Loan Programs Office Has a Strong Portfolio of Projects

Mission: Accelerate the U.S. commercial deployment of clean energy and advanced vehicle technology

Diverse Portfolio: Loan authority for fossil energy, renewable energy, nuclear, and advanced vehicles

*The current portfolio includes loans, loan guarantees, and commitments.
## The LPO Portfolio Has Strong Financial Performance

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td><strong>NUMBER OF PROJECTS</strong></td>
<td>More than 30</td>
</tr>
<tr>
<td><strong>TOTAL LOAN / LOAN GUARANTEE AMOUNT COMMITTED</strong></td>
<td>More than $32 billion</td>
</tr>
<tr>
<td><strong>DISBURSED</strong></td>
<td>$21 billion</td>
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<tr>
<td><strong>TOTAL LOAN LOSS RESERVE ESTABLISHED BY CONGRESS:</strong></td>
<td></td>
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<tr>
<td>ATVM</td>
<td>$7.0 billion</td>
</tr>
<tr>
<td>1705</td>
<td>$2.9 billion</td>
</tr>
<tr>
<td>1703</td>
<td>Self-Pay</td>
</tr>
<tr>
<td><strong>LOSSES AS % OF TOTAL LOAN AMOUNT</strong></td>
<td>Approximately 2%</td>
</tr>
<tr>
<td><strong>TOTAL ECONOMIC INVESTMENT LEVERAGED</strong></td>
<td>More than $50 billion</td>
</tr>
<tr>
<td><strong>LPO PORTFOLIO CREDIT RATING</strong></td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>BB+</td>
</tr>
<tr>
<td>2010</td>
<td>B</td>
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LPO’s Record on Technology and Market Risk

Technology Risk = Project Success

18 Generation Projects:
11 Solar, 4 Wind, 3 Geothermal

Technology Risk + Market Risk = Mixed Results

9 Projects With Technology & Market Risk:
5 Auto, 3 Solar Manufacturing, 1 Energy Storage
DOE Programs Support the Full Arc of Commercialization

- **Demonstration:** DOE Applied Science Programs; EERE; Fossil; Electric; Nuclear
- **R&D:** DOE Labs
- **Commercial Maturity**
  - **Most Technology Maturity**
  - **Least Technology Maturity**
- **Technology Risk**
- **Commercial Maturity**
- **Initial Commercial Deployment:** LPO
- **Commercial Financing:** Banks & Bond Market
- **Equity:** Private
- **Debt:** US Gov’t
- **Grants**
- **Debt:** Private

U.S. DEPARTMENT OF ENERGY | LOAN PROGRAMS OFFICE
LPO is one of the largest project finance team in the world supporting a variety of all of the above projects:

• Several of the world’s largest solar generation facilities and nighttime solar storage systems:
  ▪ Photovoltaic generation: Agua Caliente, Desert Sunlight
  ▪ Large concentrating solar power plants with innovative thermal energy storage: Solana, Solar Reserve Tonopah
  ▪ Largest solar thermal plant: Ivanpah

• Retooled three electric vehicle manufacturing facilities: Tesla, Nissan & Ford

• One of the world’s largest wind farms: Shepherds Flat

• One of the country’s first commercial-scale cellulosic ethanol plants: Abengoa Biomass

• First nuclear power plant to begin construction in the US in the last 30 years: Vogtle
LPO Launched Utility-Scale Photovoltaic Market in the U.S.

Five LPO Projects
- 1510 MW
- $4.6 Billion in Loans

Ten Privately Financed Projects
- 2488 MW

Zero Projects

U.S. Projects > 100MW

2010
2011
2012
2013

AZ
NV
CA
NM
LPO Projects Supported a National Solar Energy Supply Chain

LPO provided financing for five Concentrating Solar Power (CSP) projects representing $8 billion in total project investment. These projects supported a supply chain that created jobs and economic development in 39 states.
LPO Projects Have Helped Reduce the Cost of Solar Energy

* PPA pricing data represents a levelized generation-weighted average of publicly available data for independent large-scale solar generators (PV & CSP).
LPO’s Public-Private Partnerships Expanded Total Project Investment

$26 Billion in Total Project Investment

Developers: NRG, Abengoa, Exelon, etc.

LPO Loan Guarantees
$16.1 Billion

Private Equity
$9.3 Billion

Co-Lending with Commercial Banks
$0.5 Billion

Tax Equity: Google, Mid-American, Liberty Media
Major companies made their first clean energy investments in LPO projects:

- **Google** – First solar investment (Ivanpah)
- **MidAmerican** – One of first significant solar investments (Agua Caliente)

LPO projects attracted new tax equity investors:

- **Liberty Media**’s $300 million investment in Abengoa Solana – the first tax equity deal in U.S. government’s energy portfolio.

Promoted the development of “Yield Cos”:

- Allowed a transfer of NRG’s equity interest in California Valley Solar Ranch project from a stand-alone entity into NRG Yield Co.
LPO Has More than $40 Billion in Remaining Loan Authority

*Includes nuclear generation and front-end nuclear projects.

**Imputed loan authority. Actual loan volume will depend on actual credit subsidy rates for projects.
Advanced Fossil Energy Projects Solicitation

$8 Billion in Loan Guarantees Available
- Long-term debt financing available for eligible projects.
- Solicitation issued in December 2013.
- Rolling application deadlines through 2016.

What is an Advanced Fossil Energy Project?
- Projects must be innovative, utilize fossil energy.
- Reduce, avoid, or sequester greenhouse gas emissions.
- Located in U.S. with reasonable prospect of repayment.

Solicitation Highlights Four Technology Areas
- Advanced Resource Development *(i.e. novel oil and gas drilling)*
- Low Carbon Power Systems *(i.e. oxycombustion or chemical looping)*
- Carbon Capture *(i.e. CO₂ capture from electricity generation)*
- Efficiency Improvements *(i.e. CHP systems or microgrids)*
Advanced Technology Vehicles Manufacturing Loan Program

ATVM Supports U.S. Advanced Vehicle Manufacturing
- Program has issued over $8 Billion in loans.
- $16.6 billion in remaining loan authority.

ATVM Offers Attractive Financing for U.S. Auto Industry
- Vehicle and component manufacturing projects are eligible.
- Supports new facilities, retooling, and retrofits.
- Long-term financing at low interest rates with minimal fees.

ATVM Can Support U.S. Auto Industry Resurgence
- Aids compliance with rising fuel economy standards.
- Addresses industry capacity constraints.
- Supports insourcing of American manufacturing.
Utilizing Remaining Clean Energy Loan Guarantee Authority

**Renewable Energy & Energy Efficiency**
- $1.5 billion in loan guarantee authority and $169 million in appropriated credit subsidy.
- LPO will target catalytic projects and key technology areas.

**Nuclear Energy**
- $10.2 billion for nuclear generation and $2 billion for front end projects.

**Mixed-Use Authority**
- $2 billion of remaining loan guarantee that can be used for any eligible technology under Title XVII.
LPO Can Continue to Accelerate U.S. Clean Energy Deployment

Innovative Projects + LPO Debt Capital + Private Equity Capital = Robust Clean Energy Markets

For further information on LPO, please visit: www.lpo.energy.gov