

Title 17 Clean Energy Financing DOE LOAN PROGRAMS TOOLKIT



Under this program, LPO can finance projects in the United States that support clean energy deployment and energy infrastructure reinvestment to reduce greenhouse gas emissions and air pollution.

There are four project categories:

- Innovative Energy;
- Innovative Supply Chain;
- State Energy Financing Institution (SEFI)-Supported;
- Energy Infrastructure Reinvestment (EIR) (new program created by IRA)

Funding Amount: \$250B (loan guarantee authority; available through 9/30/26); \$3.6B credit subsidy.

General Eligibility Requirements for ALL Title 17 Clean Energy Financing Categories

- Located in the US. The project must be located in the United States, defined as the several states, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and any other territory or possession of the United States of America.
- Be an energy related project: The project must concern the production, consumption, transportation, or storage of energy, or related manufacturing activities; or support industrial decarbonization, critical minerals, and other components or eligible energy-related project categories under section 1703(b) of Title 17
- Achieve significant and credible greenhouse gas (GHG) or air pollution avoidance, reduction, utilization, or sequestration. All Section 1703 projects (Innovative Energy, Innovative Supply Chain, and SEFI) and Section 1706(a)(2)5 projects are statutorily required to avoid, reduce, utilize, or sequester air pollutants or anthropogenic emissions of greenhouse gases, and any project under Section 1706(a)(1) involving electricity generation through the use of fossil fuels must have controls or technologies to avoid, reduce, utilize, or sequester air pollutants and anthropogenic emissions of greenhouse gases. As a policy factor, LPO encourages all projects eligible under Section 1706(a)(1) 6 to demonstrate air pollutant or anthropogenic greenhouse gas emission avoidance, reduction, utilization, or sequestration, as discussed further in Section V.D (Application Process – Policy Factors) and Attachment I.A of the Part I Application.
- Have a Reasonable Prospect of Repayment. There must be a reasonable prospect that the applicant will be able to repay the principal and interest on the guaranteed loan and any other project debt incurred.

General Eligibility Requirements for ALL Title 17 Clean Energy Financing Categories (Cont.)

- Involve technically viable and commercially ready technology. Commercially
 ready technology has been demonstrated at near commercial-scale under expected
 process conditions with results supporting the expected performance of the proposed
 deployment. Performance data from testing at pilot and demonstration scales
 (confirming at least a Technical Readiness Level 6) must have been performed and be
 available for review in order to confirm commercial readiness. Applications will be
 denied if the proposed project is for research, development, or demonstration.
- Include an analysis of how the proposed project will engage with and affect associated communities, as part of a Community Benefits Plan. The application should identify community benefits, including economic, social, environmental, and equity considerations, as well as potential harms that would need to be mitigated over the life of the project. The project should have support from relevant stakeholders. Borrowers are expected to report on elements of this information as part of ongoing reporting requirements.
- Does not benefit from prohibited federal support. DOE cannot issue loan guarantees to projects that are expected to benefit from certain other forms of federal support ("Federal Support Restriction"), including grants, cooperative agreements, or other loan guarantees from federal agencies or entities. Otherwise allowable federal tax benefits, including energy production and investment tax credits, are excluded from the Federal Support Restriction.



Innovative Energy & Innovative Supply Chain Sec. 1703 Projects

General Eligibility

- Projects that deploy new or significantly improved high-impact clean energy technology (Innovative Energy) or that employ new or significantly improved technology in the manufacturing process for a qualifying clean energy technology or manufacture innovative products with an eligible technology end-use (Innovative Supply Chain).
- Must concern the production, consumption, transportation, or storage of energy, or related manufacturing activities; or support industrial decarbonization, critical minerals, and other components or eligible energy-related project categories under section 1703(b) of Title 17.

Both Innovative Energy and Innovative Supply Chain must align with the following eligible technologies:

- Renewable energy systems
- Production facilities for the manufacture of fuel-efficient vehicles or parts of those vehicles
- Advanced fossil energy technology
- Hydrogen fuel cell technology
- Pollution control equipment
- Advanced nuclear energy
- Oil refineries
- Carbon capture and sequestration technologies
- Energy storage technologies
- Efficient electrical generation, transmission, and distribution
- Industrial decarbonization technologies
- Efficient end-use energy technologies
- Supply of critical minerals

Innovative Energy-Specific Requirements

• Projects must include a New or Significantly Improved Technology applied to one or more of the eligible technologies.



Innovative Energy & Innovative Supply Chain Sec. 1703 Projects (Cont.)

Innovative Supply Chain-Specific Requirements

- Projects must either employ a New or Significantly Improved Technology in the manufacturing process for an eligible technology or manufacture a component that represents an eligible New or Significantly Improved Technology.
- Projects must avoid, reduce, utilize, or sequester air pollutants or anthropogenic emissions of greenhouse gases through (1) the manufacturing process of the relevant product or (2) the end-use of the component on a full life-cycle basis.

Possible Project Areas

- Innovative Energy
 - Distributed solar and storage (virtual power plant)
 - Distributed demand response (virtual power plant)
 - Offshore wind
 - Stationary and/or mobile energy storage
 - HVDC transmission
 - Small modular reactor (SMR) nuclear
 - "Front-end" nuclear fuel cycle
 - Advanced nuclear reactors
 - Nuclear uprates or upgrades
 - Advanced geothermal
 - Carbon capture, utilization, and storage (CCUS)
 - Hydrogen production and infrastructure
 - Sustainable aviation fuels, biofuels
 - Alternative vehicle fuel distribution facilities (e.g., hydrogen, LNG, CNG)
- Innovative Supply Chain
 - Solar supply chain components
 - Low-carbon cement, steel, or iron
 - Onshore and/or offshore wind components
 - Small modular reactors and micro reactors
 - Advanced nuclear components
 - Critical minerals (including processing, manufacturing, & recycling of mineral alternatives)
 - Electric vehicle charging infrastructure
 - Electric grid components
 - Low-carbon pulp and paper
 - Low-carbon chemicals
 - Low-carbon aluminum
 - Electrolyzer manufacturing



State Energy Financing Institution (SEFI)-Supported Program

Purpose: Financing for projects that deploy clean energy and receive meaningful financial support from a state agency or financing authority

General Eligibility

- In addition to the common eligibility requirements that apply to all Title 17 Clean Energy Financing. projects, SEFI-Supported projects must meet several additional eligibility criteria. SEFI-Supported projects must align with one of the following eligible technologies:
 - Renewable energy systems
 - Advanced fossil energy technology
 - Hydrogen fuel cell technology
 - Advanced nuclear energy
 - Carbon capture and sequestration technologies
 - Efficient electrical generation, transmission, and distribution
 - Efficient end-use energy technologies
 - Production facilities for the manufacture of fuel-efficient vehicles or parts of those vehicles
 - Pollution control equipment
 - Oil refineries
 - Energy storage technologies
 - Industrial decarbonization technologies
 - Supply of critical minerals

Possible Project Types

- The following is a set of project types that could be eligible, subject to LPO review. These examples are neither exhaustive nor limiting.
 - SEFI-supported energy efficiency upgrades and electrification of single-family residences
 - SEFI-supported community solar projects
 - SEFI-supported facilities related to decarbonized industrial products
 - SEFI-supported construction of high-quality, energy-efficient, housing
 - SEFI-supported financing of energy efficient and grid-interactive appliances



Energy Infrastructure Reinvestment (EIR) – Sec. 1706 Projects

Background & Description

- Energy Infrastructure Reinvestment (EIR) projects support reinvestment in communities throughout the United States where existing Energy Infrastructure has been challenged by market forces, resource depletion, age, technology advancements, or the broader energy transition. This infrastructure might include power plants, fossil fuel extraction sites, transmission systems, fossil fuel pipelines, refineries, or other energy facilities that have ceased to operate or that continue to operate but could benefit from GHG or pollution-reducing improvements.
- Does not need to be "innovative technology" and may include remediation of
 environmental damage associated with Energy Infrastructure

General Eligibility

- In addition to meeting the common Title 17 eligibility requirements, EIR projects must:
 - Retool, repower, repurpose, or replace energy infrastructure that has ceased operations, OR
 - Enable operating energy infrastructure to avoid, reduce, utilize, or sequester air pollutants or anthropogenic emissions of greenhouse gases.
- Additionally, the scope of a project receiving EIR financing may include remediation of environmental damage associated with legacy "energy infrastructure."
 - Energy Infrastructure is defined as a facility, and associated equipment, used for
 - (1) the generation or transmission of electric energy; or
 - (2) the production, processing, and delivery of fossil fuels, fuels derived from petroleum, or petrochemical feedstocks.
 - This definition encompasses a wide variety of facilities and sites, including, but not limited to, decommissioned or operating power plants, related transmission interconnections, oil and gas infrastructure including pipelines, refineries, and gas stations or refueling terminals.
- EIR projects are not required to be innovative but must satisfy other eligibility requirements based on the nature of the energy infrastructure and, in some instances, the type of applicant.



Additional requirements for energy infrastructure that has ceased operations clause

- **Proximity Requirement.** The new or updated Title 17-financed infrastructure should be at or near the site of the legacy Energy Infrastructure, to credibly retool, repower, repurpose, or replace the Energy Infrastructure that has ceased operations. Applications that are replacing Energy Infrastructure must show a clear relationship between new services and benefits provided by the Title 17 financed infrastructure and services, and benefits lost from the legacy infrastructure that ceased operations, such as grid capacity, reliability, and workforce retention and opportunities, including if the replacement plan differs from the legacy infrastructure physically and/or geographically.
- GHG and Pollution Controls Requirement. Any project that will invest in Energy Infrastructure that has ceased operations and which will generate electricity through the use of fossil fuels is required to have controls or technologies to avoid, reduce, utilize, or sequester air pollutants and anthropogenic emissions of greenhouse gases.

• Possible Project Types

- Retired power plant (or other qualifying energy infrastructure) retooled, repowered, repurposed or replaced with:
 - Renewable energy and/or storage

- Distributed energy (e.g., virtual power plant)
- Transmission interconnection to off-site clean energy
- New manufacturing facilities for clean energy products or services
- Nuclear energy
- Fossil or biomass generation with carbon capture and sequestration
- Reconductoring transmission lines and upgrading voltage
- Retrofitting of fossil-fuel power plant with carbon capture and sequestration
- Repurposing oil and gas pipelines (e.g., for H2, CO2)
- Upgrading or retrofitting refineries (e.g., for biofuels or hydrogen)
- Upgrading or uprating existing generation facilities (with emissions control technologies for projects involving fossil generation)
- Energy infrastructure repurposing for decarbonization





1. Pre-Application Consultation: Strongly Encouraged and during the consultation, LPO will:

- Discuss project eligibility, including the appropriate Title 17 project category;
- Assess whether the project is ready to proceed with a Title 17 application
- Discuss the phases of the process to obtain a Title 17 loan guarantee; and
- Answer questions that the potential applicant may have.

2. Application Submission



3. Application Review – 2 parts

- Part I: Evaluation Criteria: Determine if the project is ready to proceed and meets eligibility requirements, including additional requirements for certain projects. Detailed Instructions: https://www.energy.gov/lpo/articles/title-17-clean-energy-financing-program-part-iapplication-instructions
 - $\circ\,$ Qualifies as an eligible technology (as applicable).
 - Avoids, reduces, utilizes, or sequesters anthropogenic emissions of greenhouse gases or air pollutants (applies to all 1703 projects and 1706 projects as applicable).
 - $\circ\,$ Is located in the United States or its territories.
 - For an Innovative Energy or Innovative Supply Chain project, is located in one location or is located at multiple locations as part of an integrated and comprehensive business plan.
 - Meets project category-specific requirements as appropriate, including:
 - Review of Innovative Energy and Innovative Supply Chain projects will also focus on evaluating if the project employs New or Significantly Improved Technology as compared to Commercial Technology in service in the United State
 - DOE will consider the following factors:
 - Does the technology have a potentially catalytic effect on the market?
 - Does the technology have the potential to be employed in other commercial projects (i.e., replicability)?
 - Does the New or Significantly Improved Technology used in the project involve or constitute a meaningful improvement in productivity or value, as compared to Commercial Technology?
 - Innovative Energy and Innovative Supply Chain applications will be denied if:
 - The project is not ready to be deployed commercially in the United States.
 - The project is for demonstration, research, or development.
 - Review of SEFI-supported projects will also focus on evaluating if the SEFI provides meaningful financial support or credit enhancements to the project.
 - Review of EIR Projects will also focus on evaluating if the project demonstrates a clear nexus between ceased or operating Energy Infrastructure with the proposed investment in new or upgraded energy asset(s), as well as other EIR eligibility requirements.
- Part II: Determine the project's readiness to proceed into due diligence based on programmatic, technical, environmental, and financial evaluation. <u>Detailed instructions.</u>
 - Evaluation Criteria Considered during Part II App Review: <u>Pg. 42 Program Guidance</u>: https://www.energy.gov/lpo/articles/program-guidance-title-17-clean-energy-program



4. Policy Factors in Application Review

- Community Benefits Plan: Major Policy Factor Considered in the App. Process
 - Background
 - Required to submit as part of their Part II Application how will applicant engage with stakeholders affected by the project
 - DOE can discuss and provide feedback on CBP during pre-application consultations
 - Apps will be reviewed on quality of their CBP
 - Based on a set of 4 Core Policy Priorities:
 - Engaging communities and labor;
 - Investing in America's workers through quality jobs;
 - Advancing diversity, equity, inclusion, and accessibility through recruitment and training; and
 - Implementing Justice40, which directs 40% of the overall benefits of certain FederalF investments to flow to disadvantaged communities.
 - General Requirements/Expectations should explain how the project will support:
 - Meaningful Community and labor engagement
 - Describe the applicant's actions to date and plans to engage with labor unions and community stakeholders such as local governments, Tribal governments, and community-based organizations that support or work with underserved communities, including disadvantaged communities
 - Lay groundwork for WF and Community Agreements with communities, labor unions, or both.
 - Illustration of portion:
 - Identify the project's Community Jobs and Justice Lead.
 - Outline local stakeholders that have been or will be engaged in stakeholder engagement and describe the types of engagement and outcomes of that engagement.
 - Indicate local labor leaders who have been engaged during construction and operations planning.
 - Identify any community-focused agreements developed or in development for the project and explain how they relate to community and labor engagement. Examples include: Construction Workforce Agreement, Community Benefits Agreement, and/or Good Neighbor Agreements
 - Describe stakeholder outreach and engagement conducted or planned as part of the project's environmental reviews.



- Identify any plans to pursue bonus tax credits for projects placed in service in an "energy community," low-income community, or part of a "qualified low-income residential building project" or "qualified low-income economic benefit project."
- Job quality and workforce continuity/investment in workforce

- Should describe the applicant's approach to investing in workforce education and training of both new and incumbent workers and ensuring jobs are of sufficient quality to attract and retain skilled workers in the industry
- Applicants should include details on how they will support strong labor standards; creation of good-paying jobs with the free and fair choice to join a union; wages, benefits, and other worker supports; workforce education and training, especially registered apprenticeship programs and quality pre-apprenticeship programs; and efforts to engage employees in the design and execution of workplace safety and health plans.
- Illustration of Portion/Contents of Portion may Include:
 - Identify any workforce-focused agreements developed or in development for the project. Examples may include Construction Workforce Agreement, Project Labor Agreement, Neutrality Agreement, Collective Bargaining Agreement, or Labor Management Partnership.
 - Indicate if the applicant (or EPC contractor) has a Responsible Contractor Standards Policy aligned with industry best practices.
 - Identify any plans to pursue the Inflation Reduction Act (IRA) Production Tax Credits (PTCs) and Investment Tax Credits (ITCs) Labor Standards Bonus Rate for Prevailing Wage and Registered Apprenticeship Utilization
 - Describe any employer-sponsored training that allows access to entry-level workers, advancement within the company, or attainment of skills (e.g., registered apprenticeship programs, quality pre-apprenticeship programs, labor-management training programs, tuition reimbursement programs, etc.).
 - Describe efforts to engage employees in the design and execution of workplace safety and health plans.
 - Outline training partnerships with community colleges, local workforce boards and workforce systems, community-based organizations, and apprenticeship readiness programs.
 - Describe any local and targeted hiring goals associated with the project
 - Describe employees' ability to organize, bargain collectively, and participate, through labor organizations of their choosing.



- Diversity, equity, inclusion, and accessibility
 - Should include a section describing how diversity, equity, inclusion, and accessibility (DEIA) objectives will be incorporated into the project. The applicant should describe any plans to partner with business organizations, educational institutions, and workforce training organizations that serve underrepresented workers who face barriers to accessing high-quality jobs.
 - Illustration/contents of portion may include:
 - Relationship with regional Minority Business Development Agency/local community
 - Create business DEIA plans, including goals for number and/or dollar value of contracts, grants, or cooperative agreements awarded to federally identified SBAgraded socioeconomic categories, minority business enterprises, minority-owned businesses, woman-owned businesses, veteran-owned businesses, businesses located in underserved communities, or local businesses identified as disadvantaged or prioritized by the State, local government, or local community.
 - Partner with and participate in events with federal, State, and local economic development and business development organizations, such as the Minority Business Development Agency, the Small Business Administration, and/or the Department of Energy.
 - Participate in business mentoring programs to help grow clean energy enterprises.
 - Describe mechanisms to publicly share and promote employment, contracting, supplier, and other opportunities.
 - Outline recruitment partnerships with Minority Serving Institutions
 - Outline recruitment partnerships in the community with Community Colleges, local workforce boards and workforce systems, community-based organizations, and Apprenticeship Readiness Programs.
 - Support gender inclusion by setting goals for female worker recruitment in all areas of the project. For example, see the U.S. Department of Labor requirements in Executive Order 11246 Equal Employment Opportunity for establishing a workforce goal of at least 6.9% of all hours to be worked by female workers.



- Establish workforce diversity, equity, inclusion, and accessibility goals for individuals who belong to underserved communities, such as Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; veterans; returning citizens; and persons otherwise adversely affected by persistent poverty or inequality and contracting with businesses owned by such persons.
- Justice40 initiative goal that 40% of the overall benefits from certain federal investments flow to disadvantaged communities
 - Describe how the applicant's project advances DOE's equity, environmental, and energy justice priorities, including DOE's commitment to the Justice40 Initiative and DOE's commitment to energy communities. Describe the applicant's plan to identify and engage with affected communities and to measure, track, and address the potential benefits (e.g. jobs) and impacts (e.g., environmental degradation) of the project to these communities.
 - May align with DOE's energy justice policy priorities for disadvantaged communities, which include decreasing environmental exposure and burdens, increasing access to low-cost capital, increasing clean energy enterprise creation and contracting, increasing clean energy jobs (including job pipeline and training), and increasing energy resiliency
 - Illustration/Contents of Portion may Include:
 - Identify and report on local and State incentives, programs, and commitments made by the applicant for the project.
 - Identify disadvantaged communities impacted by the project and to which the anticipated project benefits will flow, specifically those identified by Council on Environmental Quality (CEQ) Justice40 Communities.
 - Define whether the project, or sections of the project, are eligible for the 10% energy community tax credit bonus set by the Inflation Reduction Act, as defined by the U.S. Department of Treasury.
 - Report hiring goals for underserved communities or disadvantaged communities



- Identification of applicable benefits that are quantifiable, measurable, and trackable. Include measurable direct or indirect investments or positive project outcomes that achieve or contribute to the following in disadvantaged communities:
 - Decrease energy burden in disadvantaged communities (DACs).
 - Decrease environmental exposure and burdens for DACs
 - Increase parity in clean energy technology (e.g., solar, storage) access and adoption in DACs.
 - Increase access to low-cost capital in DACs.
 - Increase clean energy enterprise creation and contracting (MBE/DBE) in DACs.
 - Increase clean energy jobs, job pipeline, and job training for individuals from DACs.
 - Increase energy resiliency in DACs.
 - Increase energy democracy in DACs.
- A discussion of anticipated negative and cumulative environmental impacts on disadvantaged communities. Are there anticipated negative or positive environmental impacts associated with the project, and how will the applicant mitigate any negative impacts? Within the context of cumulative impacts created by the project, applicants should use Environmental Protection Agency EJSCREEN tool to quantitatively discuss existing environmental impacts in the project area. See EJ Screen Tool
- Greenhouse Gas Analysis
 - LPO performs a greenhouse gas (GHG) lifecycle analysis (LCA) on proposed Title 17 projects based on the information provided in the Part I Application. The LCA estimates the global warming impact of a product or process relative to a baseline case.
 - For the purpose of this assessment, LPO quantifies the emissions of each project on the basis of the products produced by the project, more commonly referred to as a "functional unit." LPO uses a "cradle to grave" approach for the studies of the functional units analyzed.
 - The GHG lifecycle analysis is not required for some classes of technologies and project types, as described in Attachment A of the Part I Application.



- Emissions associated with the following life cycle stages are studied:
 - Raw material extraction;
 - Raw material transport;
 - Energy inputs to the facility;
 - The applicant's facility or project and activities associated with it;
 - Product transportation and distribution;
 - Product end use, and product end of life (only where the primary product is not fully consumed; required for any waste byproducts created in the manufacture of the primary product).



- Foreign Collaboration Considerations
 - The applicant will be required to provide DOE with a written list of all direct and indirect foreign ownership and formal agreements with foreign entities which the applicant has entered into in connection with the project seeking a DOE loan guarantee.



Carbon Dioxide Transportation Infrastructure Projects

The Carbon Dioxide Transportation Infrastructure Finance and Innovation Act (CIFIA) will support CCUS technology deployment by financing projects that build shared CO2 transport infrastructure

Eligible Uses: A Common Carrier CO2 transportation infrastructure Project in the United States, with Total Project Costs greater than \$100 million, that will transport CO2 captured from anthropogenic sources and/or ambient air by pipeline, shipping, rail, or other transportation infrastructure for storage or use.

Recipients: Eligible Obligor may be a corporation, partnership, joint venture, or trust; government entity, agency, instrumentality, or public authority; or a public-private partnership. There could be opportunities for chemical companies in this program.

Funding Amount: \$2.1B (loans, loan guarantees, grants; appropriated annually through 2026).

Relevant Deadlines: Before 2026 when funding availability ends. More info: https://www.energy.gov/lpo/carbon-dioxide-transportation-infrastructure

CIFIA Guidance Document: https://www.energy.gov/sites/default/files/2022-10/LPO_CIFIA_Guidance_Document_FINAL_2022.10.05_0.pdf

Applicants are required to submit a community benefits plan. Generally, an Applicant's Community Benefits Plan should explain how the proposed CIFIA Project will support:

- community and labor engagement
- quality jobs,
- diversity, equity, inclusion, and accessibility, and
- environmental justice (as addressed through the Justice40 Initiative73)



Advanced Technology Vehicle Manufacturing Loan Program

To provide loans to support the manufacture of eligible advanced technology vehicles and components under the Advanced Technology Vehicles Manufacturing Loan Program (ATVM), including newly authorized uses from the Bipartisan Infrastructure Law. Expanded uses include medium- and heavy-duty vehicles, locomotives, maritime vessels including offshore wind vessels, aviation, and hyperloop. IRA removed the \$25 billion cap on ATVM loans and appropriates \$3 billion in credit subsidy to support these loans.

Eligible Uses: Manufacturing a range of advanced technology vehicles and their components, including light-duty vehicles, medium- and heavy-duty vehicles, locomotives, maritime vessels including offshore wind vessels, aviation, and hyperloop. Funds may be used for the costs of providing direct loans for reequipping, expanding, or establishing a manufacturing facility in the U.S. to produce advanced technology vehicles only if those vehicles emit, under any possible operational mode or condition, low or zero exhaust emissions of greenhouse gases.

Recipients: Manufacturers of eligible vehicles or of components or materials that support eligible vehicles' fuel economy performance. Chemical companies may wish to apply for these funds or partner with applicants.

Funding Amount: \$40B (loans; available through 9/30/28); \$4B (credit subsidy),

Relevant Deadlines: Before 9/30/28 when funding availability ends. More info at https://www.energy.gov/node/987691/