Loan Programs Office Has a Strong Portfolio of Projects

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

**Strong Portfolio:** More than 30 projects with committed loan value of ~$32 billion

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

**Solid Performance:** Losses represent ~2% of total loans, loan guarantees, and commitments

*The current portfolio includes loans, loan guarantees, and commitments.*
LPO Supports Commercialization of Innovative Technologies

- R&D: DOE Labs
- Initial Commercial Deployment: LPO
- Demonstration: DOE Applied Science Programs; Other USG Program Financing
- Private Financing: Banks

Legend:
- Conventional Fossil
- PV Solar
- Wind
- CSP Solar
- 2nd Gen Nuclear
- Geothermal
- Adv. Biofuels
- Chemical Looping
- Biomass
- CCS
- Fuel Cells
- Grid Storage
- Fusion

Technology Maturity vs. Technology Risk vs. Commercial Maturity
The LPO Portfolio Has Strong Financial Performance

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Projects</td>
<td>More than 30</td>
</tr>
<tr>
<td>Total Loan / Loan Guarantee Amount Committed</td>
<td>More than $32 billion</td>
</tr>
<tr>
<td>Disbursed</td>
<td>$18.5 billion</td>
</tr>
<tr>
<td>Loan Loss Reserve Established by Congress</td>
<td>$10 billion</td>
</tr>
<tr>
<td>Losses as % of Total Loan Amount</td>
<td>Approximately 2%</td>
</tr>
<tr>
<td>Total Economic Investment Leveraged</td>
<td>More than $50 billion</td>
</tr>
</tbody>
</table>
LPO is one of the largest project finance team in the world supporting:

- One of the world’s largest wind farms: Shepherds Flat
- 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 all-electric vehicle manufacturing facilities: Tesla, Nissan, and Ford
- 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
- 1,510 MW
- $4.6 Billion in Loans

Ten Privately Financed Projects
- 2,488 MW

U.S. Projects > 100MW

2010
2011
2012
2013

CA
NV
NM
AZ

Zero Projects

1705 Program Ends
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.
Next Steps: Advanced Fossil Energy Projects Solicitation

LPO Provides Project Finance Debt Capital
- $8 Billion in Loan Guarantee Authority for Fossil Energy
- Long-Term Financing Available

What is an Advanced Fossil Energy Project?
- Projects Must Be Innovative, Utilize Fossil Energy
- Reduce Greenhouse Gas Emissions
- Located in U.S. with Reasonable Prospect of Repayment

Timeline for Accepting Applications
- Draft Solicitation Published in June 2013
- Final Solicitation Expected Winter 2013
- Applications Accepted When Final Solicitation is Published
The Advanced Fossil Solicitation Has Broad Applicability

• **Projects May Utilize any Fossil Fuel**
  - Including, but not limited to, coal, oil, natural gas, shale gas, coal bed methane, and methane hydrates

• **Covers the Full Fossil Fuel Value Chain**
  - Projects can include, but are not limited to, extraction, generation, greenhouse gas removal, and efficiency improvements

• **Solicitation is Open to a Wide Variety of Applicants**
  - Power plants, mines, refineries, utilities, project developers, and factories
  - Public and Private Sector infrastructure, such as universities, airports, and hospitals
  - Others
The Advanced Fossil Solicitation Covers Four Technology Areas*

**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 waste recovery
- High-efficiency distributed fossil power systems, and microgrids

*Qualifying projects may include but are not limited to the technologies within.*
Final Thought: LPO Can Provide a Bridge for U.S. Energy Innovation

For further information on LPO, please visit: [www.lpo.energy.gov](http://www.lpo.energy.gov)