

Program Overview Advanced Transportation Financing

How LPO provides loans to support the manufacture of eligible vehicles & qualifying components via the **Advanced Technology Vehicles Manufacturing** (ATVM) Loan Program and other financing programs



Agenda

- What LPO Does | Building a Bridge to Bankability Application Activity
- What LPO Offers Borrowers | The Value of Working With LPO
- LPO Financing Programs | ATVM Title 17 TELGP CIFIA
- Advanced Transportation Financing | Programs Project Eligibility Lending Overview
- LPO's Portfolio | A Record of Impact, Risk Management, and Good Governance
- **Portfolio Impact** | Catalyzing Markets, Reducing Emissions, Creating Jobs
- **Open for Business** | The Next Generation of LPO Financing
- Working with LPO | Let's Talk About Your Project



What LPO Does

Supporting a large-scale, private sector-led, government-enabled deployment of innovative mobility solutions while helping to rebuild and onshore America's vehicle manufacturing sector —that is LPO's advanced transportation financing mandate.

LPO Director Jigar Shah



The U.S. Department of Energy Loan Programs Office (LPO) works with the private sector to finance the deployment and scale-up of innovative clean energy technologies, build energy infrastructure and domestic supply chains, create jobs, and reduce emissions in communities across the United States.



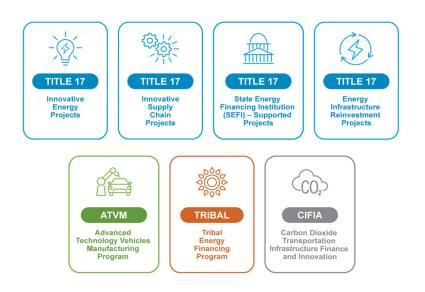
What is the Loan Programs Office (LPO)?

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?



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.



What Drives Us

Vision

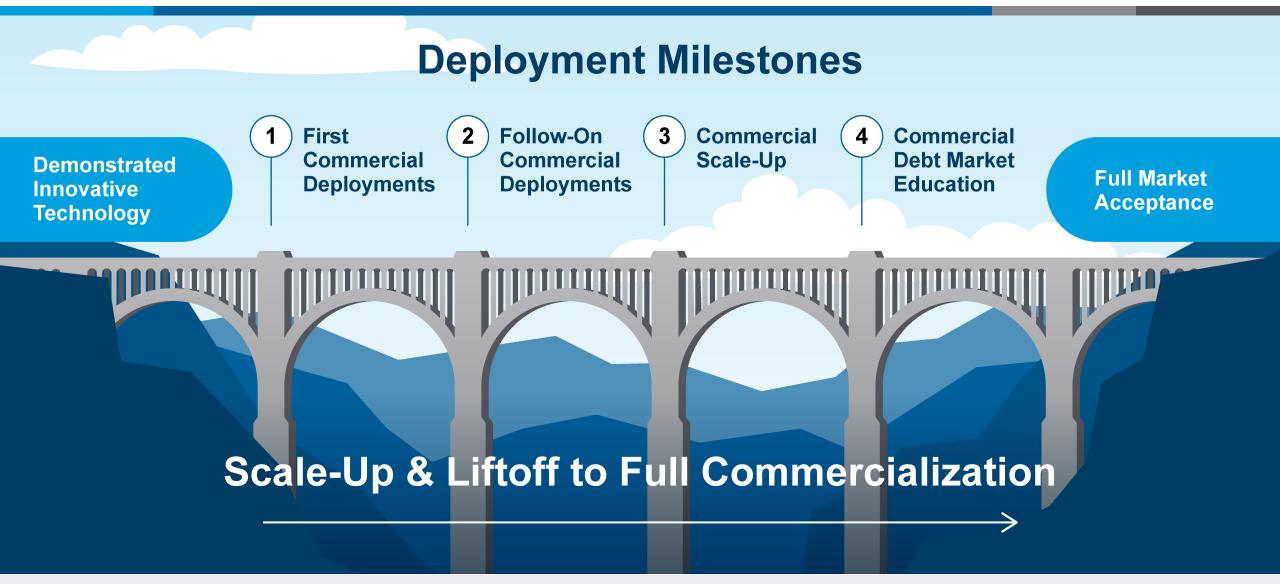
A secure and clean energy economy that benefits all Americans



To be the premier public financing partner that accelerates high-impact energy and manufacturing investments to advance America's economic future



Building a Bridge to Bankability





LPO Administers Loan Programs that:



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



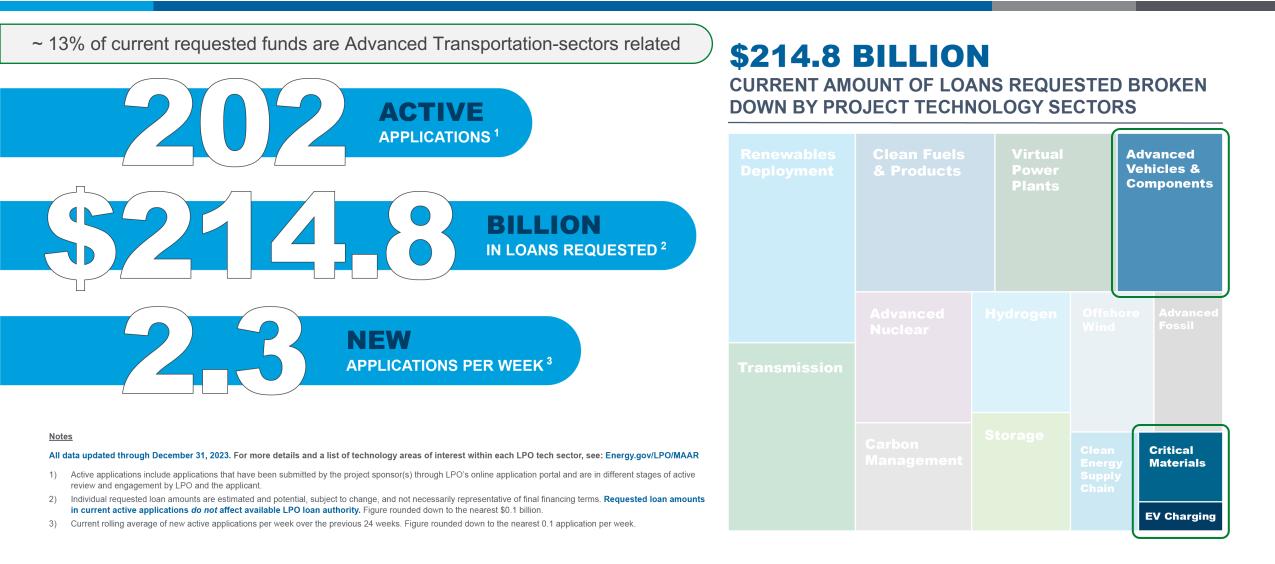
Enable the expansion of domestic manufacturing and supply chains to support a cleaner and stronger energy economy



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

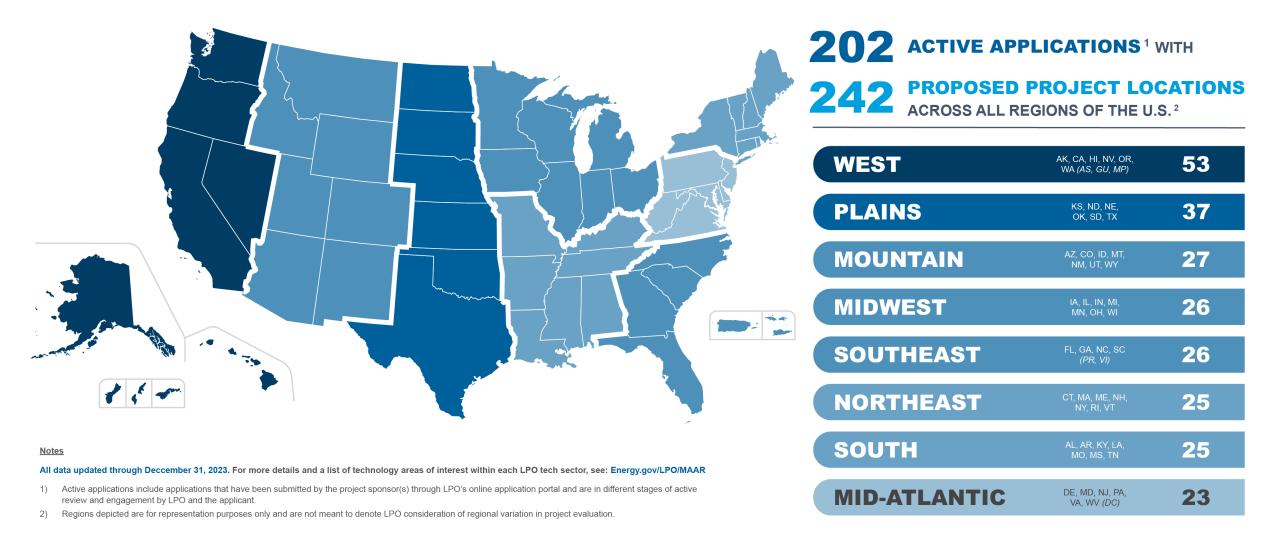


Monthly Application Activity Report December 2023





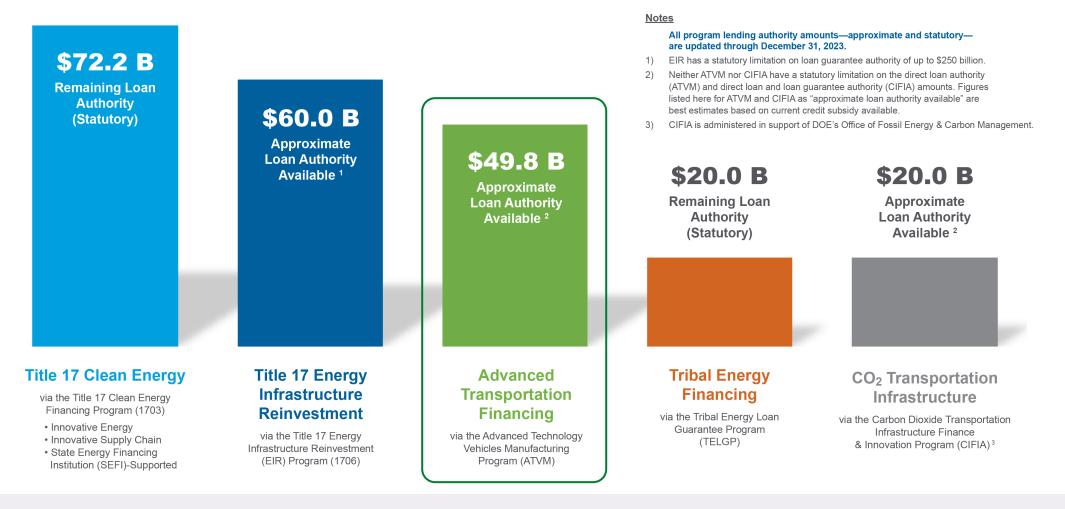
Monthly Application Activity Report December 2023





Monthly Application Activity Report December 2023

Estimated Remaining Loan Authority for LPO Financing Programs





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)
- Includes EV charging infrastructure deployment



Advanced Transportation (ATVM)

Financing for:

- **Manufacturing** of advanced technology vehicles, several modes of ATVs, components, and EV charging infrastructure
- EV infrastructure *deployment* is via Title 17 & TELGP



Tribal Energy (TELGP)

Financing for:

- Tribal energy development projects
- Includes EV charging infrastructure
 deployment

CO₂ Transportation Infrastructure (CIFIA)

Financing for:

 Large-capacity, common carrier CO₂ transportation projects





ADVANCED TRANSPORTATION FINANCING (ATVM)

Advanced Transportation Financing

- Advanced Technology Vehicles Manufacturing (ATVM) Program Overview
- ATVM Eligible Project Technologies
- **ATVM Eligible Components**
- ATVM Expanded Eligibility
- Title 17 Financing Program Overview for Deployment Projects





Advanced Transportation Financing (ATVM)

Manufacturing of vehicles, components, and EV charging infrastructure

Direct Loan Project Eligibility

- 1. New facilities or reequip/modernize/expand existing facilities in the U.S. and/or related engineering integration for eligible vehicles.
- 2. Light-duty vehicles that meet specified fuel economy requirements or ultraefficient vehicles.
- 3. Manufacturing lending authority has been expanded to facilities for the manufacturing of medium- and heavy-duty vehicles, locomotives, maritime vessels including offshore wind vessels, aviation, and hyperloop.
- 4. Applicable across the value chain including materials, components, suppliers, OEMs, EV charging or alternative fueling infrastructure.



ATVM Lending Overview

Direct Loan Features

- Direct loan from U.S. Treasury's Federal Financing Bank (FFB).
- Senior secured, fixed rate debt.
- Pricing equal to U.S. Treasury-equivalent yield curve with zero credit spread.
- Debt amount based on credit profile, business plan, market risk, technology, cash flows, project risk allocation and other relevant factors.
- Tenor of up to 25 years or useful life of the assets financed.
- DOE can serve as sole lender or as a co-lender.
- Structures may include corporate, structured corporate or project finance loans.

Fees & Costs

Application Fee

• There is no application fee for the ATVM program.

Independent Advisors

• Each applicant is responsible for paying expenses incurred by LPO's independent advisors in connection with the applicant's project.

Closing Cost

• The Borrower will be required to pay at the time of the closing of the loan a fee equal to 10 basis points (0.1%) of the principal amount of the loan.



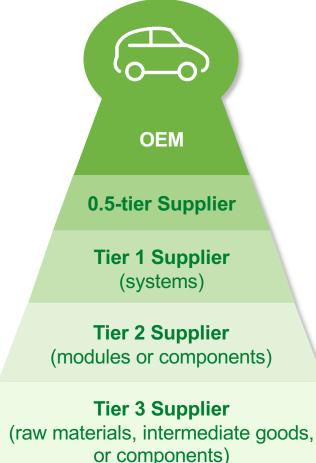
ATVM Project Technologies

Low-cost manufacturing debt financing is available via the ATVM program for all levels of the automotive value chain including:

✓ Materials ✓ Components ✓ Suppliers
 ✓ OEMs ✓ Alternative Fueling Infrastructure
 ✓ Land & Facility Construction/Refurbishment
 ✓ Equipment & Engineering

With particular interest in:

- Efficient Light-Duty or Ultra-Efficient Vehicles Manufacturing
- Qualified Component Manufacturing
- Engineering Integration





ATVM Eligible Components & Materials

Qualifying projects may include—but are not limited to—the following components technologies:

Advanced Engine Technologies

- Variable Valvetrain Control
- Direct Injection
- Turbocharging
- Start/Stop

Advanced Powertrain Technologies

- Hybrid / EV Powertrain Integration
- Electric Motor Manufacturing
- Energy Recovery Braking & Suspension
- Increased Number of Gear Ratios

Aerodynamics Improvements & Lightweighting Technologies

Advanced Materials

- Advanced High Strength Steels
- Aluminum, Magnesium & Other Alloys
- Plastics, Carbon Fiber & Composite Materials

Batteries

- Cell Manufacturing
- Module Manufacturing
- Pack Assembly
- Critical Materials/Minerals

Electronics

- Variable EV Controllers
- Electric Power Steering
- Power Electronics
- Battery Systems
- Microprocessors

Fuel Efficient Tires

Fueling Infrastructure

- Manufacture of EV Charging Equipment
- DC Transformers, Revenue-Grade Metering, Related Components
- VGI/Bi-directionality Enabling Components



Light-Duty Vehicles Manufacturing

LPO has issued nearly \$8 billion in ATVM direct loans for light-duty manufacturing projects since 2009 (Ford, Nissan, Tesla)



Project Eligibility Criteria

- ✓ Less than 10,000 lbs GVW (LDT)
- ✓ Fully enclosed body, 2 + passengers
- Efficient light duty: 25%+ more
 efficient than comparable 2005 MY
 baseline equivalent + Tier 2 bin 5
- ✓ Ultra-Efficient: 75+ mpg equivalent



Expanded ATVM Eligibility

The Infrastructure Investment & Jobs Act (IIJA) expanded eligibility for ATVM project types & the Inflation Reduction Act (IRA) of 2022 appropriated funds that may be used for these new categories:



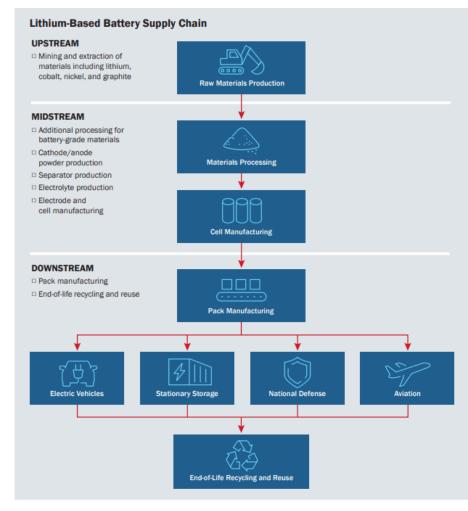
* Notes on Medium- and Heavy-Duty Vehicles & Components Eligibility:

The IIJA does not specify on- or off-road eligibility of medium/heavy duty trucks, nor does it specify eligible vehicles or fuel efficiency requirements for the other new categories. Eligibility has been determined as a medium duty vehicle or heavy-duty vehicle that **exceeds 125 percent of the greenhouse gas emissions and fuel efficiency standards** established by the final rule of the Environmental Protection Agency entitled *Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium and Heavy-Duty Engines and Vehicles*.



ATVM Highlight: EV Supply Chain

Supporting midstream and downstream EV battery supply chain projects





ATVM Eligibility Summary: Manufacturing

Manufacture of advanced vehicles, components, and infrastructure

Eligible Project Categories	Loans may cover	Example Applications
 Light-Duty Cars & Trucks Less than 10,000 lbs GVW Fully enclosed body, 2+ passengers "Efficient light duty": 25%+ more efficient than comparable 2005MY equivalent "Ultra-Efficient": 75+ mpg equivalent Light Duty Components (including batteries, materials, and charging manufacture) Medium- & Heavy- Duty Trucks (on-road only; must exceed 125 percent of greenhouse gas emissions and fuel efficiency standards established by EPA final rule) 	 Manufacturing startup and commissioning expenses Land acquisition Plant construction, tools, designs, equipment Architect/contractor expenses 	 Several EV OEMs Delivery trucks Battery/OEM joint venture Cylindrical, prismatic cells, pack production, cathode, anode technologies Microprocessor components L2 chargers & DC fast chargers

- Aviation Maritime
- Rail Hyperloop

* Lending authority expanded to include these categories by the IIJA and funded via the Inflation Reduction Act (IRA); full lending guidance—including vehicle criteria—forthcoming.



Title17 Eligibility Summary: Deployment

Deployment of EV charging infrastructure & innovative advanced transportation projects

Project Requirements	Loans may cover	Example Applications
 Wide ranging technologies that must: 1. Use innovative technology (in most cases) 2. Reduce, avoid, or sequester greenhouse gas emissions 3. Are located in the U.S. 4. Provide reasonable prospect of repayment 	 Manufacturing Asset acquisition, construction, and deployment costs Other startup and commissioning expenses Transportation-related software, including charging as a service 	 Heavy duty truck charging infrastructure Long duration storage EV aircraft, marine, and rail Virtual power plants (VPPs) Green hydrogen



ATVM Frequently Asked Questions

Q: How long does the application process take?

A: Anywhere from eight months to over a year, depending on applicant preparedness and project complexity.

2: Fees & Costs

1: Time

Q: What does it cost to close a loan?

A: There are no application fees. Applicants are responsible for third-party advisor costs, which begin in the due diligence phase. Applicants enter into sponsor payment letters with each third-party advisor and pays the third-party advisor costs as incurred. Additionally, applicants pay a facility fee at close and maintenance fees annually.

3: How to Apply?

Q: How do I apply for an ATVM loan?

A: LPO accepts ATVM applications at any time. Potential applicants are encouraged to engage directly with LPO for no-fee, no-commitment consultations to start a conversation about the project and about LPO's process before formally applying. Email atvmloan@hq.doe.gov or go to Energy.gov/LPO/Pre-App to begin the process.



A History of Portfolio Success Across Sectors

Over \$40 billion in innovative clean energy & advanced transportation loans and commitments

Advanced Nuclear | \$12 Billion

First AP1000 reactor in the U.S. (Vogtle)

Advanced Vehicles & Components | \$19.6 Billion

Accelerated domestic electric vehicles manufacturing. (BlueOval SK, Ford, Nissan, Tesla, Ultium Cells)

Concentrating Solar Power | \$5.8 Billion

Five CSP plants utilizing diverse technologies.

Utility-Scale PV Solar | \$4.7 Billion

First five photovoltaic (PV) solar projects larger than 100 MW in the U.S.

Critical Materials | \$3.2 Billion

Supporting domestic supply chains for electric vehicles battery manufacturing in the U.S. (Li-Cycle, Redwood Materials, Rhyolite Ridge, Syrah Vidalia)

Virtual Power Plants | \$3.0 Billion

Landmark commitment to scale up access to DERs nationwide. (Hestia)

Wind Energy | \$1.7 Billion

Four onshore farms, including one of the world's largest. (Shepherds Flat)

Advanced Fossil | \$1 Billion

Conditional commitment for industrial decarbonization & clean hydrogen project. (Monolith)

Geothermal | \$546 Million

Innovative thermal extraction, revitalizing the sector.

Hydrogen | \$504 Million

Innovative clean hydrogen storage facility. (Advanced Clean Energy Storage)

Transmission | \$343 Million

Advanced transmission lines for improved grid reliability. (One Nevada Line)

NOTE: Loan Amounts on this page represent the approximate amount of the approved loan at closing (or, for active conditional commitments, at time of conditional commitment announcement), including principal and any capitalized interest. Note that in making an obligation of use of loan authority, DOE does not include capitalized interest in those amounts.



Good Governance in Portfolio Management

Proactive risk & portfolio management as responsible stewards of taxpayer resources

Program Management Operations Strategic Improvements

- Fill key positions in management with experienced professionals
- **Clarify authorities** & accountabilities of managers
- Establish and effectively communicate clear goals for management
- Proactively protect the taxpayers' interest
- Engage in **long-run strategic planning** for the programs
- **Improve reporting** to the public
- Strengthen & restructure internal oversight of the programs
- Establish external oversight



Portfolio Surveillance Strategic Improvements

- Create a comprehensive management information
 reporting system
- Establish a protocol for timely reporting of critical information
- **Incorporate lessons learned** into policies, procedures, reporting and decision making

Portfolio Impact

Catalyzing U.S. Markets

Over a decade of success in building a bridge to clean energy commercialization

Critical Materials Supply Chain

Financed critical minerals processing and recycling projects, supporting battery cell manufacturing and bolstering domestic EV supply chains.

Utility-Scale Renewables Innovation

Financed large-scale, innovative solar, wind, geothermal, and transmission projects across the West.



Advanced Auto Manufacturing

Financed the upgrade of advanced auto manufacturing facilities across the Midwest, creating tens of thousands of jobs.

Advanced Nuclear Energy

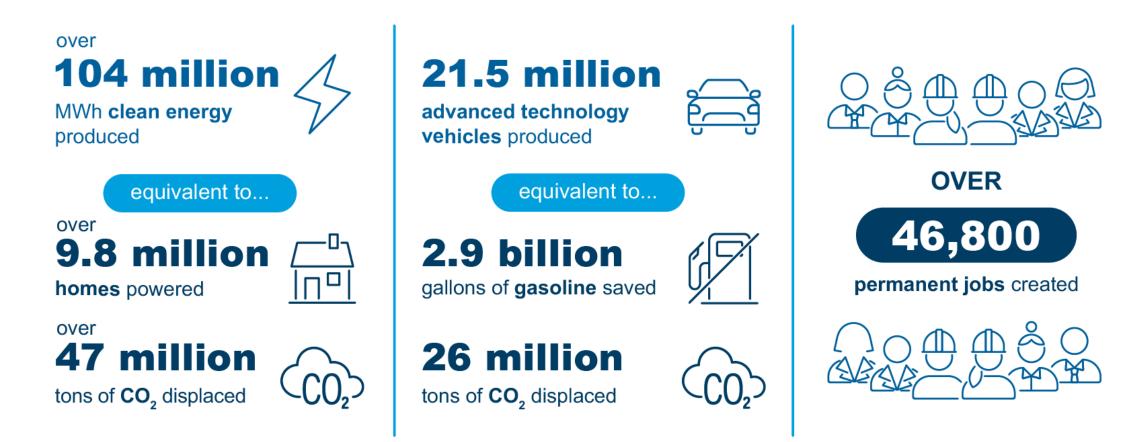
Financed the construction of the first new nuclear reactor in the U.S. in 30 years.



Portfolio Impact

Climate & Economy

LPO-supported projects reduce greenhouse gas emissions and create American jobs

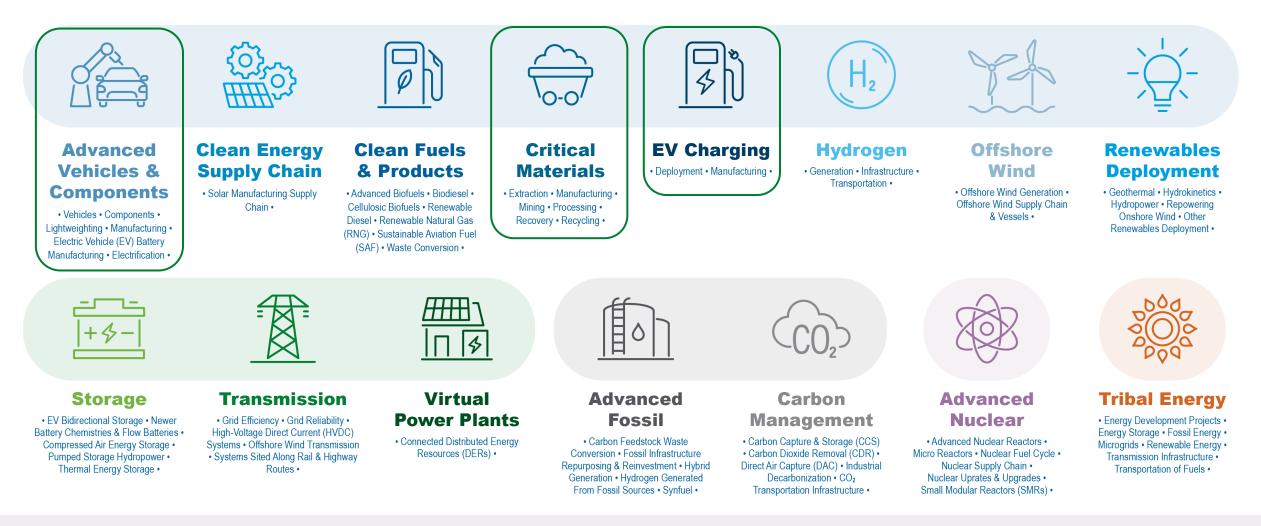


NOTE: Emissions and job impacts attributable to LPO-supported portfolio projects, cumulative through **Q4 FY2023**.



The Next Generation of LPO Financing

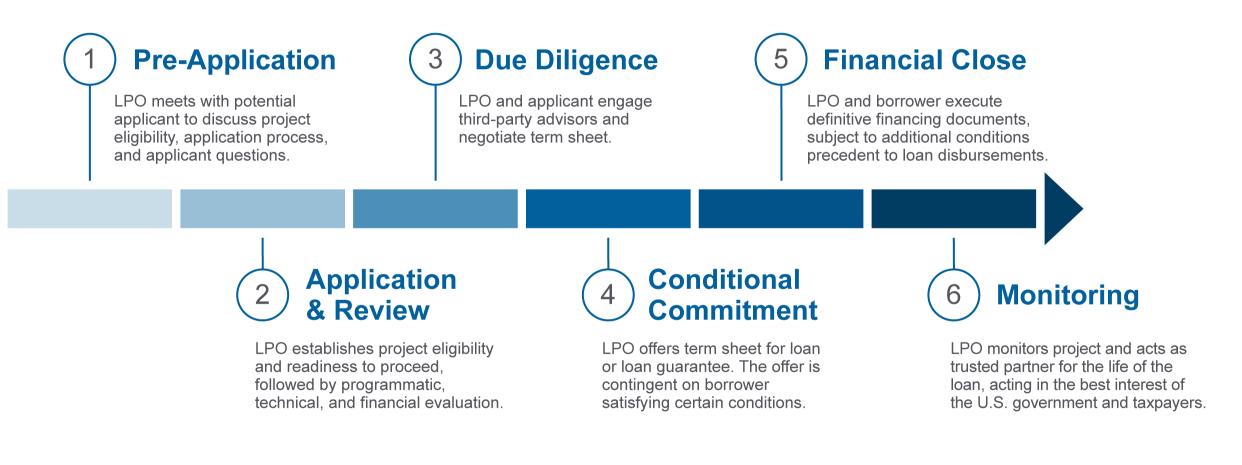
LPO is working with stakeholders across innovative clean energy & advanced transportation sectors





The LPO Loan Transaction Process

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





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?





Let's Talk About Your Project

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



Schedule a no-fee, pre-application consultation: Energy.gov/LPO/Pre-App Learn more about LPO and all of its financing programs at: **Energy.gov/LPO**

Questions? Call: 202-287-5900 or Email: LPO@hq.doe.gov





ADVANCED TRANSPORTATION FINANCING (ATVM)

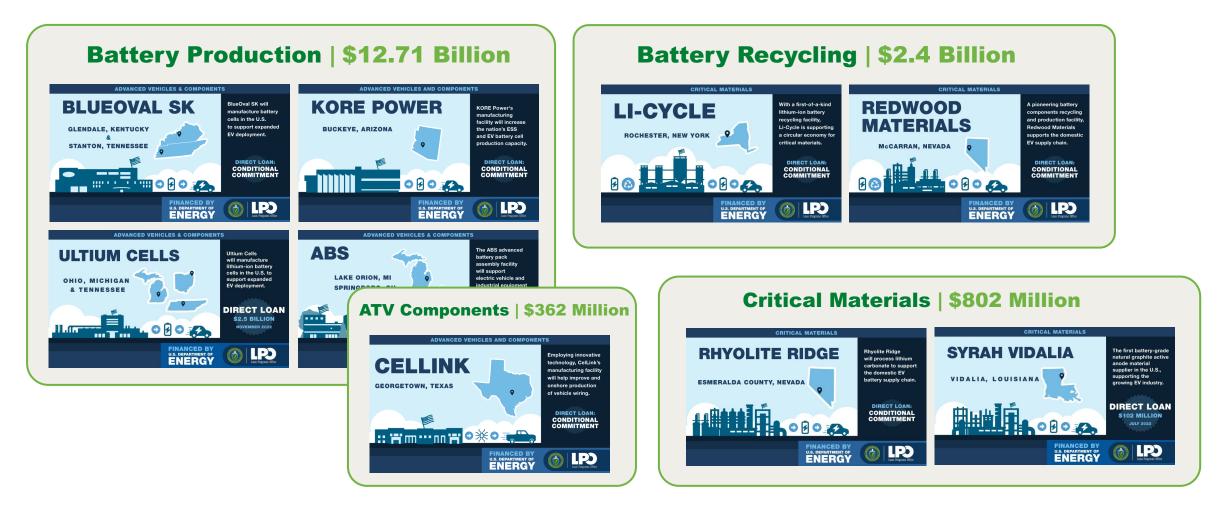
Appendix

- Recent Advanced Transportation Projects
- Related LPO Financing Program Summaries
 - Title 17 Clean Energy Financing
 - Tribal Energy Financing
 - CO2 Transportation Infrastructure Financing



Recent Advanced Transportation Projects

Over \$16 billion via two ATVM loans & seven conditional commitments since 2021







Title 17 Clean Energy Financing(Title 17)

Loan guarantees for the deployment of innovative energy projects at commercial scale

Four Project Categories

- 1. Innovative Energy (1703)
- 2. Innovative Supply Chain (1703)
- 3. State Energy Financing Institution (SEFI)-Supported (1703)
- 4. Energy Infrastructure Reinvestment (EIR) (1706)

Project Eligibility

- 1. Project located in the United States.
- 2. Be an energy 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.

Loan Guarantee Features

- LPO can offer 100% guarantee of U.S. Treasury's Federal Financing Bank (FFB) loans or partial guarantees of commercial loans.
- Senior secured debt priced competitively with commercial rates.
- DOE can serve as sole lender or as a co-lender.
- Structures may include project finance or structured corporate financing.





Tribal Energy Financing

Energy development projects via the Tribal Energy Loan Guarantee Program (TELGP)

Project Eligibility

TELGP can consider tribal energy projects that:

- 1. Are owned by a tribe or entity that is majority tribally owned and controlled.
- 2. Are seeking direct loans or partial guarantees of commercial loans.
- 3. Are located in the U.S. (Tribal or non-tribal land, single site or distributed).
- 4. Are financially viable. TELGP is not a grant program and the borrower will be required to invest equity in the project.
- 5. No innovation requirement.

Technologies of Interest

Projects employing commercial technology are preferred. Technology areas of interest include, but are not limited to:

- Renewable Energy
- Transmission Infrastructure & Energy Storage
- Fossil Energy
- Transportation of Fuels





CO₂ Transportation Infrastructure Financing (CIFIA)

Financing via the CO₂ Transportation Infrastructure Finance & Innovation Program

Summary

- Enacted under the Bipartisan Infrastructure Law
- CIFIA program offers access to capital for largecapacity, common-carrier carbon dioxide (CO2) transport projects, such as pipelines, rail, shipping, and other transport methods.
- Administered in partnership with DOE's Office of Fossil Energy and Carbon Management (FECM).
- Builds on other CCUS provisions of the BIL with up to \$2.1 billion to support loans, loan guarantees, grants, and administrative expenses to enable deployment of common carrier CO₂ transportation infrastructure.

Example Projects

Technology areas of interest include, but are not limited to:

- Carbon capture, utilization, and storage (CCUS)
- Direct air capture (DAC)

