



U.S. DEPARTMENT OF ENERGY

# LOAN PROGRAMS OFFICE

## ARPA-E METALS WORKSHOP

August 24, 2016

**INVESTING** *in* AMERICAN ENERGY

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

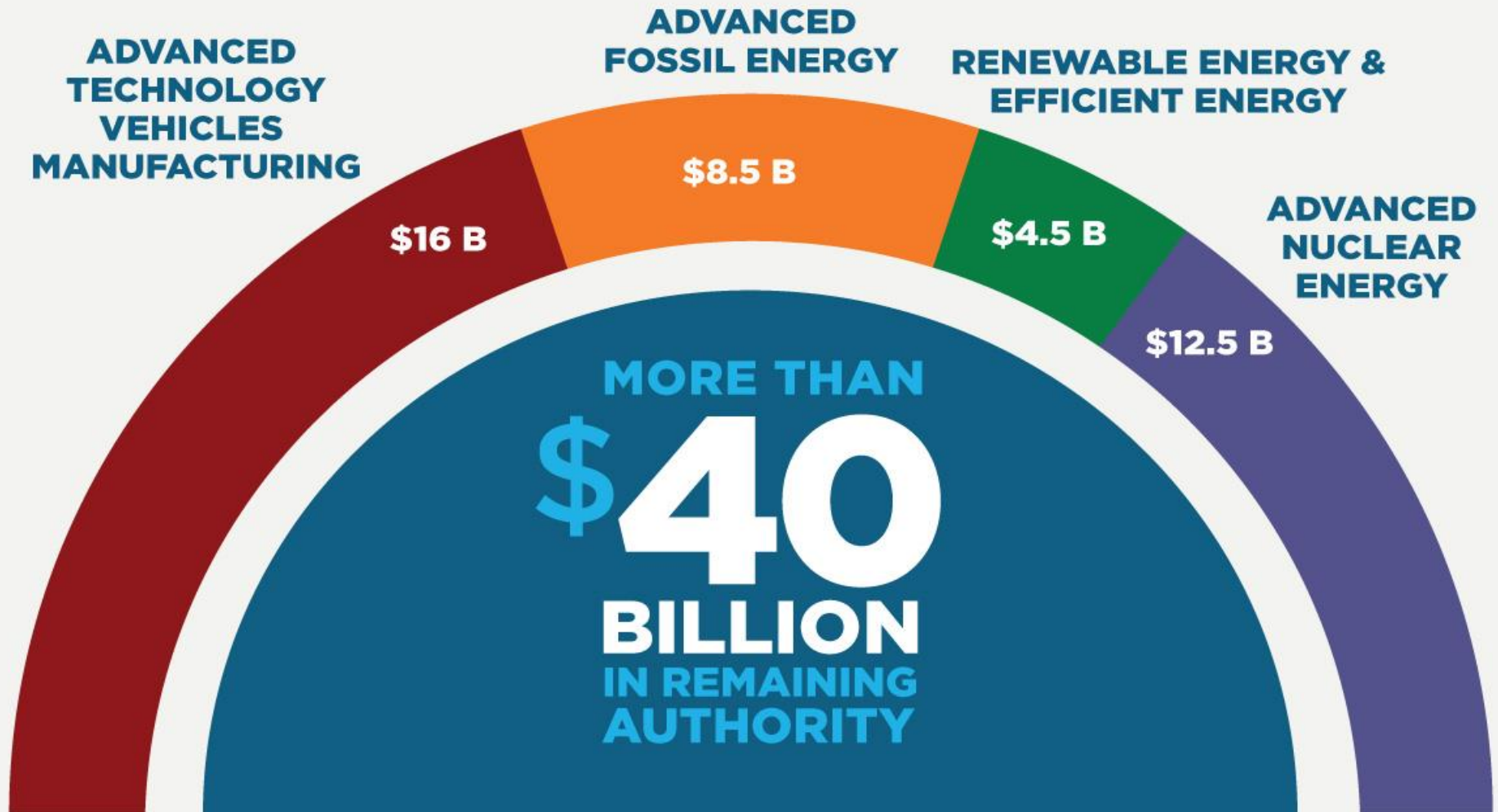
-  Loan guarantees
-  Applications accepted via scheduled solicitations

ATVM

### **ADVANCED TECHNOLOGY VEHICLES MANUFACTURING**

-  Direct loans
-  Applications accepted on a rolling basis

# INNOVATION CONTINUES



AS OF OCTOBER 2015

# WHAT LPO CAN SUPPORT

## ATVM

### Original Equipment Manufacturing

- Electric Vehicles
- Batteries

### Supply Chain Manufacturing

- Cost Efficiencies in the Supply Chain by Providing Low-Interest Debt for:
- Light-weighting
  - Power & Transmission
  - Electric Vehicle Components
  - Hybrid/EV Powertrain Integration
  - Advanced EV Controllers

## TITLE XVII

### Advanced Fossil Energy Projects SOLICITATION

- Efficiency Improvements

### Renewable Energy & Efficient Energy Projects SOLICITATION

#### NEW SUPPLEMENT

- EV Charging Facilities
- Associated Hardware & Software

QUALIFYING PROJECTS ARE NOT LIMITED TO THESE TECHNOLOGIES



# **ATVM OVERVIEW**

# EXPANDING U.S. ADVANCED VEHICLE & COMPONENT MANUFACTURING

## MORE THAN \$16 BILLION IN REMAINING LOAN AUTHORITY

Advanced Technology Vehicles Manufacturing (ATVM) loans can finance domestic manufacturing of advanced technology vehicles and associated components



Achieving Rising Fuel Economy Standards



Creating & Preserving American Manufacturing Jobs



Expanding Domestic Manufacturing



Deploying New Technology

# WHERE WE ARE GOING: DEPLOYING REMAINING LOAN AUTHORITY



## **LOW INTEREST RATES**

Interest rates on loans are set at U.S. Treasury rates.

## **LONG TENOR**

Loans are set at the useful life of the asset, as determined by DOE, and can extend up to 25 years.

## **MINIMAL FEES**

The program does not charge application or underwriting fees. At closing, applicant pays a closing fee of 0.1% of loan principal amount.

## **BROAD APPLICABILITY**

Eligible projects can include vehicle and component manufacturing, as well as engineering integration.

# 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.





## ELIGIBLE PROJECTS

**ATVM can provide loans for eligible vehicle and component manufacturing projects in the U.S. that can include:**

- ✓ Building new facilities in the U.S.
- ✓ Reequipping, modernizing, or expanding existing facilities in the U.S.
- ✓ Engineering integration

# ADVANCED TECHNOLOGY VEHICLES ELIGIBLE LIGHT-DUTY VEHICLES

MY2005

MY2015+



LIGHT-DUTY

25%

MORE FUEL EFFICIENT

COMPARED TO MODEL YEAR  
2005 BASELINE



# ADVANCED TECHNOLOGY VEHICLES ELIGIBLE ULTRA-EFFICIENT VEHICLES



ULTRA-  
EFFICIENT

75MPG

MINIMUM EQUIVALENT

AND CARRY AT LEAST  
2 PASSENGERS



# ELIGIBLE COMPONENTS INSTALLED IN ADVANCED TECHNOLOGY VEHICLES TO INCREASE FUEL ECONOMY PERFORMANCE

## Advanced Engine Technologies

- Variable Valvetrain Control
- Direct Injection
- Turbocharging
- Start/Stop

## Electronics

- Advanced EV Controllers
- Electric Power Steering
- Power Electronics
- Battery Systems

## Fuel Efficient Tires

## Advanced Powertrain Technologies

- Increased Number of Gear Ratios
- Hybrid / EV Powertrain Integration

## Light-Weighting Technologies

- Advanced High Strength Steels
- Aluminum, Magnesium, or Other Alloys
- Plastics, Carbon Fiber, & Composite Materials

## Improved Aerodynamics



Qualifying projects may include—but are not limited to—these technologies

# APPLICATION PROCESS

01

## PRE-APPLICATION CONSULTATIONS

- Non-Binding

02

## SUBMIT APPLICATION

- Eligibility Determination
- Due Diligence & Underwriting

03

## CONDITIONAL COMMITMENT

04

## LOAN ISSUANCE

**Apply *at***  
**energy.gov/lpo/apply**



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**Advanced Fossil Energy:**

LPO.FossilSolicitation.Questions@hq.doe.gov

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**energy.gov/lpo**