



U.S. DEPARTMENT OF
ENERGY

Advanced Vehicle Technologies Programs at the US Department of Energy under the American Recovery and Reinvestment Act

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**Public Workshop on Public Sector Funding Programs
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American Recovery & Reinvestment Act

- Signed by President Obama Feb 17, 2009
- \$789 B total, including:
 - \$16.8 B for DOE Energy Efficiency and Renewable Energy
 - \$2 B for DOE Office of Science (including \$400 M for ARPA-E)
 - \$3.4 B for Fossil Energy R&D
 - \$4.5 B for Electricity Delivery & Energy Reliability (Smart Grid)
 - \$6 B for Loan Guarantee Program
 - \$5.6 B for GSA (includes high performance green federal buildings and fleets)
 - \$300 M for DoD Energy research

Energy Efficiency & Renewable Energy (EERE) received \$16.8 billion

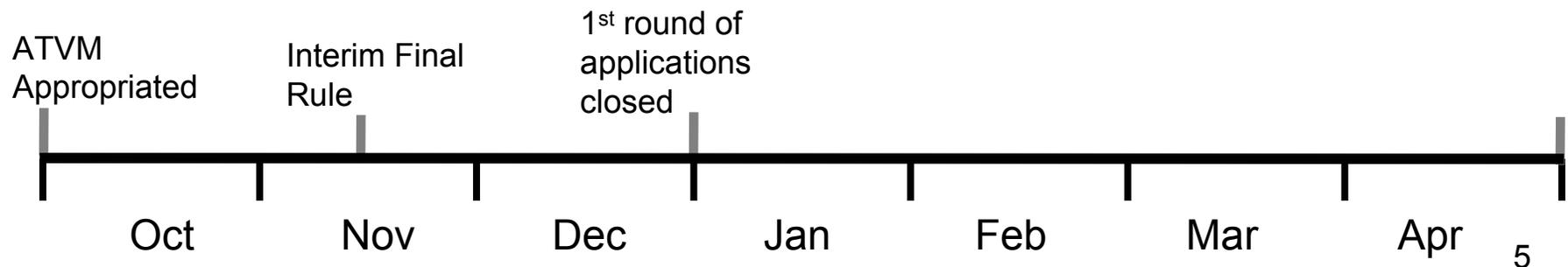
\$2 B	Advanced Battery Manufacturing
\$400 M	Transportation Electrification
\$300 M	Alternative Fueled Vehicles Pilot (Clean Cities)
\$3.2 B	Energy Efficiency and Conservation Block Grants
\$5 B	Weatherization
\$3.1 B	State Energy Program
\$2.5 B	Research, development, demonstration and deployment (\$1.2 B specified for biomass and geothermal; \$50 M for IT efficiency—<i>leaving \$1.25 B in discretionary funds.</i>)
\$300 M	Energy Efficient Appliance Rebate Program/EnergyStar

Advanced Vehicle Technologies Program

- Advanced Technology Vehicle Manufacturing (ATVM) Initiative
- Electric Drive Vehicle Battery and Component Manufacturing Initiative
- Transportation Electrification

Advanced Technology Vehicle Manufacturing (ATVM) Program

- \$25 billion loan program
- Authorized under Energy Independence and Security Act (EISA-2007)
- Funded under Consolidated Security, Disaster Assistance, and Continuing Appropriations Act (Sept 30, 2008)
- 1st tranche applications closed Dec 31
- “Advanced Technology Vehicles” are “light duty vehicles” which meet
 - 125% of mpg in 2005 for “substantially similar vehicles”
 - Bin 5 Tier II emissions standards and any new emission standard in effect for fine particulates



Electric Drive Vehicle Battery and Component Manufacturing Initiative

- Funding Opportunity Announcement (FOA) issued Mar 19
- \$2 billion in ARRA funds available
- Applications close May 19
- Areas of Interest
 1. Cell and Battery Manufacturing Facilities
 2. Battery Supplier Manufacturing Facilities
 3. Combined Proposals for Areas #1 & #2
 4. Lithium-Ion Battery Recycling Facilities
 5. Electric Drive Component Manufacturing Facilities
 6. Electric Drive Subcomponent Manufacturing Facilities
 7. Combined Proposals for Areas #5 & #6

Electric Drive Vehicle Battery and Component Manufacturing Initiative

- “Electric Drive Vehicle” includes:
 - Hybrid Electric Vehicle (HEV)
 - Plug-in Hybrid Electric Vehicle (PHEV)
 - Extended Range Electric Vehicle (EREV)
 - Electric Vehicle (EV)
- Topics 1,2 & 3 focused on “Lithium ion and other advanced batteries”
- Topics 5, 6 & 7 focused on “inverters, converters, motors, or other components for electric-drive-vehicle drivetrains”
- Basic research is specifically excluded
- Cost-sharing of 50% nominally required
(25% cost sharing will be considered with justification)

Electric Drive Vehicle Battery and Component Manufacturing Initiative

Area of Interest	DOE Funding (\$M)	Number of Awards Expected	Typical Award Size (\$M)	Award Duration
Battery Mfg Facilities	1200	7-8	100-150	2-3 years
Battery Supplier Mfg	275	14	20	2-3 years
#1 & #2	tbd	tbd	tbd	2-3 years
Li Battery Recycling	25	2	12	2-3 years
Elect Drive Comp Mfg	350	3-5	80	2-3 years
Elect Drive SubComp	150	6-8	20	2-3 years
#5 & #6	tbd	tbd	tbd	2-3 years

Transportation Electrification

- Funding Opportunity Announcement (FOA) issued March 19
- \$378 M in ARRA funds available
- Applications close May 13
- Areas of Interest
 1. Electric Drive Vehicle Demonstration
 2. Transportation Sector Electrification
 3. Combined Proposals for Areas #1 & #2
 4. Electric Drive Vehicle Education

Transportation Electrification

Topic 1 - Electric Drive Vehicle Demonstration

- Vehicles must be PHEVs, EVs, or FCV (not HEVs)
- Vehicles must be light-, medium-, or heavy-duty (not motorcycles or NEVs)
- Project must demonstrate 100+ vehicles
- All vehicles deployed within 18 months
- Must be in at least 3 geographic locations
- Project duration 2-3 years
- Team required to have a vehicle OEM as a partner or the lead applicant

Transportation Electrification

Topic 2 – Transportation Sector Electrification

- Includes
 - truck stop electrification and non-road vehicle electrification
 - electric idle reduction technologies
 - electric truck refrigeration units
 - shoreside electrification
 - recharging and electrical support infrastructure
- Must include vehicles to demonstrate proposed technology
 - electric drive material handling equipment
 - electric airport ground support equipment
 - light-, medium-, and heavy-duty vehicles
 - commercial rail
 - marine vessels
- Team must be capable of manufacturing the technology

Transportation Electrification

Area of Interest	DOE Funding (\$M)	Number of Awards Expected	Award Floor (\$M)	Typical Award Size (\$M)	Project Time	Cost Share
EV Demonstration	378 total	2-10	20	20-100	3-4 yrs	50% (25%)
Transportation Electrification	for all	2-4	10	10-75	3-4 yrs	50% (25%)
#1 & #2	four areas	tbd	30	30-175	3-4 yrs	50% (25%)
Education		5-20	0.5	0.5-10	3 yrs	20%



Alternative Fueled Vehicles Pilot (Clean Cities)

Clean Cities solicitation has been expanded to include \$300M in Recovery Act funds

Clean Cities FY09 Petroleum Reduction Technologies

Area of Interest 4: “Alternative Fuel and Advanced Technology Vehicles Pilot Program”

- Total of **\$300M** for these projects (*funding from Recovery Act*)
- All projects are 50-50 cost share
- \$5 million to \$15 million per project
- 30 geographically dispersed projects

Funds can be applied toward:

- Any project to deploy vehicles that use EPACT alt-fuels (hydrogen, ethanol and other alcohols, natural gas, propane, electricity, biodiesel, and others). Projects can incorporate multiple fuels.
- Purchase of cars, freight vehicles, buses, port vehicles, airport vehicles
- Installation of refueling sites
- Modifications to buildings required by the use of alternative vehicles & fuels (e.g., for installations involving gaseous fuels)
- Training necessary for the project—e.g., operators, installers, mechanics
- Turnkey projects

What is *Clean Cities*?



Government-industry partnership to reduce petroleum use in the transportation sector through:

- Alternative vehicles & fuels
- Idle-reduction technologies
- Hybrid vehicle technologies
- Fuel blends
- Fuel economy measures

- Nearly 90 coalitions
- More than 5,500 stakeholder including local, state, and federal agencies; public health and transportation departments; commercial fleets, transit agencies; auto manufacturers, car dealers; fuel & equipment suppliers; public utilities; and nonprofit associations.

www.eere.energy.gov/cleancities

Solicitation Details

- Applicants have to be states, local governments, transit agencies, or any combination of these—and a designated Clean Cities coalition.
 - Industry partners can participate in the proposals but can't be applicants.
- Applications are due May 29 (there may be a 2nd round in Sept).
- Costs applied to vehicles are capped at \$0.5M for light-duty fuel cell vehicles and \$1M for medium and heavy-duty fuel cell vehicles
 - However, overall cost-share—for the entire project—is still 50%, so the project should be considered as a whole, rather than focusing on individual vehicle caps.



Special Recovery Act Requirements:

- Priority will be given to projects that can be implemented quickly — funds must be spent in two years.
- Projects must use steel, iron, and manufactured goods produced in the United States.
- Minimum wage rates set according to Department of Labor Guidelines (in accordance with Subchapter IV of Chapter 31 of Title 40, USC).

For more information: Go to www.grants.gov and search for funding opportunity number [DE-PS26-09NT01236-04](#).



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DOE Industrial Technologies Program

DOE's Industrial Technologies Program issued a Notice of Intent**Planned Funding Opportunity Announcement (FOA):**

- Notice of intent issued
- **FOA release date: April 15**
- **ARRA funds available: \$156 million**

Areas-of-Interest:

- **Combined Heat and Power**
- **District Energy Systems**
- **Waste Energy Recovery**
- **Efficient Industrial Equipment**

For the complete NOI, go to:

[http://e-center.doe.gov/doebiz.nsf/UNID/508E7557228E22488625756A00707D1F/\\$file/NETL+NOI+DE-FOA-0000044+\(final\).doc](http://e-center.doe.gov/doebiz.nsf/UNID/508E7557228E22488625756A00707D1F/$file/NETL+NOI+DE-FOA-0000044+(final).doc)

Deployment of Combined Heat and Power Systems, District Energy Systems, Waste Energy Recovery Systems, & Efficient Industrial Equipment

Area of Interest 1: COMBINED HEAT AND POWER

- May include single installations or multiple installations at multiple sites
- Must be new integrated CHP systems where similar systems had not existed previously, or replacement of an inefficient existing system.
- Modifications or upgrades to existing systems not accepted.
- New systems shall have a minimum efficiency of 60%.
- Replacement of an inefficient existing system shall have at least 60% overall system efficiency and represent at least a 25% efficiency increase when compared the system being replaced.