TARGETED GOVERNMENT FINANCIAL GUARANTEES FOR A NEW BUILD PROJECT

Mr. Dong Kim, May 11, 2016

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
INNOVATION CONTINUES

ADVANCED TECHNOLOGY VEHICLES MANUFACTURING: $16 B

ADVANCED FOSSIL ENERGY: $8.5 B

RENEWABLE ENERGY & EFFICIENT ENERGY: $4.5 B

ADVANCED NUCLEAR ENERGY: $12.5 B

MORE THAN $40 BILLION IN REMAINING AUTHORITY

AS OF OCTOBER 2015
BRIDGING THE GAP

Research & Development

Pilot Demonstration

Initial Commercial Deployment

Full Deployment & Commercial Maturity

DOE Grants, National Labs, Private Equity

Private Equity

LPO DEBT FINANCING

Commercial Deployment Funding Gap

Private Debt Financing & Equity

AVAILABLE INVESTMENT FUNDS

CLEAN ENERGY TECHNOLOGY MATURETY
DEPLOYING INNOVATION

$30 BILLION INVESTED IN MORE THAN 30 DIVERSE PROJECTS NATIONWIDE

Tesla
Shepherds Flat
Desert Sunlight
Ford
Ivanpah
Vogtle
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

2016
28 PRIVATELY FINANCED PROJECTS
6,870 MW CUMULATIVE

1705 Program Ends

*MW Totals include projects operating or under construction
As deployment of utility-scale photovoltaic solar has increased, delivered costs to consumers has decreased by more than 60%.

Source: GTM Research, SEIA
WHERE WE HAVE BEEN:
$8 BILLION INVESTED IN AMERICAN AUTO MANUFACTURING

**TESLA**
- $465 million loan issued in 2010
- Financed the engineering and design of the all-electric Model S, battery manufacturing, and the renovation and modernization of a shuttered auto plant in California.

**FORD**
- $5.9 billion loan issued in 2009
- Modernized 13 facilities in 6 states to manufacture fuel-efficient vehicles and components, including the EcoBoost™ engine.

**NISSAN**
- $1.45 billion loan issued in 2010
- Financed the construction of Nissan’s new all-electric Leaf vehicle assembly line, a battery facility, and electric motor manufacturing facility in Tennessee.
ACHIEVING LPO’S CONGRESSIONAL MANDATE
DEPLOYING NEW TECHNOLOGIES TO POWER CITIES, REDUCE EMISSIONS & CREATE AMERICAN JOBS

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<th>ENERGY GENERATION &amp; SAVINGS</th>
<th>CLIMATE BENEFIT</th>
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<td>Title XVII Projects Produce Enough Clean Energy To Power More Than</td>
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<td>1 MILLION AVERAGE AMERICAN HOMES ANNUALLY</td>
<td>25 MILLION METRIC TONS OF CO₂ EMISSIONS</td>
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<td>ATVM Projects Have Saved</td>
<td>Which Is A Pollution Reduction Equivalent To Taking</td>
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<td>1.35 BILLION GALLONS OF GASOLINE</td>
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ECONOMIC IMPACT

Portfolio Projects Have Saved or Created
56,000 AMERICAN JOBS

* PORTFOLIO IMPACTS AS OF SEPTEMBER 2015

✓ EVERY TRANSACTION SUPPORTED BY LPO IS A PUBLIC-PRIVATE PARTNERSHIP
VOGTELE

As America’s first new nuclear reactors in 30 years, Vogtle is bringing the next generation of advanced nuclear power to the U.S.

OWNERS
Georgia Power Company (GPC), Oglethorpe Power Corporation (OPC), Municipal Electric Authority of Georgia (MEAG) & City of Dalton, Georgia

LOCATION
Waynesboro, Georgia

LOAN AMOUNT
$3.4 Billion (GPC), $3.1 Billion (OPC), $1.8 Billion (MEAG)

ISSUANCE DATES
February 2014 (GPC and OPC) & June 2015 (MEAG)

GENERATION CAPACITY
2,200 MW

PROJECTED ANNUAL GENERATION
17,200,000 MWh

CLIMATE BENEFIT
10,000,000 Metric Tons of CO₂ Prevented Annually

U.S. DEPARTMENT OF ENERGY
LOAN PROGRAMS OFFICE

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Nuclear Projects are complex - underwriting needs to start early
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
$12.5 BILLION
ADVANCED NUCLEAR ENERGY
PROJECTS SOLICITATION

INVESTING in AMERICAN ENERGY
$12.5 billion loan guarantee authority available

- ~$10.5 billion for nuclear generation
- $2.0 billion for front-end projects

Pending applicants under the 2008 Nuclear Solicitation do not need to reapply, nor pay additional fees if they have kept their Part II application active, unless they wish to modify their application significantly.
ADVANCED NUCLEAR ENERGY

TECHNOLOGY AREAS OF INTEREST

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

QUALIFYING PROJECTS ARE NOT LIMITED TO THESE TECHNOLOGIES.
LONG-TERM INDUSTRY PARTNERSHIP

- 2008 First nuclear solicitation
- 2010 Conditional commitments: GPC, MEAG & OPC
- 2014 GPC & OPC loan closed
- 2014 Second nuclear solicitation
- 2015 MEAG loan closed
REMAINING SOLICITATION DEADLINES

**Part I Due Dates**
- Round 4: May 18, 2016
- Round 5: July 20, 2016

**Part II Due Dates**
- Round 4: Nov. 23, 2016
Apply at energy.gov/lpo/apply

U.S. DEPARTMENT OF ENERGY
LOAN PROGRAMS OFFICE

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