Loan Programs Office

Deployment • Innovation • Liftoff

Financing American Energy

Title 17 Clean Energy • Advanced Transportation
Tribal Energy • CO_2 Transportation Infrastructure

Agenda

- **What LPO Does** | Building a Bridge to Bankability • Application Activity • Loan Authority
- **What LPO Offers Borrowers** | The Value of Working With LPO
- **LPO Financing Programs** | Title 17 • ATVM • TELGP • CIFIA
- **LPO's Portfolio** | A Record of Success, 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** | The Loan Transaction Process

What LPO Does

> There are many areas that are mature from a technology standpoint but not mature from an access to capital standpoint — **that's a nexus where there's a clear mandate for LPO to participate.**
>
> **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.

Building a Bridge to Bankability

Deployment Milestones

Demonstrated Innovative Technology

1 First Commercial Deployments

2 Follow-On Commercial Deployments

3 Commercial Scale-Up

4 Commercial Debt Market Education

Full Market Acceptance

Scale-Up & Liftoff to Full Commercialization

Monthly Application Activity Report June 2023

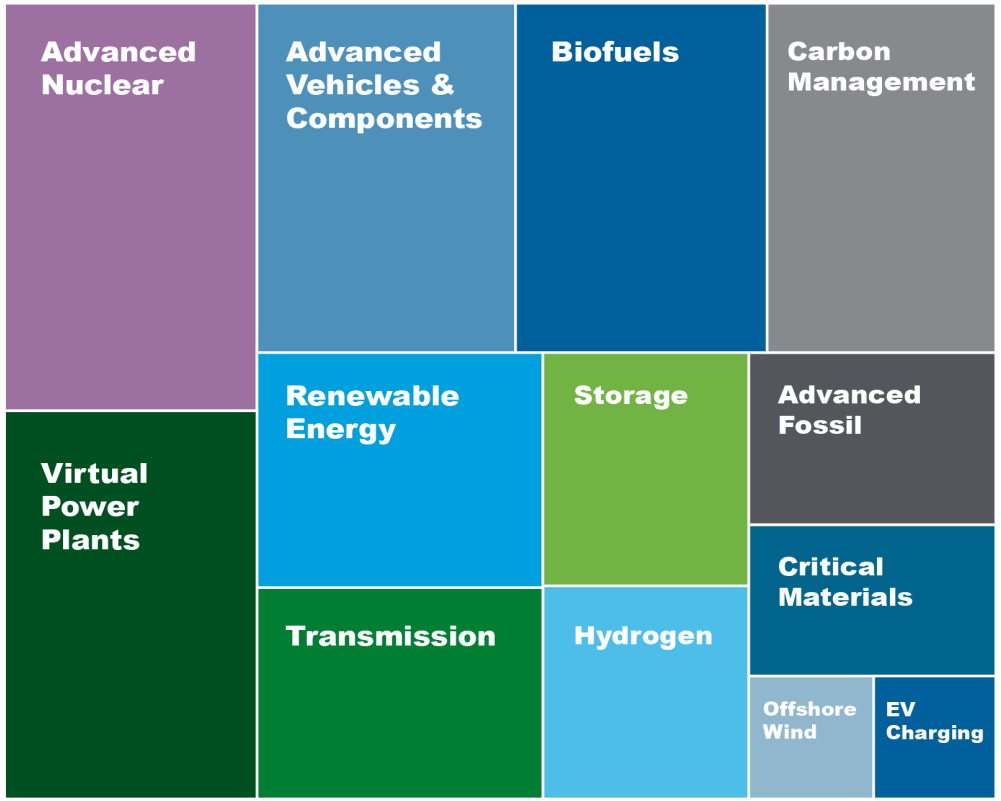
150 ACTIVE APPLICATIONS [1]

$125.8 BILLION IN LOANS REQUESTED [2]

1.7 NEW APPLICATIONS PER WEEK [3]

$125.8 BILLION

CURRENT AMOUNT OF LOANS REQUESTED BROKEN DOWN BY PROJECT TECHNOLOGY SECTORS

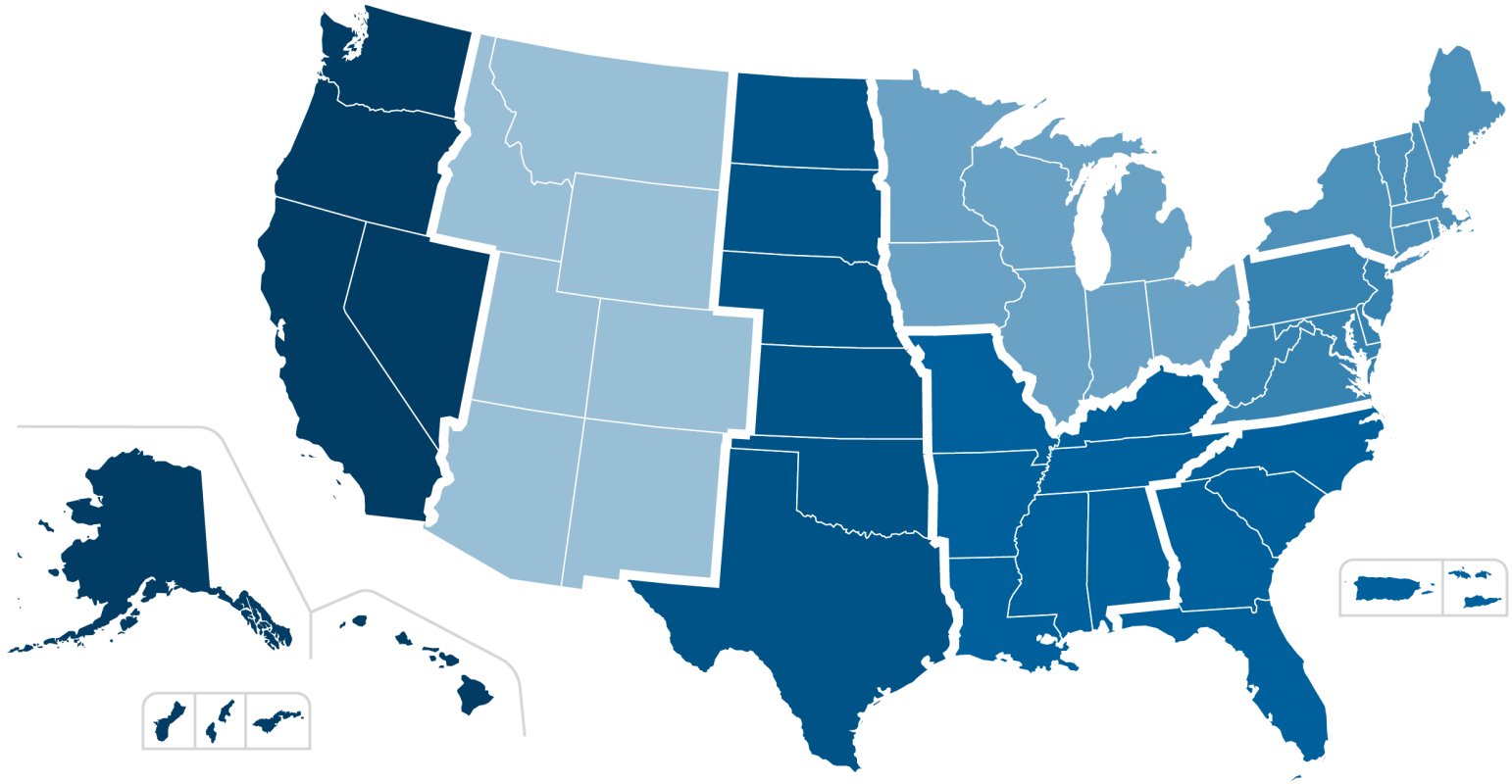


Notes

All data updated through June 30, 2023. 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 June 2023



150 ACTIVE APPLICATIONS[1] WITH

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

WEST	AK, CA, HI, NV, OR, WA *(AS, GU, MP)*	46
PLAINS	KS, ND, NE, OK, SD, TX	29
SOUTH	AL, AR, KY, LA, MO, MS, TN	20
SOUTHEAST	FL, GA, NC, SC *(PR, VI)*	20
MID-ATLANTIC	DE, MD, NJ, PA, VA, WV *(DC)*	19
NORTHEAST	CT, MA, ME, NH, NY, RI, VT	18
MIDWEST	IA, IL, IN, MI, MN, OH, WI	17
MOUNTAIN	AZ, CO, ID, MT, NM, UT, WY	16

Notes

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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.

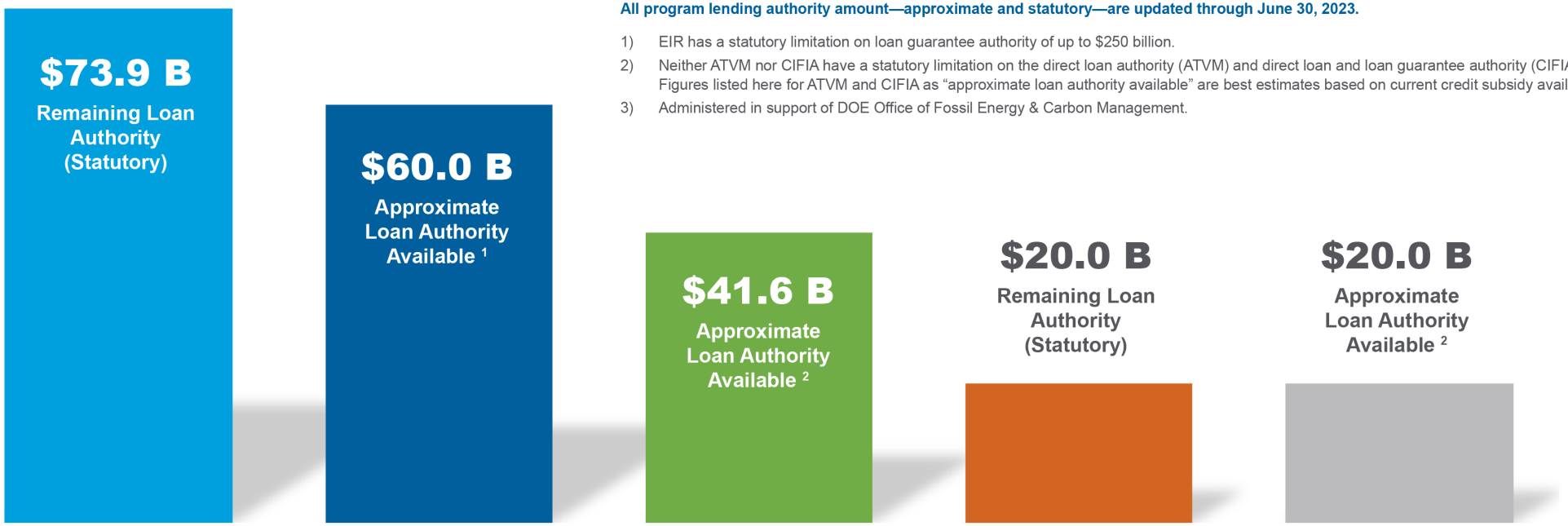
2) Regions depicted are for representation purposes only and are not meant to denote LPO consideration of regional variation in project evaluation.

Estimated Remaining Loan Authority for LPO Financing Programs

Notes

All program lending authority amount—approximate and statutory—are updated through June 30, 2023.

1) EIR has a statutory limitation on loan guarantee authority of up to $250 billion.
2) Neither ATVM nor CIFIA have a statutory limitation on the direct loan authority (ATVM) and direct loan and loan guarantee authority (CIFIA) amounts. Figures listed here for ATVM and CIFIA as "approximate loan authority available" are best estimates based on current credit subsidy available.
3) Administered in support of DOE Office of Fossil Energy & Carbon Management.



Title 17 Clean Energy

Title 17 Clean Energy Financing Program (1703)

- Innovative Energy
- Innovative Supply Chain
- State Energy Financing Institution (SEFI)-Supported

Title 17 Energy Infrastructure Reinvestment

Tite 17 Energy Infrastructure Reinvestment Program (1706)

Advanced Transportation Financing

Advanced Technology Vehicles Manufacturing Program (ATVM)

Tribal Energy Financing

Tribal Energy Loan Guarantee Program (TELGP)

CO_2 Transportation Infrastructure

Carbon Dioxide Transportation Infrastructure Finance & Innovation Program (CIFIA) 3

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 EV charging infrastructure

CO_2 Transportation Infrastructure (CIFIA)

Financing for:

- Large-capacity, common carrier CO_2 transportation projects

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.

Advanced Transportation Financing (ATVM)

Manufacturing of vehicles, components, and EV charging infrastructure

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 ultra-efficient vehicles.
3. Manufacturing lending authority has been expanded to 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.

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.

Tribal Energy Financing (TELGP)

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

CO_2 Transportation Infrastructure Financing (CIFIA)

Financing via the CO_2 Transportation Infrastructure Finance & Innovation Program

Summary

- Enacted under the Bipartisan Infrastructure Law
- CIFIA program offers access to capital for large-capacity, 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 CO_2 transportation infrastructure.

Example Projects

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

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

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

over
97 million
MWh **clean energy** produced

equivalent to...

over
9 million
homes powered

over
43 million
tons of **CO_2** displaced

21.5 million
advanced technology vehicles produced

equivalent to...

2.9 billion
gallons of **gasoline** saved

26 million
tons of **CO_2** displaced

OVER
45,000
permanent jobs created

NOTE: *Emissions and job impacts attributable to LPO-supported portfolio projects, cumulative through* ***Q2 FY2023****.*

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 • Renewable Energy • Transmission Infrastructure • Transportation of Fuels

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.

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**