



U.S. DEPARTMENT OF ENERGY

# LOAN PROGRAMS OFFICE

INVESTING *in*  
AMERICAN ENERGY

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[energy.gov/lpo](https://energy.gov/lpo)

# LPO PROGRAMS

## FINANCING DOMESTIC ENERGY INFRASTRUCTURE

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### Title XVII – Innovative Clean Energy - Loan Guarantee



Advanced Fossil Energy

<https://www.energy.gov/lpo/title-xvii>

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Advanced Nuclear Energy

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Renewable Energy & Efficient Energy

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### Advanced Technology Vehicles Manufacturing (ATVM) – Direct Loan



<https://www.energy.gov/lpo/atvm>

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# LOAN PROGRAMS HISTORY OF SUCCESS

## CATALYZING NEW MARKETS

### OVER 30 PROJECTS BUILT IN 18 STATES



#### CURRENT PORTFOLIO TECHNOLOGIES

- ⚡ Advanced Vehicles Manufacturing
- ⚡ Advanced Nuclear Energy
- ⚡ Bioenergy & Biofuels
- ⚡ Concentrating Solar Power
- ⚡ Geothermal Power
- ⚡ Photovoltaic Solar
- ⚡ Solar Manufacturing
- ⚡ Storage & Transmission
- ⚡ Wind Energy

### OVER \$30 BILLION INVESTED

# LOAN PROGRAMS HISTORY OF SUCCESS

## CATALYZING NEW MARKETS

- First 5 U.S. **photovoltaic solar** power projects larger than 100 MW
- First new **nuclear** reactors to begin construction in U.S. in 30 years
- 4 onshore **wind** farms, including one of the world's largest
- World's largest **concentrating solar power (CSP)** plant & first CSP power tower technology to incorporate **thermal energy storage**
- Revitalized **geothermal** power with projects in Nevada & Oregon
- Conditional commitment for world's first **methanol production** facility to employ **carbon capture** technology in Louisiana. The captured carbon would be utilized for **enhanced oil recovery (EOR)** in Texas.
- Domestic advanced **auto manufacturing** facilities in 8 states.

# LOAN PROGRAMS HISTORY OF SUCCESS

## CATALYZING NEW MARKETS

### ONE NEVADA LINE



Using advanced electric transmission towers, One Nevada Line improves grid reliability and delivers renewable electricity to high demand areas.

### GENESIS



Using parabolic trough technology, Genesis is one of the largest concentrating solar power projects in the U.S.

### IVANPAH



Rising 450 feet above the California desert, Ivanpah is the world's largest concentrating solar power facility.

### NISSAN



A new advanced battery manufacturing plant and facility upgrades allowed Nissan to manufacture the all-electric LEAF for America, in America.

# LPO PROGRAMS

## FINANCING DOMESTIC ENERGY INFRASTRUCTURE

MORE THAN **\$40 BILLION** IN AVAILABLE LOAN & LOAN GUARANTEE AUTHORITY

### Title XVII – Innovative Clean Energy - Loan Guarantee



Advanced Fossil Energy  
\$8.5 Billion

<https://www.energy.gov/lpo/title-xvii>



**Advanced Nuclear Energy**  
\$12.5 Billion (\$2 Billion specifically for Front End)



Renewable Energy & Efficient Energy  
Up to \$4.5 Billion

### Advanced Technology Vehicles Manufacturing (ATVM) – Direct Loan



\$16 Billion

<https://www.energy.gov/lpo/atvm>

### Tribal Energy Loan Guarantee Program (TELGP) – partial Loan Guarantee



Up to \$2 Billion

<https://www.energy.gov/lpo/telgp>

New

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# ELIGIBILITY REQUIREMENTS

## TITLE XVII CLEAN ENERGY PROJECTS



### **INNOVATIVE TECHNOLOGY**

Eligible projects must utilize new or significantly improved technology or systems



### **GREENHOUSE GAS BENEFITS**

Eligible projects must reduce, avoid, or sequester greenhouse gases



### **LOCATED IN THE U.S.**

Eligible projects must be located in the United States but may be foreign-owned



### **REASONABLE PROSPECT OF REPAYMENT**

Eligible projects must be able to repay loan principal and interest. LPO conducts due diligence and underwrites each loan similar to a commercial lender



# FINANCIAL TERMS

## TITLE XVII CLEAN ENERGY PROJECTS

**LOAN GUARANTEE:** A loan guarantee can support debt from a commercial lender or the U.S. Treasury

**LOAN TENOR:** Long-term financing is available based on the useful life of the asset - up to 30 years

**INTEREST RATES:** Interest rates set based on equivalent U.S. Treasury rate plus a credit-based spread (~0.5-1.5%)

**EQUITY:** LPO can only guarantee up to 80% of the total project cost. Most projects have at least 35% equity

**CO-LENDING:** Co-lending with commercial lenders is encouraged but not required

# LPO'S VALUE AS A STRATEGIC PARTNER

## DOE Understands Innovation

- An experienced Technical team with access to DOE's technology offices and national labs
- LPO's Loan Origination team has experience with a variety of deal structures and will work with applicants (and other lenders).
- The private sector can use what LPO learns to finance future deals.

**Collaboration throughout the life of the project**

**Favorable loan terms**



# ADVANCED FOSSIL ENERGY TECHNOLOGY AREAS OF INTEREST

## Advanced Resource Development

- ⚡ Coal-bed methane recovery
- ⚡ Novel oil and gas drilling

## Low Carbon Power Systems

- ⚡ Chemical looping or process that isolate fuel from air during combustion
- ⚡ Fuel cells which convert chemical energy into electricity without combustion

## Carbon Capture

- ⚡ CO<sub>2</sub> capture from traditional coal or natural gas electricity generation
- ⚡ Permanent geologic storage or utilization in enhanced oil recovery (EOR)

## Efficiency Improvements

- ⚡ Combined heat and power (CHP) and industrial waste recovery
- ⚡ High-efficiency distributed fossil power systems and microgrids

QUALIFYING PROJECTS ARE NOT LIMITED TO THESE TECHNOLOGIES.

# RENEWABLE ENERGY & EFFICIENCY

## TECHNOLOGY AREAS OF INTEREST

### **Advanced Grid Integration & Storage**

- ⚡ Renewable energy generation, including distributed generation, incorporating storage
- ⚡ Smart grid systems incorporating demand response

### **Drop-in Biofuels**

- ⚡ New bio-refineries or bio-crude refining processes
- ⚡ Modifications to existing ethanol facilities to produce drop-in molecules

### **Waste-to-Energy**

- ⚡ Methane from landfills or ranches via biodigesters
- ⚡ Utilizing municipal solid waste, crop waste, or forestry waste

### **Enhancement of Existing Facilities**

- ⚡ Powering non-powered dams or upgrading existing hydro facilities
- ⚡ Retrofitting existing renewable facilities with innovative technology (e.g. wind turbine retrofits)

### **Efficiency Improvements**

- ⚡ Improve or reduce energy usage in residential, institutional, and commercial facilities, buildings, and/or processes
- ⚡ Recover, store, or dispatch waste energy or underutilized renewable energy sources

QUALIFYING PROJECTS ARE NOT LIMITED TO THESE TECHNOLOGIES.

# DISTRIBUTED ENERGY PROJECTS

## SUPPLEMENTAL GUIDANCE FOR:

The banner features a background image of an industrial facility with tall chimneys and a worker in the foreground. The text is overlaid on an orange gradient.

### **Advanced Fossil Energy Projects** SOLICITATION

The banner features a background image of a green solar panel array. The text is overlaid on a green gradient.

### **Renewable Energy & Efficient Energy Projects** SOLICITATION

- Comprised of installations of facilities utilizing a single technology, or a defined suite of technologies, at multiple sites, deployed pursuant to a master business plan.
- Must satisfy criteria of Title XVII, LPO regulations, and applicable solicitation.
- Access to financing under a single arrangement for multiple installations.
- Structures other than illustrations in supplements may exist or be developed.
- Solicitations do not involve a re-lending program.

# REEE SOLICITATION

## ELECTRIC VEHICLE (EV) CHARGING SUPPLEMENT



EV charging infrastructure may be eligible as a Distributed Energy Project under the REEE Solicitation



Projects may include EV charging facilities, including associated hardware and software



Projects must satisfy all Title XVII program eligibility requirements

*For more information, visit:* [www.energy.gov/lpo/ev](http://www.energy.gov/lpo/ev)

# LOAN PROGRAMS

## ALTERNATIVE FUEL

### INFRASTRUCTURE SUPPLEMENT



The *deployment* of infrastructure for alternative fuel vehicles that use hydrogen, LNG, CNG, biofuel, or other alternative fuels may be eligible under the Title XVII program.



The *manufacturing* of infrastructure for FCEVs, EVs, and other alternative fuel vehicles may be eligible under the ATVM loan program.



Projects must satisfy all program eligibility requirements of the respective programs

*For more information, visit:*

<https://www.energy.gov/lpo/electric-vehicles-and-alternative-fuel-vehicles>

# WORKING WITH LPO

## APPLICATION PROCESS

01

### APPLICATION-PART I

- Determine basic eligibility
- \$50,000 fee (Fee does not apply to ATVM)

02

### APPLICATION-PART II

- Confirmatory due diligence
- Balance of application fee (\$100,000/\$350,000)  
(Fee does not apply to ATVM)

03

### CONDITIONAL COMMITMENT

- Negotiate term sheet

04

### LOAN GUARANTEE

- Negotiate final agreements
- Remaining fees



# WORKING WITH LPO

## PRE-APPLICATION

Interested in applying or learning more? Visit our website:  
<https://www.energy.gov/lpo>

Potential applicants are encouraged to contact DOE staff for a pre-application consultation to learn more about our process and requirements:

- [lpo@hq.doe.gov](mailto:lpo@hq.doe.gov); (202) 586-8336
- [Nichola.Kinsinger@hq.doe.gov](mailto:Nichola.Kinsinger@hq.doe.gov); (202) 450-8485

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**Advanced Fossil Energy:**

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**Renewable Energy & Efficient Energy:**

[LPO.REEESolicitation.Questions@hq.doe.gov](mailto:LPO.REEESolicitation.Questions@hq.doe.gov)

**Advanced Nuclear Energy:**

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**Advanced Technology Vehicle Manufacturing:**

[atvmloan@hq.doe.gov](mailto:atvmloan@hq.doe.gov)

For more information,  
and to apply online,  
please visit:

PHONE 202-586-8336 | FAX 202-586-7366 | EMAIL [lgprogram@hq.doe.gov](mailto:lgprogram@hq.doe.gov)

**[energy.gov/lpo](http://energy.gov/lpo)**