraction • Manufacturing • Mining • Processing • Recovery • Recycling

EV Charging
Deployment • Manufacturing

Hydrogen
Generation • Infrastructure • Transportation

Offshore Wind
Offshore Wind Generation • Offshore Wind Supply Chain & Vessels

Renewable Energy
Electrification • Geothermal • Hydrokinetics • Hydropower • Repowering Onshore Wind • Solar Supply Chain • Waste Conversion

Storage
EV Bidirectional Storage • Newer Battery Chemistries & Flow Batteries • Compressed Air Energy Storage • Pumped Storage Hydropower • Thermal Energy Storage

Transmission
Grid Efficiency • Grid Reliability • High-Voltage Direct Current (HVDC) Systems • Offshore Wind Transmission • Systems Sited Along Rail & Highway Routes

Virtual Power Plants
Connected Distributed Energy Resources (DERs)

Advanced Fossil
Carbon Feedstock Waste Conversion • Fossil Infrastructure Repurposing & Reinvestment • Hybrid Generation • Hydrogen Generated From Fossil Sources • Synfuel

Carbon Management
Carbon Capture & Storage (CCS) • Carbon Dioxide Removal (CDR) • Direct Air Capture (DAC) • Industrial Decarbonization • CO_2 Transportation Infrastructure

Advanced Nuclear
Advanced Nuclear Reactors • Micro Reactors • Nuclear Fuel Cycle • Nuclear Supply Chain • Nuclear Uprates & Upgrades • Small Modular Reactors (SMRs)

Tribal Energy
Energy Development Projects • Energy Storage • Fossil Energy • Microgrids • Renewable Energy • Transmission Infrastructure • Transportation of Fuels

Monthly Application Activity Report March 2024

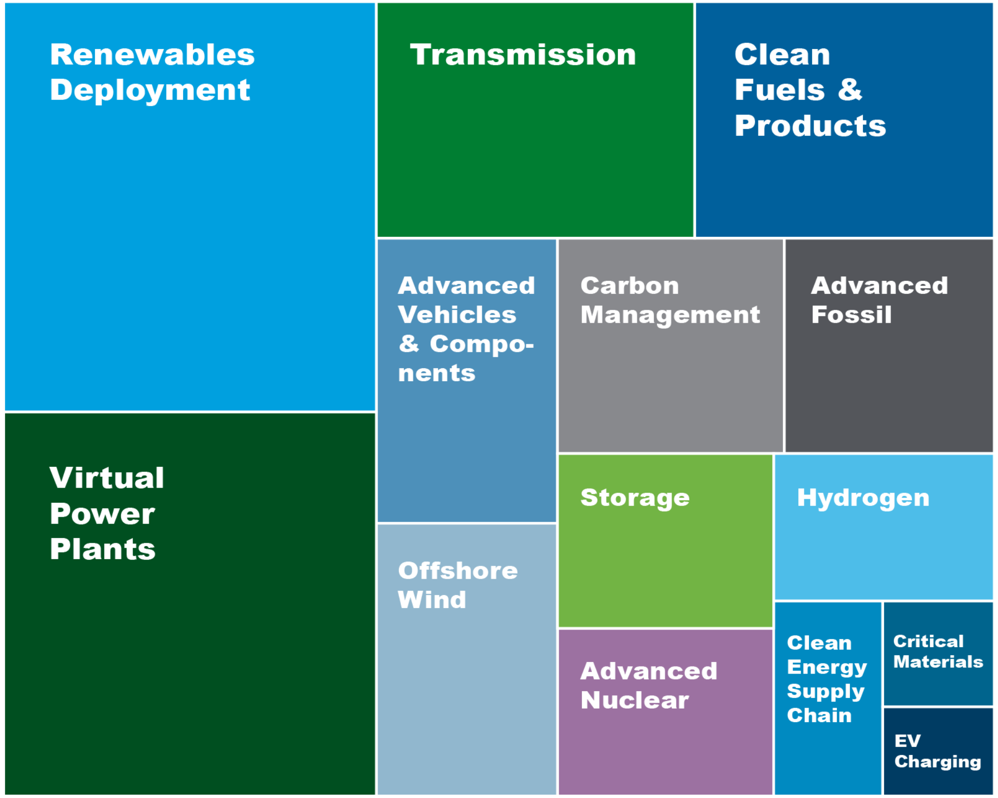
203 ACTIVE APPLICATIONS [1]

$262.2 BILLION IN LOANS REQUESTED [2]

1.8 NEW APPLICATIONS PER WEEK [3]

$262.2 BILLION

CURRENT AMOUNT OF LOANS REQUESTED BROKEN DOWN BY PROJECT TECHNOLOGY SECTORS

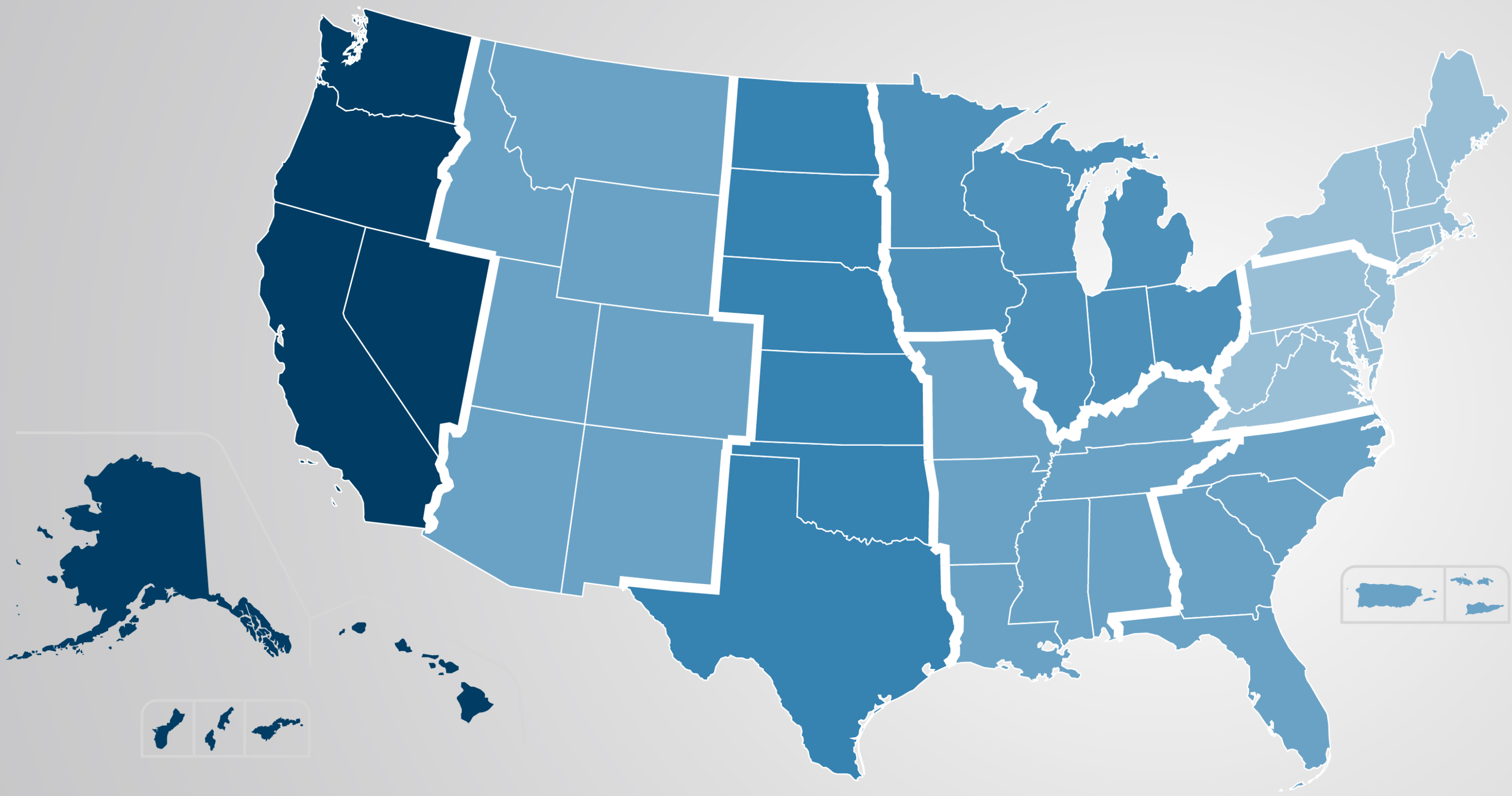


Notes

All data updated through March 31, 2024. For more details and a list of technology areas of interest within each LPO tech sector, see: Energy.gov/LPO/MAAR

1) Active applications include applications that have been submitted by the project sponsor(s) through LPO's online application portal and are in different stages of active review and engagement by LPO and the applicant.
2) Individual requested loan amounts are estimated and potential, subject to change, and not necessarily representative of final financing terms. **Requested loan amounts in current active applications *do not* affect available LPO loan authority.** Figure rounded down to the nearest $0.1 billion.
3) Current rolling average of new active applications per week over the previous 24 weeks. Figure rounded down to the nearest 0.1 application per week.

Monthly Application Activity Report | March 2024



203 ACTIVE APPLICATIONS[1] WITH

245 PROPOSED PROJECT LOCATIONS ACROSS ALL REGIONS OF THE U.S.[2]

WEST	AK, CA, HI, NV, OR, WA *(AS, GU, MP)*	55
PLAINS	KS, ND, NE, OK, SD, TX	38
MIDWEST	IA, IL, IN, MI, MN, OH, WI	29
SOUTH	AL, AR, KY, LA, MO, MS, TN	27
SOUTHEAST	FL, GA, NC, SC *(PR, VI)*	26
MOUNTAIN	AZ, CO, ID, MT, NM, UT, WY	25
MID-ATLANTIC	DE, MD, NJ, PA, VA, WV *(DC)*	23
NORTHEAST	CT, MA, ME, NH, NY, RI, VT	22

Notes

All data updated through March 31, 2024. For more details and a list of technology areas of interest within each LPO tech sector, see: Energy.gov/LPO/MAAR

1) Active applications include applications that have been submitted by the project sponsor(s) through LPO's online application portal and are in different stages of active review and engagement by LPO and the applicant.

2) Regions depicted are for representation purposes only and are not meant to denote LPO consideration of regional variation in project evaluation.

What LPO Offers Borrowers

LPO loans and loan guarantees are differentiated in the clean energy debt capital marketplace in **three primary ways:**

Access to Patient Capital
that private lenders cannot or will not provide.

Flexible Financing
customized for the specific needs of individual borrowers.

Committed DOE Partnership
offering specialized expertise to borrowers for the lifetime of the project.

LPO Financing Programs

Title 17 Clean Energy (Title 17)

Financing for:

- Innovative Energy & Innovative Supply Chain (1703)
- State Energy Financing Institution (SEFI)-Supported (1703)
- Energy Infrastructure Reinvestment (EIR, 1706)

Tribal Energy (TELGP)

Financing for:

- Tribal energy development projects

Advanced Transportation (ATVM)

Financing for:

- Manufacturing of advanced technology vehicles, several modes of ATVs, components, and innovative EV charging infrastructure

CO_2 Transportation Infrastructure (CIFIA)

Financing for:

- Large-capacity, common carrier CO_2 transportation projects

TITLE 17
Innovative Energy Projects (1703)

Innovative Energy Projects (1703)

Innovative Energy projects deploy qualifying New or Significantly Improved Technology that is technically proven but not widely commercialized in the United States.

1703 Projects Require at Least One Eligible Technology

Renewable energy systems

Advanced fossil energy technology

APPLIES TO:

- ✓ Innovative Energy Projects
- ✓ Innovative Supply Chain Projects
- ✓ State Energy Financing Institution (SEFI) Projects

Hydrogen fuel cell technology

Advanced nuclear energy

Carbon capture and sequestration technology

Efficient electrical generation, transmission, and distribution

Efficient end-use energy technologies

Production facilities for the manufacture of fuel-efficient vehicles or vehicle parts

Pollution control equipment

Oil refineries

Energy storage technologies

UPDATED: Industrial decarbonization technologies

NEW: Supply of critical minerals

Title 17 Program Eligibility

All Projects Must:

1. Be located in the United States, territories, or possessions.
2. Be an energy-related project.
3. Achieve significant and credible GHG or air pollution reductions.
4. Have a reasonable prospect of repayment.
5. Involve technically viable and commercially ready technology.
6. Include a Community Benefits Plan.
7. Not benefit from prohibited federal support.

Category-Specific Requirements:

Projects must also meet additional requirements specific to their category:

Innovative Energy (1703)

Innovative Supply Chain (1703)

State Energy Financing Institutions (1703)

Energy Infrastructure Reinvestment (1706)

TITLE 17

State Energy Financing Institution (SEFI)-Supported Projects (1703)

State Energy Financing Institution (SEFI) Projects (1703)

SEFI projects support deployment of a qualifying clean energy technology and receive meaningful grants, financial support or credit enhancements from a state-level entity agency or entity.

SEFI projects are <u>not</u> required to employ innovative technology.

SEFI Opportunity – What is a SEFI?

A "State Energy Financing Institution," or "SEFI," is simply an LPO designation for a State agency or State Quasi-Governmental entity that provides grants or other types of financial support to energy-related projects.

Examples of Various Types of SEFI Entities

State Energy Offices
Ex. Pennsylvania Energy Development Authority

Housing Finance Agencies
Ex. Washington State Housing Finance Commission

Green Banks
Ex. Connecticut Green Bank

Economic Development Authorities
Ex. Alaska Industrial Development and Export Authority

Energy Funds/Lending Centers
Ex. Maryland Clean Energy Center

Other State Agencies
Ex. Ohio Air Quality Development Authority

Note: A local government or independent non-profit (non-quasi government) is generally <u>not</u> a SEFI.

RFIs and RFPs Can Help States Spark or Find Projects

SEFI Partnership Portal

SEFIs in many states may offer financing support or credit enhancements to entities that implement programs in a state agency's various priority areas.

LPO publishes and maintains the **SEFI Partnership Portal,** a list of programs where SEFIs have identified publicly available financial support opportunities relevant for potential LPO applications. The Portal provides a public resource for potential borrowers to LPO who are interested in identifying relevant SEFI project opportunities in these states. The Portal also provides SEFIs a dedicated place to publish state opportunities that could align with LPO financing. The Portal will be updated on a rolling basis. Note that there are SEFIs that may fund projects that do not have a published funding program in this portal.

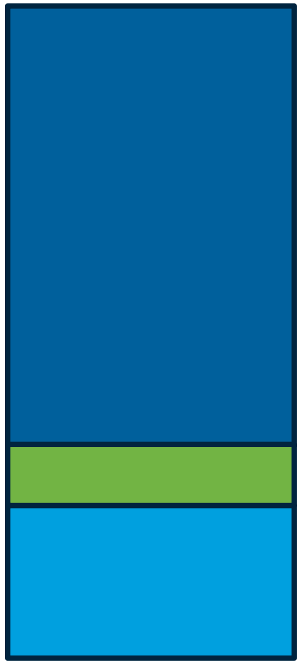
Please note that by sharing State RFIs or RFPs, LPO is not endorsing, sponsoring, or otherwise evaluating the sufficiency of the financing support that may be offered by such organizations for purposes of eligibility for LPO financing under Title 17.

SEFI Opportunity – How SEFIs Can Support Projects

Option 1: SEFI Provides Qualifying Grants / Other Support to LPO Applicants	**Option 2:** State Agency Bundles Projects into SPV; SPV Applies Directly to LPO
Enables large projects to qualify for LPO financing under the SEFI project category but does not create capital pool for smaller projects.	Creates a capital pool for smaller projects that couldn't apply to LPO on their own. (Note: an SPV is not a requirement.)
SEFI does not need to provide information about the projects.	Requires significant detail about bundled projects, including a portfolio rating.
SEFI is only responsible for providing awarded funds.	Requires the SEFI not only to contribute "meaningful support" but also ensure that the SPV will receive "significant equity" (IFR 609.5(b)(5)) from non-LPO sources.
SEFI exposure is limited to the amount of the award, with no additional requirements.	Means the SEFI would take on risk and have compliance requirements and liabilities, application costs, and upfront fees.

Capital Stack Visual: SEFI As Project Supporter

For larger projects that can apply to LPO (Approx $130M + in size)



At least 20% of project cost

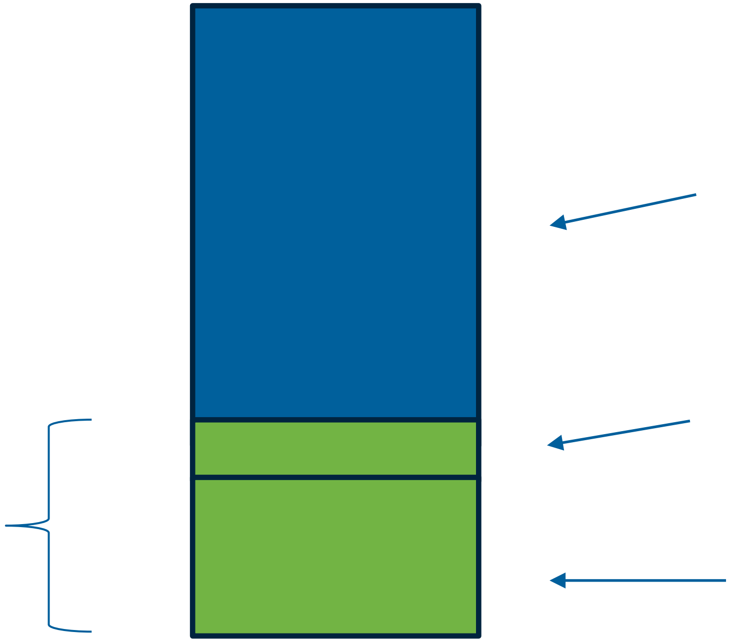
LPO loan (maximum 80% of total project cost, typically 50 – 70%)

SEFI meaningful support (grant, loan, investment or other support) to qualify under Title 17 with no technology innovation requirement

Sponsor and private equity investment, subordinated debt, philanthropic funding

Capital Stack Visual: SEFI As Borrower

Purpose is Establishing a Fund which can lend to projects that are too small to apply directly to LPO (Below $100M in project size)



Title 17 Lending Overview

General Terms & Considerations

- The amount of the LPO-guaranteed obligation cannot exceed 80% of eligible project costs (as defined by statute and regulations and determined by LPO. (Typically 50 – 70%)
- LPO generally encourages applicants to consider greater than $100M loan requests due to costs. Projects should be at least $130M+ in size
- The tenor of the guaranteed obligation cannot exceed the lesser of (a) 30 years and (b) 90% of the projected useful life of the assets.
- LPO cannot be subordinated to any other financing.
- With limited exceptions, the project generally cannot benefit (directly or indirectly) from other Federally appropriated funds.

Lender/Guarantee Options

- Direct loan from U.S. Treasury's Federal Financing Bank (FFB) backed by 100% "full faith and credit" DOE guarantee. Note: Applicants **do not** apply directly to FFB; Title 17 loan applications are managed through LPO.
- DOE partial guarantee (up to 90%) of commercial debt from Eligible Lenders.

Interest Rates and Fees

Interest Rate

- Base cost of capital for FFB loans: Treasury + 3/8ths (0.375%)
  - Fixed at the time of each draw according to the Treasury rate for the applicable tenor as of that date
- Credit-based interest rate spread or risk-based charge

Fees & Costs

- No application fees
- Facility fee (due at or before financial close)
  - 0.6% on first $2 billion of commitment; 0.1% for portion exceeding $2 billion
- Maintenance fee annually post-closing
- Applicant pays for both its own and DOE's external advisors as incurred

Additional LPO Requirements

Please review the guidance for detailed information on federal requirements and restrictions, including:

- **Davis Bacon:** All construction (including installation) work must be paid weekly at prevailing wage.
- **Build America Buy America (BABA):** Nonprofit and government borrowers must demonstrate domestic content or obtain a waiver.
- **Cargo Preference Act (CPA):** A sufficient portion of goods brought into the US by ship must be demonstrated to have arrived on US flag vessels, or non-availability must be demonstrated.
- **National Environmental Protection Act (NEPA):** The environmental impact of all projects will be reviewed. Projects that involve minor modifications on existing buildings may qualify for a categorical exclusion.
  - ✓ Building additions and new construction typically require at least an environmental assessment. However, LPO will review Part II applications submissions and work with the applicant to determine the level of NEPA review for each project before entering due diligence.
- **Federal Support restriction**: Projects generally cannot benefit (directly or indirectly) from other federal support.
  - ✓ Federal income tax benefits (including tax credits) generally do not constitute prohibited federal support.
  - ✓ Taking advantage of generally-available benefits is less likely to be problematic than use of a federally provided project-specific grant or loan.

State / SEFI Potential Projects (1 of 3)

Virtual Power Plants

VPPs = Grid-interactive Distributed Energy Resources (Solar+Storage+Smart Appliances in Commercial or Resident Buildings or Homes)

Following are just a few of the potential models for residential or commercial:

- Energy office provides SEFI support to VPP company as LPO applicant to implement in State.
- Green bank provides SEFI support to program manager as applicant for low-cost loans for consumers.
- On-bill financing by Utility for solar/storage; Utility provides lower rates to consumer by using LPO, State support.

Affordable Housing Energy Retrofits

- Affordable housing owner retrofits buildings to create VPPs, achieve net zero.
- Housing agency makes SEFI awards to affordable housing providers who combine as applicant.

State / SEFI Potential Projects (2 of 3)

District / Campus energy systems

- District energy systems with generation potentially eligible for 1706/EIR.
- Higher ed campus energy services contracts funded in operating budget.

Industrial efficiency/pollution reduction

- SEFI provides economic development incentive to company to make decarb investments across multiple facilities. Company applies to LPO.
- Or, SEFI borrows to create capital pool for smaller projects.
- For ports, or logistics, or other sectors with smaller businesses that operate fleets, SEFI borrows from LPO to provide low-cost financing to companies to procure EV's with storage/VPP services.

In all cases, SEFI provides grant or other meaningful support to the project.

State / SEFI Potential Projects (3 of 3)

Community energy projects fund

1. State creates SPV that applies to LPO
2. State provides equity and owns equipment, claims tax credits
3. SPV offers local agencies (schools, governments, etc) opportunity for solar/storage, geothermal, etc through leases/contracts.
4. State/contracts provide guarantee to project, reducing cost and application time

Government building energy retrofits

- Government aggregates portfolio of government buildings
- Government procures energy project anticipating LPO financing
- Project company applies to LPO

Commercial building energy retrofits

- Real estate owner or energy services company applies to LPO with SEFI investment allowing non-innovative tech
- Or, SEFI borrows from LPO to make smaller awards from LPO backed capital pool.

In all cases, SEFI provides grant or other meaningful support to the project.

Application Instructions on LPO website

TITLE 17 CLEAN ENERGY FINANCING

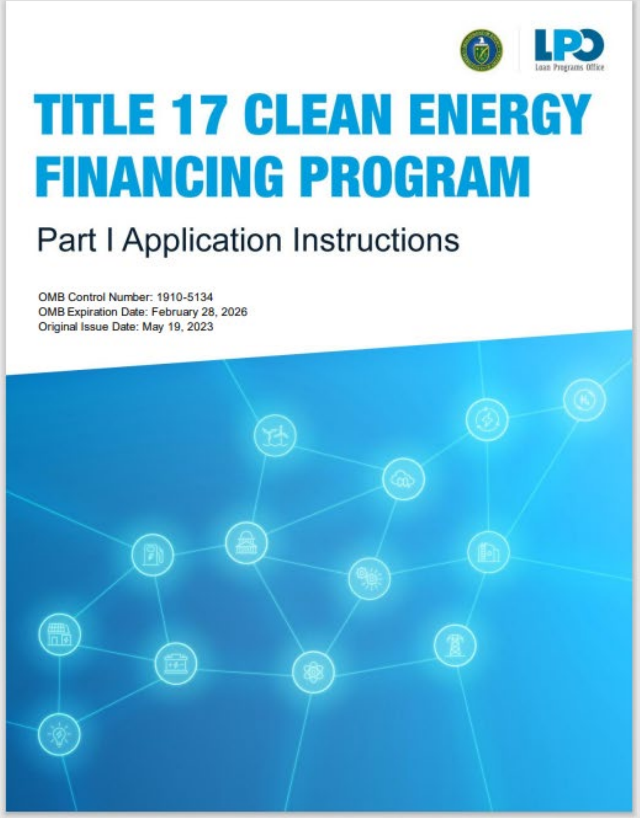
Loan Programs Office

Loan Programs Office » TITLE 17 CLEAN ENERGY FINANCING

Overview

The following overview summarizes the Title 17 Clean Energy Financing Program. For detailed information on the Clean Energy Financing Program, please refer to:

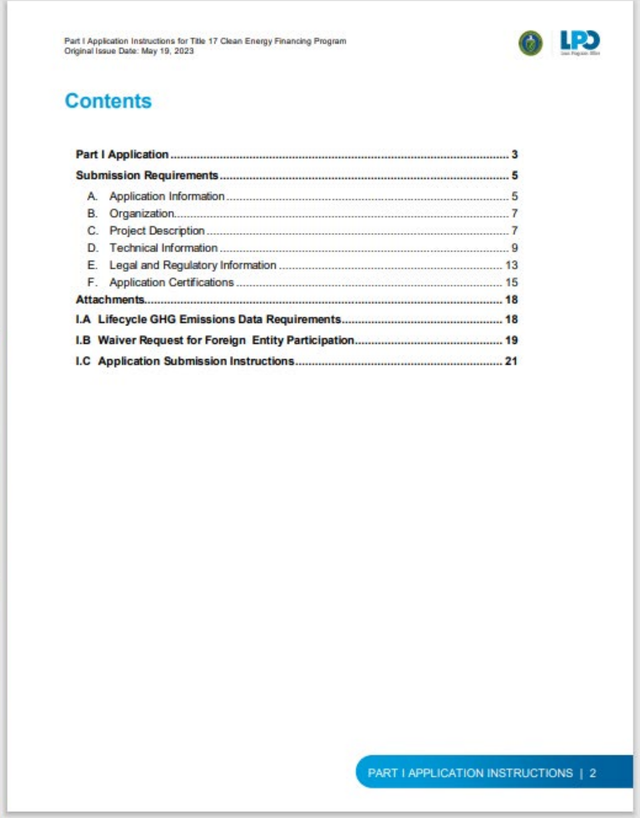
- **Title 17 Program Guidance**: This Guidance provides a comprehensive program overview.
- **Part I** and **Part II** Application Instructions
- **Title 17 Interim Final Rule** : The Rule amends Title 17 regulations to implement changes that expand or modify program authority and to revise for clarity and organization.
- **Governing Documents**: LPO's programmatic governing documents detail statutory and



TITLE 17 CLEAN ENERGY FINANCING PROGRAM

Part I Application Instructions

OMB Control Number: 1910-5134
OMB Expiration Date: February 28, 2026
Original Issue Date: May 19, 2023



Part I Application Instructions for Title 17 Clean Energy Financing Program
Original Issue Date: May 19, 2023

Contents

PART I APPLICATION INSTRUCTIONS | 2

Fees and Costs

See Program Guidance for details on fees and costs

- *LPO utilizes independent advisors that typically cost $1-3 million*

Third-party Expenses

DOE may, and typically does, utilize independent technical, financial, or other consultants and outside legal counsel in the due diligence of projects, structuring of transactions, and drafting of term sheets and financing documents. Upon DOE's decision to retain an outside advisor, the Project Sponsor will be required to execute an agreement satisfactory to DOE to pay the advisor's fees and expenses.[22] These third-party expenses, which can be in the range of $1-3 million through the closing date, will accrue and shall be payable by the applicant as set forth in the sponsor payment agreement, whether or not the closing date occurs. These third-party expenses constitute Eligible Projects Costs and can be amortized in the loan itself. DOE shall not be financially liable to any independent consultant or outside counsel for services rendered in connection with an application under any circumstances.

In addition, the applicant will be responsible for the payment of the fees and expenses charged by any collateral agent or account bank retained by DOE in connection with the Loan Guarantee Agreement.

Facility Fee

On the closing date of a Loan Guarantee Agreement, all applicants must pay a non-refundable Facility Fee in an amount equal to 0.6% for the portion of the principal amount of the Guaranteed Obligation (net of any capitalized interest) that does not exceed $2 billion. For applications as to which the principal amount of the Guaranteed Obligation (net of any capitalized interest) exceeds $2 billion, applicants pay an amount equal to 0.6% for the portion of the principal amount of the Guaranteed Obligation that does not exceed $2 billion plus, for the portion of the principal amount that exceeds $2 billion, an additional 0.1%.

For example, an applicant for a guaranteed loan in the principal amount of $250,000,000 (net of any capitalized interest) would pay a Facility Fee of $1,500,000 (0.6% of $250,000,000). An applicant for a guaranteed loan of $2.5 billion (net of any capitalized interest) would pay a total Facility Fee of $12,500,000 (0.6% of the first $2 billion, which is $12,000,000; plus 0.1% on the amount over $2 billion, which is 0.1% x $500,000,000 = $500,000).

Maintenance Fee

Applicants must pay a non-refundable annual Maintenance Fee to cover DOE's administrative expenses in servicing and monitoring the Loan Guarantee Agreement from the execution of the Loan Guarantee Agreement through payment in full. The amount of the Maintenance Fee is typically in the range of $150,000-200,000 per calendar year, although can be up to $500,000 depending on the complexity of the loan. The Maintenance Fee shall be paid each year in advance, commencing with payment of a pro-rated annual payment prior to the financial closing date of the Loan Guarantee Agreement, on or prior to the date and in the amount specified in the Loan Guarantee Agreement.

[22] See Section 609.11 of the Title 17 Regulations.

Credit-based Interest Rate Spread

Projects qualifying for Title 17 under SEFI authority are credit rated and assessed a credit-based interest rate spread.

Requests for reductions to credit-based interest rate spreads are considered based on policy elements and the availability of appropriated funds.

[Pricing for LPO Financing by Program | Department of Energy]

Credit-Based Interest Rate Spread for Title XVII

The Loan Programs Office (LPO) is announcing that a credit-based interest rate spread will be added to certain loans that are issued by the Federal Financing Bank (FFB) and backed by a 100 percent loan guarantee issued by the Department of Energy.

Loans issued by the FFB will carry an interest rate calculated by the following formula:

Interest Rate = Applicable U.S. Treasury Rate for the tenor of the loan + 37.5 basis points (bps) FFB liquidity spread (standard across all Title XVII loans) + Applicable Credit-Based Interest Rate Spread

The credit-based interest rate spread will be applied to Title XVII transactions that:

- Demonstrate the ability to predictably generate sufficient cash flow to service the borrower's debt obligations over the life of the loan guarantee, including transactions that have long-term power purchase agreements, and are not subject to unhedged market-based pricing risk; and
- Are able to provide a rating from a nationally recognized third party credit rating agency that falls within the range of ratings covered in the table below.

The credit-based interest rate spread will be determined based upon the following table. LPO will update this table periodically.

Project Credit Rating	Credit-Based Interest Rate Spread (%)	Final FFB Interest Rate Spread (%)
AAA	0.000	0.375
AAA-	0.000	0.375
AA+	0.000	0.375
AA	0.000	0.375
AA-	0.035	0.410
A+	0.075	0.450
A	0.115	0.490
A-	0.185	0.560
BBB+	0.265	0.640
BBB	0.335	0.710
BBB-	0.525	0.900
BB+	0.725	1.100
BB	0.925	1.300
BB-	1.125	1.500
B+	1.295	1.670
B	1.475	1.850
B-	1.625	2.000

The LPO Loan Transaction Process

LPO engages early with applicants and remains a partner throughout the lifetime of the loan

1 Pre-Application

LPO meets with potential applicant to discuss project eligibility, application process, and applicant questions.

2 Application & Review

LPO establishes project eligibility and readiness to proceed, followed by programmatic, technical, and financial evaluation.

3 Due Diligence

LPO and applicant engage third-party advisors and negotiate term sheet.

4 Conditional Commitment

LPO offers term sheet for loan or loan guarantee. The offer is contingent on borrower satisfying certain conditions.

5 Financial Close

LPO and borrower execute definitive financing documents, subject to additional conditions precedent to loan disbursements.

6 Monitoring

LPO monitors project and acts as trusted partner for the life of the loan, acting in the best interest of the U.S. government and taxpayers.

Before Applying for LPO Financing

Top 10 Questions

All Applicants Should Ask Before Applying to LPO

- Adequate project size?
- Offtake commitments?
- Development capital & project equity?
- Technological readiness?
- Commercial readiness?
- Environmental review?
- Site control & regulatory approval?
- Experience level of management?
- Emissions analysis?
- Projected community benefits?

TITLE 17

Energy Infrastructure Reinvestment (EIR) Projects (1706)

Energy Infrastructure Reinvestment (EIR) Projects (1706)

EIR projects retool, repower, repurpose, or replace energy infrastructure that has ceased operations or enable operating energy infrastructure to reduce air pollutants or emissions of greenhouse gases.

EIR projects are not required to employ innovative technology. **Typical applicants:** Utilities, Electric Co-ops & Munis, Independent Power Developers

Energy Infrastructure Reinvestment 1706

Financing to leverage existing U.S. energy infrastructure for the clean energy future

Project Eligibility

In addition to meeting the common Title 17 eligibility requirements, **EIR projects must:**

1. **Retool, repower, repurpose, or replace energy infrastructure that has ceased operations, OR**
2. **Enable operating energy infrastructure to avoid, reduce, utilize, or sequester air pollutants** or anthropogenic emissions of greenhouse gases.

What is "Energy Infrastructure"?

A facility, and associated equipment, used for:

- The generation or transmission of electric energy;

OR

- The production, processing, and delivery of fossil fuels, fuels derived from petroleum, or petrochemical feedstocks.

Notes

- EIR projects **DO NOT** have an innovation requirement.
- Conditional commitments must be issued by **September 30, 2026**.
- **Environmental remediation** costs and **refinancing outstanding indebtedness directly relevant to the energy infrastructure** can be eligible for EIR financing as part of a larger reinvestment plan.

Energy Infrastructure Reinvestment 1706

Financing to leverage existing U.S. energy infrastructure for the clean energy future

Example Projects

Power plant (or associated infrastructure) retooled, repowered, repurposed or replaced with:

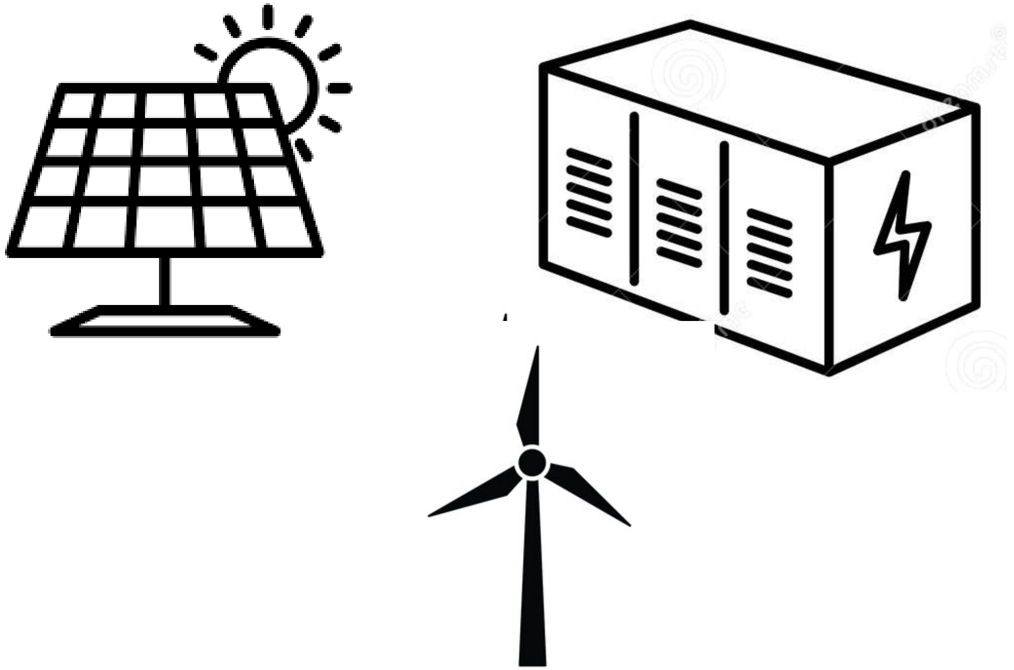
- **Renewable energy (and storage)**
- **Distributed energy (e.g., VPPs)**
- **Transmission interconnection to off-site clean energy**
- **New manufacturing facilities for clean energy products or services**
- **Nuclear generation**

- **Reconductoring transmission lines and upgrading voltage**
- **Installing emissions control technologies, including carbon capture and sequestration (CCS)**
- **Repurposing oil and gas pipelines (e.g., for H_2, CO_2)**
- **Upgrading refineries for biofuels or hydrogen**
- **Upgrading or uprating existing generation facilities (with emissions control technologies for projects involving fossil generation)**
- **Energy projects on energy / mining related Brownfields**

IPP Example: Fossil Energy to Renewable Project

Project Description:

- Independent Power Developer seeks to **repurpose an 800 MW** retired or low utilization fossil plant with **1200 mw of renewables + storage**
- **Reuse transmission point of interconnection to gain access to the grid.**
- **Community Benefits** include job retention and environmental remediation of the retired fossil facility.



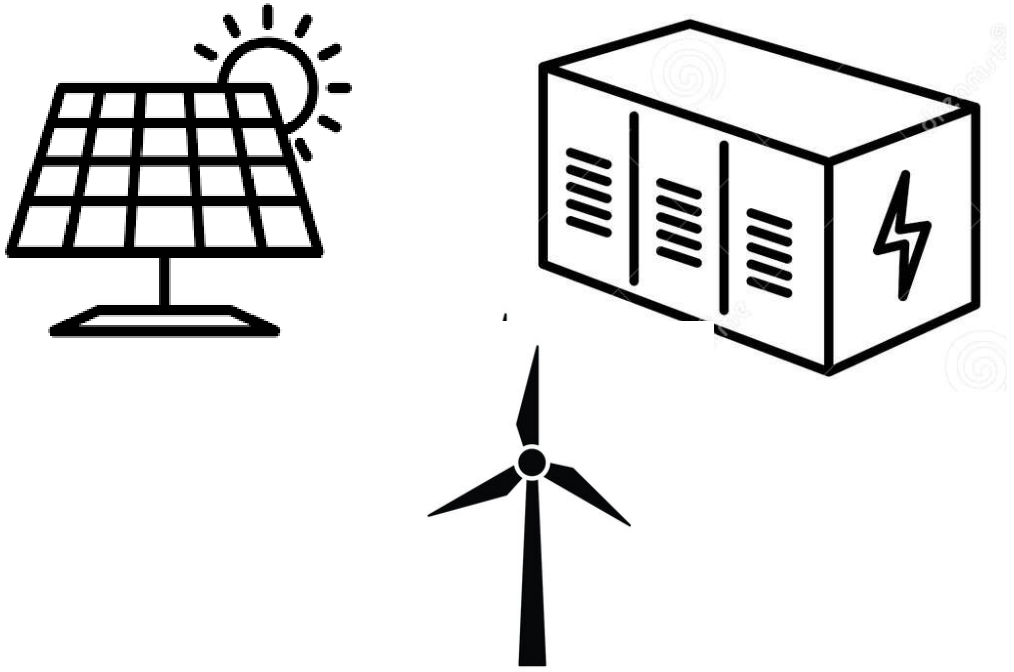
EIR Qualification

1706 a(1): The project will retool, repower, repurpose or replace retiring fossil energy infrastructure.

IOU Example: Fossil to Renewables Portfolio

Project Description:

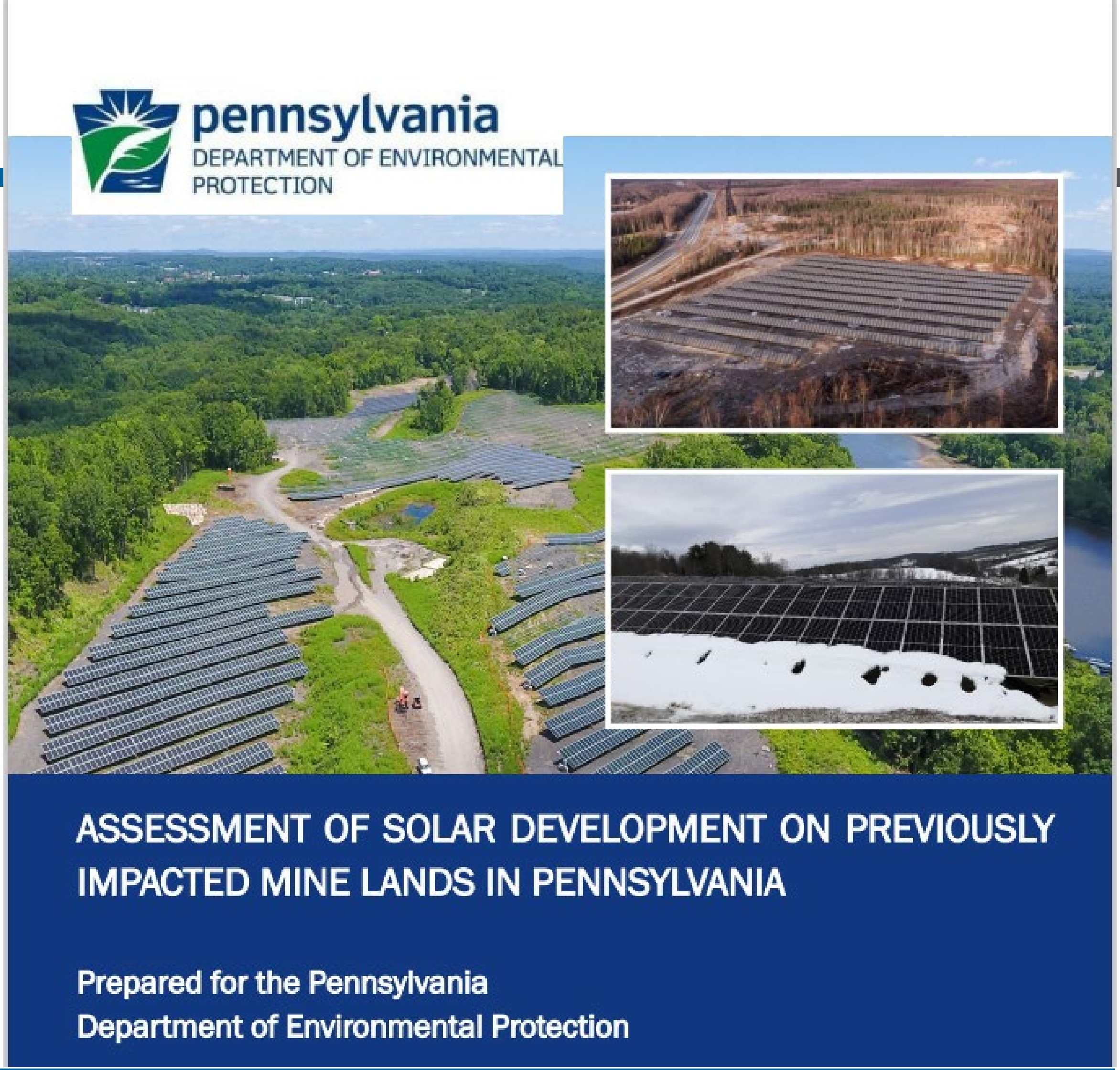
- An IOU’s IRP calls for 2,400 MW of new renewables and storage to replace **1,400 MW of announced older system retirements**
- **Identified near-term investments:** 2 projects, combined ~500 MW solar and ~200 MW storage
- **Planned additional investments:** ~1,000 MW solar, ~200 MW storage, and ~500 MW wind
- Rebuild or refurbish existing hydro generation (approx. 100 MW existing capacity)



EIR Qualification
1706 a(1): The project will retool, repower, repurpose or replace retiring fossil energy infrastructure.

Renewables Deployment on Energy Brownfields

Example: PA Recent Study & RFI to spark Solar and Storage Projects on Mining area Brownfields



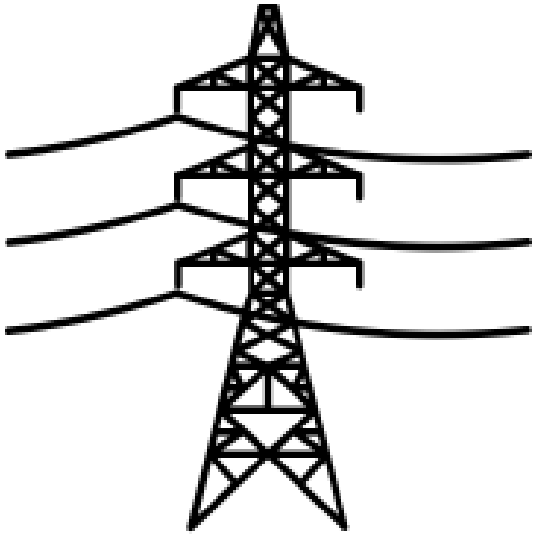
EIR Qualification

1706 a(1): The project will retool, repower, repurpose or replace retiring fossil energy infrastructure.

Example: Transmission Upgrades

Project Description:

- Multi-billion proposal for **transmission reconductoring** and grid modernization across multiple RTOs.
- **Investments could improve capacity by 50%,** while avoiding / limiting challenges associated with construction of new transmission.
- Projects will **enable interconnection of new clean generation**, and address safety and reliability risks associated with aging infrastructure.



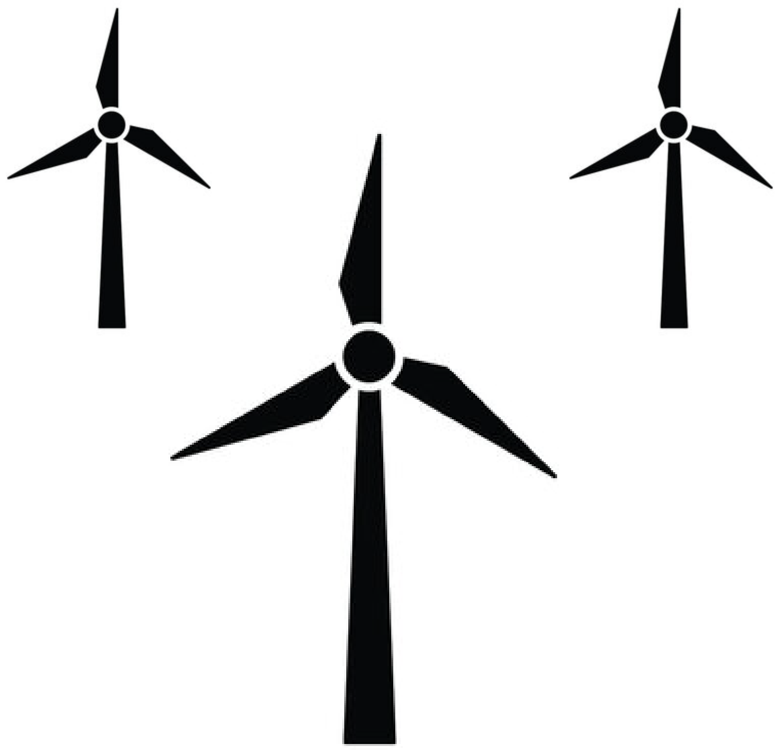
EIR Qualification

1706 a(2): The project will enable operating Energy Infrastructure to avoid and reduce GHG emissions.

Example: Wind Repowering / Enhancements

Project Description:

- **Existing onshore wind assets identified for upgrades**. Improvements will be made to blades, gearboxes, hubs, generators, and other components
- **Market size: potentially tens-of-GW that could be vital** to meeting the US's 2030 climate goals by ensuring wind projects are not shut down prematurely and existing developed land and transmission are used efficiently.
- **LPO funding can make marginal projects feasible, upgrade energy output, and prolong the life of assets.**

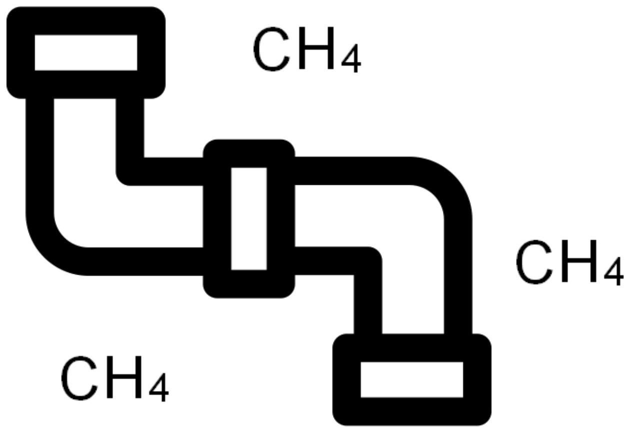


EIR Qualification
1706 a(2): The project will enable operating Energy Infrastructure to avoid and reduce GHG emissions.

Example: Gas Pipeline Replacement/Upgrades

Project Description:

- Program seeking to renew legacy pipeline infrastructure to improve safety, efficiency, reliability & reduce methane leaks.
- Over 4,000 miles needed replacement. On track to complete at a rate of ~200 miles per year.
- Investments would improve distribution system safety and reliability and remove ~1.4m metric tons of GHGs per year by 2050



EIR Qualification

1706 a(2): The project will enable operating Energy Infrastructure to avoid and reduce GHG emissions.

Creating State Funds for Local Buildings Energy Projects

- A State agency can borrow from LPO to create a Revolving Loan Fund that provides smaller loans to a series of energy projects (solar, storage, VPPs) at Schools, Libraries, Police & Fire Stations, and other Municipal Buildings.

- State can organize a series of school / govt bldg. energy projects.
  - $100M LPO loan size minimum
  - LPO covers maximum 80% of project cost. Minimum Aggregated Budget Approx $130M

- 20% of budget covered by
  - State, City & Local government funding
  - Philanthropic capital and Green bank investment or subordinated financing

- State can make projects available to schools based on leases or contracts – can be operating expense. State entity can claim tax credits via new Elective/Direct Pay rules.

- Benefits: schools / local buildings reduce energy costs + creation of resilient community centers

Local Buildings Energy Project Fund

- What SEFI will provide “meaningful financial support” to the project?
  - Various State or quasi-State agencies could be SEFIs.
  - Note that the “meaningful support” and equity requirements are different

- LPO cannot guarantee tax exempt bonds.
  - However, note that financing with tax exempt bonds may reduce the amount of tax credits.

- If State or highly rated agency guarantees repayment, or school contracts have a strong rating, project may have improved risk profile, interest rate premium may be reduced, diligence may be simplified, application costs may be reduced.

Local Buildings Energy Project Fund

- LPO finances energy technology projects: Solar, storage, heatpumps, high efficiency HVAC, etc.
    - Limited efficiency expenses may be eligible based on how they contribute to the operation of the efficient end-use technology, but some costs such as roof replacement may not be eligible costs for LPO.
- Important to consider solar/storage revenue generation strategies and EV school buses.
- Properties could also be libraries, fire stations, etc.

Campus / District Energy Projects

Matching campus energy uses to LPO financing options.

Electrification of CHP / Campus Boilers

1706 Energy Infrastructure Reinvestment Program

Campus Wide Energy Efficiency Upgrades

SEFI Program (State Energy Financing Institutions)

Microgrid

SEFI Program
1706 Energy Infrastructure Reinvestment Program
1703 Innovative Energy Program

On-site Solar / Storage

SEFI Program
1706 Energy Infrastructure Reinvestment Program (replacing gensets, etc.)

LPO & Building Sector Projects

- LPO can be used to support building sector projects that are achieving targeted goals such as Building Performance Standards or other targets such as the forthcoming National Definition for a Zero Emissions Building.

- For building sector projects, LPO will most likely be used to support energy work on a portfolio of buildings, rather than single projects.

- All projects must reduce greenhouse gas emissions (GHGs).

- All projects must have a reasonable prospect of repayment.

- Projects must utilize an innovative technology <u>or</u> secure "meaningful financial support" from a SEFI

Building Performance Standard (BPS) Projects

To be eligible, a project must fall under a category set forth in section 1703(b) of Title XVII.

- Relevant categories may include “Renewable energy systems”, “Efficient end-use energy technologies,” and “Energy storage technologies.”

Certain costs to improve building efficiency may be eligible costs if those costs contribute to meeting the applicable BPS and to the functioning of the relevant technology for the eligible project category.

- Costs must be "necessary, reasonable, customary and directly related" (IFR 609.10(a)) to an eligible project category.
- Independent Engineer (IE) report should present evidence for this determination.

Factory Built Housing

Factory Built Housing manufacturing projects can potentially qualify for LPO financing under energy generation, energy storage, or efficient end use technologies categories. LPO can potentially finance the debt required to construct one or more manufacturing facilities.

- LPO encourages loan requests of greater than $100M
- LPO will lend to 80% of a project cost, maximum; for manufacturing facilities it is typically 40-60%
- Therefore, the facility project should be in the $200M range, which might require multiple facilities
- LPO will evaluate prospect of repayment based on company track record, customer pipeline, equity raised, and various other project finance elements
- Projects could utilize innovative energy technology, or apply under the SEFI loan authority without innovative technology

Note: The California Strategic Growth Council, a quasi-public agency in California, has a grant program for CA based factory-built housing projects that apply for LPO financing under the SEFI loan authority

Clean Energy Tax Credits

Clean Energy Tax Incentives: Elective Pay Eligible Tax Credits

IRS

The Inflation Reduction Act of 2022 ("IRA") makes several clean energy tax credits available to businesses; tax-exempt organizations; state, local, and tribal governments; other entities; and individuals. The IRA also enables entities to take advantage of certain clean energy tax credits through its elective pay provision (also colloquially known as direct pay). Elective pay allows several types of entities, such as tax-exempts and governments, to treat the amount of certain credits as a payment against tax on their tax returns and as a result receive direct payments for certain clean energy tax credits.

rbon Capture

Tax Provision	Description
Production Tax Credit for Electricity from Renewables (§ 45, pre-2025)	**For production of electricity from eligible renewable sources**, including wind, biomass, geothermal, solar, small irrigation, landfill and trash, hydropower, marine and hydrokinetic energy. **Credit Amount (for 2022):** 0.55 cents/kilowatt (kW); (1/2 rate for electricity produced from open loop biomass, landfill gas, and trash); 2.75 cents/kW if Prevailing Wage and Apprenticeship (PWA) rules are met [1,2,3,7]
Clean Electricity Production Tax Credit (§ 45Y, 2025 onwards)	**Technology-neutral tax credit for production of clean electricity**. Replaces § 45 for facilities that begin construction and are placed in service after 2024. **Credit Amount:** Starts in 2025, consistent with credit amounts under section 45 [1,2,3,6,7]
Investment Tax Credit for Energy Property (§ 48, pre-2025)	**For investment in renewable energy projects** including fuel cell, solar, geothermal, small wind, energy storage, biogas, microgrid controllers, and combined heat and power properties **Credit Amount:** 6% of qualified investment (basis); 30% if PWA requirements met [1,4,5,6,8]

Clean Energy Tax Credits

Energy Generation & Car	**Clean Electricity Investment Tax Credit** (§ 48E, 2025 onwards)	**Technology-neutral tax credit for investment in facilities that generate clean electricity** and qualified energy storage technologies. Replaces § 48 for facilities that begin construction and are placed in service after 2024 **Credit Amount:** 6% of qualified investment (basis); 30% if PWA requirements met [1,4,5,6]
Energy Generation & Car	**Low-Income Communities Bonus Credit** (§ 48(e), 48E(h)) **Application required**	**Additional investment tax credit for small-scale solar and wind (§ 48(e)) or clean electricity (§48E(h)) facilities** (<5MW net output) on Indian land, federally subsidized housing, in low-income communities, and benefit low-income households. Allocated through an application process. **Credit Amount:** 10 or 20 percentage point increase on base investment tax credit [7]
Energy Generation & Car	**Credit for Carbon Oxide Sequestration** (§ 45Q)	**Credit for carbon dioxide sequestration** coupled with permitted end uses in the United States. **Credit Amount:** \$12-36 per metric ton of qualified carbon oxide captured and sequestered, used as a tertiary injectant, or used, depending on the specified end use; \$60-\$180 per metric ton if PWA requirements met.[1,7]
Energy Generation & Car	**Zero-Emission Nuclear Power Production Credit** (§ 45U)	**For electricity from nuclear power facilities.** Facilities in operation prior to August 16, 2022. **Credit Amount (for 2023):** 0.3 cents/kWh (reduced rate for larger facilities); 1.5 cent/kWh if PW req's met [1,7]
Manufacturing	**Advanced Energy Project Credit** (§ 48C) **Application required**	**For investments in advanced energy projects.** A total of \$10 billion will be allocated, not less than \$4 billion of which will be allocated to projects in certain energy communities. **Credit Amount:** 6% of taxpayer's qualified investment; 30% if PWA requirements are met [1]
Manufacturing	**Advanced Manufacturing Production Credit** (§ 45X)	**Production tax credit for domestic clean energy manufacturing** of components including solar and wind energy, inverters, battery components, and critical materials. **Credit Amount:** Varies by component

Clean Energy Tax Credits

Manu	**Advanced Manufacturing Production Credit** (§ 45X)	**Production tax credit for domestic clean energy manufacturing** of components including solar and wind energy, inverters, battery components, and critical materials. **Credit Amount:** Varies by component
Vehicles	**Credit for Qualified Commercial Clean Vehicles** (§ 45W)	**For purchasers of commercial clean vehicles**. Qualifying vehicles include passenger vehicles, buses, ambulances, and certain other vehicles for use on public streets, roads, and highways. **Credit Amount:** Up to $40,000 (max $7,500 for vehicles <14,000 lbs) [9]
Vehicles	**Alternative Fuel Vehicle Refueling Property Credit** (§ 30C)	**For alternative fuel vehicle refueling and charging property**, located in low-income and non-urban areas. Qualified fuels include electricity, ethanol, natural gas, hydrogen, and biodiesel. **Credit Amount:** 6% of basis for businesses and can increase to 30% if PWA is met.
Fuels	**Clean Hydrogen Production Tax Credit** (§ 45V)	**For producing clean hydrogen** at a qualified, U.S.-based clean hydrogen production facility. **Credit Amount:** $0.60/kg multiplied by the applicable percentage (20% to 100%, depending on lifecycle greenhouse gas emissions), amount increases if PWA is met [1,7]
Fuels	**Clean Fuel Production Credit** (§ 45Z, 2025 onwards)	**Technology neutral tax credit for domestic production of clean transportation fuels**, including sustainable aviation fuels, beginning in 2025* **Credit Amount:** $0.20/gallon ($0.35/gal for aviation fuel) multiplied by CO2 “emissions factor”; $1.00/gallon ($1.75/gal for aviation fuel) multiplied by CO2 “emissions factor” if PWA is met [1,7]

Clean Energy Tax Credits

Notes:

The information in this document may be subject to change as guidance is issued or finalized. For all IRA clean energy tax credits, please see irs.gov/cleanenergy for further details and eligibility requirements.

[1] Credit is increased by 5 times for projects that pay prevailing wages and use registered apprentices. Apprenticeship requirements do not apply for §§ 45L and 45U. Prevailing wage and apprenticeship requirements do not apply to certain projects, including certain projects of less than 1 megawatt or those that began construction prior to January 29, 2023.

[2] Credit is increased by 10% if the project meets certain domestic content requirements for steel or iron, and manufac tured products.

[3] Credit is increased by 10% if located in an energy community.

[4] Credit is increased by up to 10 percentage points for projects meeting certain domestic content requirements for steel, iron, and manufactured products.

[5] Credit is increased by up to 10 percentage points if located in an energy community.

[6] Section 168(e) provides favorable depreciation treatment for facilities or property qualifying for this tax credit. These facilities or property will be treated as a 5-year property for purposes of cost recovery, leaving them with lower taxable income in the earlier years of a clean energy investment.

[7] Credit rate is adjusted annually for inflation.

[8] See section 48 for more detail and applicable exceptions to the credit rate.

[9] The entities eligible for elective pay of the commercial clean vehicle credit is a subset of the entities eligible for elective pay of other credits. In addition, starting January 1, 2024, the amount of a new clean vehicle or previously owned clean vehicle tax credit (but not a commercial clean vehicle credit) can be transferred to a dealer for an equivalent reduction in the eligible vehicle's sales price.

Let’s Talk About Your Project

Contact LPO to see what financing options may be available for your project

Questions?

We are here to work with you! We meet regularly with potential applicants and provide feedback on their concepts.

Reach out to us with SEFI questions at SEFI@hq.doe.gov

Download the full Title 17 Guidance document at: **Energy.gov/LPO/Clean-Energy**

Learn more about LPO and all of its financing programs at: **Energy.gov/LPO**

Community Benefits Plans

A New Title 17 Project Application Requirement

- ✓ **A Community Benefits Plan (CBP) is now considered in the evaluation of Title 17 project applications.**
  - LPO can discuss and provide feedback during pre-application consultations.
  - CBPs will be preliminarily evaluated during the Part II evaluation.
  - Applications with inadequate CBPs may not be invited to proceed to due diligence.
- ✓ **LPO considers the quality of a CBP among the factors that indicate the prospect of loan repayment.**
- ✓ **LPO is leveraging commitments made for state and city incentives, and IRA Incentives**
- ✓ **Borrowers will report on their fulfillment of goals and activities included in the CBP.**

The Four Priorities

1) **Justice 40**
2) **Diversity, Equity, Inclusion, and Accessibility**
3) **Quality Jobs**
4) **Community & Labor Engagement**

Community Benefits Plans

More About the Four Priorities

1. **Justice40**

   Contribute to the goal that 40 percent of the overall benefits of clean energy investment flow to disadvantaged communities.

2. **Diversity, Equity, Inclusion, and Accessibility**

   Equitable access to wealth building opportunities, strengthening ties with the community, diversifying supply chains, and contributing to the health and robustness of the surrounding community.

3. **Quality Jobs**

   Ensuring jobs are of sufficient quality to attract and retain skilled workers in the industry with wages and benefits and worker supports, investing in workforce education and training, and supporting strong labor standards with the free and fair choice to join a union.

4. **Community & Labor Engagement**

   Support meaningful engagement with labor unions and community stakeholders, such as local governments, Tribal governments, and community-based organizations, leading to formal agreements.