U.S. DEPARTMENT OF ENERGY
LOAN PROGRAMS OFFICE

INVESTING in
AMERICAN ENERGY

energy.gov/lpo
LPO PROGRAMS

$40 BILLION IN REMAINING LOAN AUTHORITY
LPO investments accelerate the deployment of innovative clean energy projects and advanced vehicle manufacturing facilities in the United States.

TITLE XVII
INNOVATIVE CLEAN ENERGY PROJECTS
- Loan guarantees
- Applications accepted via scheduled solicitations

ATVM
ADVANCED TECHNOLOGY VEHICLES MANUFACTURING
- Direct loans
- Applications accepted on a rolling basis
DEPLOYING INNOVATION
$30 BILLION INVESTED IN MORE THAN 30 DIVERSE PROJECTS NATIONWIDE
LAUNCHING NEW MARKETS
UTILITY-SCALE PHOTOVOLTAICS U.S. PROJECTS >100MW

2010
0 PROJECTS

2012
5 LPO PROJECTS
$4.6 BILLION IN LOANS
1,502 MW

2014
17 PRIVATELY FINANCED PROJECTS
5,109 MW CUMULATIVE
240% MW INCREASE

1705 Program Ends

*MW Totals include projects operating or under construction
INNOVATION CONTINUES

- Advanced Technology Vehicles Manufacturing: $16 B
- Advanced Fossil Energy: $8 B
- Renewable Energy & Efficiency: $4 B
- Advanced Nuclear Energy: $12 B

$40 Billion in Remaining Authority
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
# Eligibility Requirements

## Title XVII Clean Energy Projects

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Innovative Technology</strong></td>
<td>Eligible projects must utilize new or significantly improved technology or systems</td>
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<tr>
<td><strong>Greenhouse Gas Benefits</strong></td>
<td>Eligible projects must reduce, avoid, or sequester greenhouse gases</td>
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<td><strong>Located in the U.S.</strong></td>
<td>Eligible projects must be located in the United States but may be foreign-owned</td>
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<tr>
<td><strong>Reasonable Prospect of Repayment</strong></td>
<td>Eligible projects must be able to repay loan principal and interest. LPO conducts due diligence and underwrites each loan similar to a commercial lender</td>
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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
- CO₂ 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.
Advanced Nuclear Reactors
- Projects with state-of-the-art design improvements in fuel technology, thermal efficiency, modularized construction, and safety systems

Small Modular Reactors (SMRs)
- Utilize standardized design and are nominally 300 MW or smaller in size
- Projects have state-of-the-art design improvements

Upgrades and Upgrades at Existing Facilities
- Improvements to an existing reactor to increase efficiency
- Critical improvements that are requisite to current or future facility operation

Front-End Nuclear
- Uranium conversion or enrichment
- Nuclear fuel fabrication
Advanced Technology Vehicles Manufacturing
- Building new facilities in U.S.
- Reequipping, modernizing, or expanding existing facilities in U.S.

Qualified Component Manufacturing
- Building new facilities in U.S.
- Reequipping, modernizing, or expanding existing facilities in U.S.

Engineering Integration
- Engineering integration performed in U.S. for ATVs or qualifying components

QUALIFYING PROJECTS ARE NOT LIMITED TO THESE TECHNOLOGIES.
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
Apply at
energy.gov/lpo/apply

Advanced Fossil Energy:
LPO.FossilSolicitation.Questions@hq.doe.gov

Renewable Energy & Efficient Energy:
LPO.REEESolicitation.Questions@hq.doe.gov

Advanced Nuclear Energy:
LPO.NuclearSolicitation.Questions@hq.doe.gov

Advanced Technology Vehicle Manufacturing:
atvmloan@hq.doe.gov

For more information, and to apply online, please visit:
energy.gov/lpo