

**U.S. HOUSE OF REPRESENTATIVES  
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY  
SUBCOMMITTEE ON ENERGY & ENVIRONMENT**

**HEARING CHARTER**

***Review of DOE Vehicle Technologies Program Management and Activities:  
Assuring Appropriate and Effective Use of Taxpayer Funding***

Thursday, July 26, 2012  
9:30 a.m. - 11:30 a.m.  
2318 Rayburn House Office Building

**PURPOSE**

On Thursday, July 26, 2012, at 9:30 a.m. in Room 2318 of the Rayburn House Office Building, the Subcommittee on Energy and the Environment of the Committee on Science, Space, and Technology will hold a hearing titled “*Review of DOE Vehicle Technologies Program Management and Activities: Assuring Appropriate and Effective Use of Taxpayer Funding.*” The purpose of the hearing is to examine the Department of Energy's (DOE) Vehicle Technologies Program (VTP), and specifically management and oversight of DOE's alternative vehicle research, development, demonstration, and commercialization activities. The hearing will also consider the prioritization of VTP activities, management of DOE's Transportation Electrification Initiative and implementation of President Obama's "EV Everywhere Challenge."

**WITNESS LIST**

- **Dr. Kathleen Hogan**, Deputy Assistant Secretary for Energy Efficiency, U.S. Department of Energy
- **Mr. Rickey Hass**, Deputy Inspector General for Audits and Inspections, U.S. Department of Energy
- **Mr. Brian Wynne**, President, Electric Drive Transportation Association

**BACKGROUND**

The Federal government supports a wide array of incentives to support the development and deployment of alternative technology vehicles. According to the Congressional Research Service:

“These incentives include tax deductions and credits for vehicle purchases and the installation of refueling systems, federal grants for conversion of older vehicles to new technologies, mandates for the use of biofuels, and incentives for manufacturers to produce alternative fuel vehicles. The current array of incentives for alternative fuels and related technologies do not reflect a single, comprehensive strategy, but rather an aggregative approach to a range of discreet public policy issues, including goals of reducing petroleum consumption and

import dependence, improving environmental quality, expanding domestic manufacturing, and promoting agriculture and rural development.”<sup>1</sup>

The Federal efforts in support of these incentives are administered by five different agencies, including the DOE, Department of Treasury, Department of Transportation, Environmental Protection Agency, and Department of Agriculture.<sup>2</sup>

### Obama Administration’s Advanced Vehicle Technology Initiatives

The development and deployment of “green” energy technologies—of which electric vehicles are a central component—has long been a centerpiece of President Obama’s domestic policy agenda. In his 2011 State of the Union address,<sup>3</sup> President Obama announced his commitment to put one million EVs on the road by 2015 and subsequently proposed a number of steps to achieve this goal, including expanding consumer tax credits, programs to assist municipalities for EV deployment, and increasing funding for research, development, demonstration, and deployment projects.<sup>4</sup>

To date, the Administration has proposed and implemented a wide variety of programs to develop, produce, and deploy alternative vehicles. This includes:

- Over \$4.4 billion<sup>5</sup> in the Office of Energy Efficiency and Renewable Energy Vehicle Technologies Program on research, demonstration, and deployment activities, including \$2 billion in funding provided by the American Recovery and Reinvestment Act (ARRA) to manufacture batteries for electric vehicles (EV) and \$400 million for transportation electrification demonstration and deployment;<sup>6</sup>
- \$8.4 billion in direct loans to five automakers through the Advanced Technology Vehicles Manufacturing (ATVM) program to develop and produce electric vehicles, upgrade factories, and increase vehicle fuel efficiencies;<sup>7</sup>
- Over \$36 million on EV batteries<sup>8</sup> and \$44.5 million on biofuels<sup>9</sup> by the Advanced Research Projects Agency – Energy, and an additional requested \$184 million in FY13 for alternative fuels, batteries, and systems for EVs;<sup>10</sup> and

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<sup>1</sup>Congressional Research Service, “Alternative Fuel and Advanced Vehicle Technology Incentives: A Summary of Federal Programs,” R42566, June 12, 2012.

<sup>2</sup>*Ibid.*

<sup>3</sup>The White House, “Remarks by the President in State of Union Address,” January 25, 2011. Accessible at: <http://www.whitehouse.gov/the-press-office/2011/01/25/remarks-president-state-union-address>.

<sup>4</sup>Assistant Secretary for Energy Efficiency and Renewable Energy David Danielson to Science, Space, and Technology Subcommittee on Energy and Environment Chairman Andy Harris, May 1, 2012.

<sup>5</sup>Cumulative budget figures for the Department of Energy’s Office of Energy Efficiency and Renewable Energy Vehicle Technologies Program FY09-FY12 and the FY13 request. Budget Justifications are accessible at: <http://www.cfo.doe.gov/crorg/cf30.htm#Justifications>.

<sup>6</sup>Department of Energy, EERE News, “President Obama Announces \$2.4 Billion for Electric Vehicles,” March 19, 2009. Accessible at: [http://apps1.eere.energy.gov/news/daily.cfm/hp\\_news\\_id=159](http://apps1.eere.energy.gov/news/daily.cfm/hp_news_id=159)

<sup>7</sup>Department of Energy, Loan Programs Office, “Our Projects.” Accessible at: [https://lpo.energy.gov/?page\\_id=45](https://lpo.energy.gov/?page_id=45).

<sup>8</sup>Advances Research Projects Agency – Energy, “BEEST: Electric Vehicle Batteries,” Updated February 16, 2012. Accessible at: <http://arpa-e.energy.gov/LinkClick.aspx?fileticket=6aCiNDV8jwg%3d&tabid=175>.

<sup>9</sup>Advanced Research Projects Agency – Energy, “Electrofuels: Versatile Transportation Energy Solutions,” Updated February 16, 2012. Accessible at: <http://arpa-e.energy.gov/LinkClick.aspx?fileticket=yZ0rVV3Yz34%3d&tabid=180>.

<sup>10</sup>Department of Energy, Detailed Budget Request Volume 4, p. 417.

- Approximately \$40 million per year in Office of Science funding to support 14 Energy Frontier Research Centers (EFRCs) researching electric energy storage,<sup>11</sup> \$20 million for a new Batteries and Energy Storage Energy Innovation Hub, and a \$24 million Energy Innovation Hub to develop new transportation fuels.<sup>12</sup>

### The Department of Energy's Vehicle Technologies Program

The Department of Energy manages a wide portfolio of activities related to the development and deployment of advanced vehicle technologies through a number of programs, including the Loan Guarantee Office's Advanced Technology Vehicle Manufacturing Loan Program and the Office of Energy Efficiency and Renewable Energy (EERE) Vehicle Technology Program (VTP), Biomass and Biorefinery Systems Program, and Hydrogen and Fuel Cell Technologies Program.<sup>13</sup> VTP is the primary funder of advanced vehicle technology research, development, demonstration and commercialization activities.

The mission of DOE's Vehicle Technology Program is to "develop more energy efficient and environmentally friendly highway transportation technologies that enable America to use less petroleum."<sup>14</sup> To fulfill its mission, VTP's goal is to "develop technologies that enable cars and trucks to become highly efficient, through improved power technologies and cleaner domestic fuels, and to be cost and performance competitive."<sup>15</sup> VTP's activities primarily focus on passenger and commercial highway vehicles, through funding projects to support battery and electric drive component manufacturing, vehicle electrification deployment and infrastructure development, increasing internal combustion engine efficiency, advances in material technology, and deployment of alternative fuel vehicles.<sup>16</sup>

#### *Clean Cities*

A central component of VTP's efforts to facilitate the deployment of alternative fuel vehicles is its Clean Cities program. The Clean Cities program was established by the Energy Policy Act of 1992 to help promote the deployment of new vehicle technologies.<sup>17</sup>

Clean Cities activities are primarily carried out in partnership with 85 active "Clean Cities Coalitions."<sup>18</sup> The coalitions consist of businesses, fuel providers, vehicle fleets, state and local government agencies, and community organizations.<sup>19</sup> Coalitions then coordinate with their local member organizations to provide technical and informational assistance, as well as funding to

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<sup>11</sup>Department of Energy, Office of Science, "Energy Frontier Research Centers: Basic Research Needs." Accessible at: <http://science.energy.gov/bes/efrc/research/basic-research-needs/>.

<sup>12</sup>P.L. 112-74

<sup>13</sup>Congressional Research Service, "Alternative Fuel and Advanced Vehicle Technology Incentives: A Summary of Federal Programs," R42566, June 12, 2012.

<sup>14</sup>Department of Energy, Vehicle Technologies Program, "Mission, Vision, and Goals," Updated February 16, 2011. Accessible at: [http://www1.eere.energy.gov/vehiclesandfuels/about/fvvt\\_mission.html](http://www1.eere.energy.gov/vehiclesandfuels/about/fvvt_mission.html).

<sup>15</sup>*Ibid.*

<sup>16</sup>DOE EERE FY13 Detailed Budget Justification, Volume 4 p. 179.

<sup>17</sup>P.L. 102-486.

<sup>18</sup>Department of Energy, Clean Cities, "Coalitions in Order of Designation," Updated June 25, 2012. Accessible at: [http://www.afdc.energy.gov/cleancities/coalitions/coalition\\_designation.php](http://www.afdc.energy.gov/cleancities/coalitions/coalition_designation.php).

<sup>19</sup>Department of Energy, Clean Cities, "Coalitions," Updated April 9, 2012. Accessible at: <http://www1.eere.energy.gov/cleancities/coalitions.html>.

upgrade vehicle fleets and make available various types of alternative vehicle fueling stations, such as compressed natural gas, E85 or electric vehicle (EV) charging stations. Additionally, Clean Cities maintains an online “Alternative Fuels Data Center” to serve as an information source for vehicle fleet managers and alternative vehicle consumers.<sup>20</sup>

The Clean Cities program also administers the National Clean Fleets Partnership.<sup>21</sup> The Clean Fleets program establishes strategic alliances between DOE and corporate entities in which DOE provides fleets with “top-level support, technical assistance, robust tools and resources, and public acknowledgement to help meet and celebrate fleets’ petroleum-use reduction goals.”<sup>22</sup> Currently 18 corporations are engaged in the Clean Fleets program. The current (FY12) budget for Clean Cities is \$27.9 million.

### *VTP National Laboratory Partnerships*

The Vehicle Technologies Program partners with several of DOE’s national laboratories to support many of its alternative vehicle technology activities.<sup>23</sup> National lab research activities are primarily conducted through:

- **Idaho National Laboratory’s (INL)** Advanced Vehicle Testing Activity (AVTA) which provides “benchmark data for technology modeling, and research and development programs, but benchmarking and validating the performance of light, medium, and heavy-duty vehicles that feature one or more advanced technologies;<sup>24</sup>
- **National Renewable Energy Laboratory’s (NREL)** Center for Transportation Technologies and Systems (CTTS) which “develops, evaluates, and demonstrates innovative vehicle and fuel technologies that reduce the nation’s dependence on imported oil and improve air quality;<sup>25</sup>
- **Sandia National Laboratory’s (SNL)** Combustion Research Facility which uses laser diagnostics and high-performance computing to explore combustion processes;<sup>26</sup>
- **Oak Ridge National Laboratory’s (ORNL)** Sustainable Transportation Program which conducts research relating to “fuels, engines, and emissions; energy storage; advanced structural and propulsion system materials; power electronics and electric motors; and policy analysis;”<sup>27</sup> and,

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<sup>20</sup>Department of Energy, “Alternative Fuels Data Center,” Updated July 13, 2012. Accessible at: <http://www.afdc.energy.gov/>.

<sup>21</sup>Department of Energy “National Clean Fleets Partnership,” Updated July 11, 2012. Accessible at: [http://www1.eere.energy.gov/cleancities/national\\_partnership.html](http://www1.eere.energy.gov/cleancities/national_partnership.html).

<sup>22</sup>Department of Energy, Vehicle Technologies Program, “National Clean Fleets Partnership Fact Sheet,” March 2012. Accessible at: <http://www1.eere.energy.gov/cleancities/pdfs/51262.pdf>.

<sup>23</sup>Department of Energy, Vehicle Technologies Program, “National Laboratories,” Updated February 15, 2011. Accessible at: [http://www1.eere.energy.gov/vehiclesandfuels/about/fcvt\\_laboratories.html](http://www1.eere.energy.gov/vehiclesandfuels/about/fcvt_laboratories.html).

<sup>24</sup>Idaho National Laboratory, “Advanced Vehicle Testing Activity,” Updated June 24, 2010. Accessible at: <http://avt.inel.gov/>.

<sup>25</sup>National Renewable Energy Laboratory, “Advanced Vehicles and Fuels Research,” Updated April 13, 2012. Accessible at: <http://www.nrel.gov/vehiclesandfuels/ctts.html>.

<sup>26</sup>Sandia National Laboratories, “Combustion Research Facility,” 2011. Accessible at: <http://crf.sandia.gov/>

<sup>27</sup>Oak Ridge National Laboratory, Sustainable Transportation Program, “Our Role.” Accessible at: <http://www.ornl.gov/sci/ees/transportation/role.shtml>.

- **Argonne National Laboratory’s (ANL) Transportation Technology R&D Center** which performs research on hybrid powertrains, advanced batteries, applied materials, and alternative vehicles.<sup>28</sup>

### *VTP Recovery Act Funding*

The American Recovery and Reinvestment Act (ARRA) provided significant funding for DOE’s advanced vehicle programs. In addition to the aforementioned \$2 billion to manufacture batteries for EVs and \$400 million for transportation electrification projects, DOE also provided \$298.5 million for the Clean Cities program and \$106 million for heavy-duty track and passenger vehicle efficiency activities.<sup>29</sup> (See Appendix A for additional details.)

The \$400 million in funding for transportation electrification was distributed to 18 different awardees and was focused on purchasing plug-in hybrid and all-electric vehicles for test demonstration and installing associated charging infrastructure. The largest award among these 18—a \$99.8 million grant (later expanded to \$114.8 million) to the Electric Transportation and Engineering Corporation (known as Ecotality) to deploy more than 13,000 electric vehicle charging stations in select cities around the country—has been of particular interest to the Subcommittee.

### *EV Everywhere*

On March 7, 2012, President Obama announced the “EV Everywhere” initiative, a new effort aimed at further facilitating progress toward the one million EV deployment goal. The centerpiece of the announcement was the creation of a new \$1 billion mandatory spending<sup>30</sup> program known as the “National Community Deployment Challenge” (NCDC) to “spur deployment of clean, advanced vehicles in communities around the country.”<sup>31</sup> The NCDC would provide funding through a competitive grant program to communities to achieve the program’s goal.<sup>32</sup>

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<sup>28</sup>Argonne National Laboratory, Transportation Technology R&D Center, “About us,” September 2011. Accessible at: <http://www.transportation.anl.gov/about.html>.

<sup>29</sup>Department of Energy, Energy Efficiency and Renewable Energy, “American Recovery and Reinvestment Act,” Updated July 2, 2012. Accessible at: <http://www1.eere.energy.gov/recovery/index.html>.

<sup>30</sup>Department of Energy Budget control tables. Accessible at <http://www.cfo.doe.gov/budget/13budget/Content/Orgcontro.pdf> p.2

<sup>31</sup>The White House, Office of the Press Secretary, “Fact Sheet: All-of-the-Above Approach to American Energy,” March 7, 2012. Accessible at: <http://www.whitehouse.gov/the-press-office/2012/03/07/fact-sheet-all-above-approach-american-energy>.

<sup>32</sup>Assistant Secretary for Energy Efficiency and Renewable Energy David Danielson to Energy & Environment Subcommittee Chairman Harris, May 1, 2012.

Table 1. DOE Vehicle Technology Program (VTP) Budget (dollars in millions)

Program	FY09 Actual	FY09 ARRA	FY10 Actual	FY 2011 Actual	FY 2012 Enacted	FY 2013 Request	FY13 Request vs. FY12 Enacted		FY 2013 House E&W Approp. Mark	FY 2013 Senate E&W Approp. Mark
							\$	%		
<b>VTP Discretionary Funding</b>	267.1	2,800	304.2	\$293.2	\$328.8	\$420.0	91.2	27.7	\$335.0	\$330.0
<b>VTP Mandatory Funding</b>	--	--	--	--	--	\$1,000.0	n/a	n/a	\$0.0	\$0.0

Department of Energy Inspector General Reports

In 2012, the DOE Inspector General (IG) has published multiple reports relating to performance, accounting, and management of VTP activities, including:

- A report titled, *“The Department of Energy’s Transportation Electrification Program.”*<sup>33</sup> The report notes DOE “has faced challenges with ensuring adequate oversight of the financial condition of grant recipients”<sup>34</sup> under DOE’s Transportation Electrification Program, which funds vehicle charging stations and infrastructure. Specifically, the DOE IG determined that DOE did not “ensure recipients had completed independent audits as required by Federal regulations” or request or review “cost reports to determine the allowability of costs as required by Federal regulations.”<sup>35</sup> DOE officials “acknowledged they were unaware of whether recipients had received independent audits or submitted cost reports.”<sup>36</sup>
- An audit report titled, *“The Department of Energy’s Clean Cities Alternative Fuel Vehicle Grant Program Funded under the American Recovery and Reinvestment Act.”*<sup>37</sup> The audit found DOE inappropriately reimbursed unsubstantiated recipient costs, which “increases the risk that the Department will pay more than its agreed upon share of projects costs;”<sup>38</sup> approved cost-share contributions despite the lack of supporting documentation; and “allowed recipients to award almost \$20 million without documenting their decisions to award contracts and/or identifying potential conflicts of

<sup>33</sup>Department of Energy Inspector General, *“The Department of Energy’s Transportation Electrification Program, OAS-RA-12-11,”* May 10, 2012 Accessible at: <http://energy.gov/sites/prod/files/OAS-RA-12-11.pdf>.

<sup>34</sup>*Ibid.*

<sup>35</sup>*Ibid.*

<sup>36</sup>*Ibid.*

<sup>37</sup>Department of Energy Inspector General, *“Audit Report: The Department of Energy’s Clean Cities Alternative Fuel Vehicle Grant Program Funded under the American Recovery and Reinvestment Act,”* May 22, 2012.

Accessible at: <http://energy.gov/sites/prod/files/OAS-RA-12-12.pdf>.

<sup>38</sup>*Ibid.*

interest as required by Federal procurement regulations.”<sup>39</sup> The report notes that DOE management disagreed with many of the IG’s findings and recommendations in this audit.

- An audit report titled, “*Follow-up on the Department of Energy’s Implementation of the Advanced Batteries and Hybrid Components Program Funded under the American Recovery and Reinvestment Act.*”<sup>40</sup> The audit stated DOE could “better define regulations governing the retention of documentation supporting procurement decisions,” “ensure recipients adequately safeguard equipment purchased with Federal funds,” and “obtain and review required audit reports to ensure the sufficiency of internal controls and compliance with laws and regulations.”<sup>41</sup> The report noted the IG was unable to locate 20 of the 37 sampled equipment items purchased with Federal funds, totaling about \$500,000.<sup>42</sup>

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<sup>39</sup>DOE IG “Clean Cities” Audit.

<sup>40</sup>Department of Energy Inspector General, “Audit Report: Follow-up on the Department of Energy’s Implementation of the Advanced Batteries and Hybrid Components Program Funded under the American Recovery and Reinvestment Act,” July 2012. Accessible at: <http://energy.gov/sites/prod/files/OAS-RA-L-12-05.pdf> .

<sup>41</sup>*Ibid.*

<sup>42</sup>*Ibid.*

**Appendix A – DOE Vehicle Technology Program Stimulus Awards**

<b>Heavy-Duty Truck and Passenger Vehicle Efficiency<sup>43</sup></b>	
<b>Awardee</b>	<b>Amount</b>
Cummins Inc.	\$38,831,115
Daimler Trucks North America, LLC	\$39,559,868
Navistar, Inc.	\$37,328,933
Chrysler Group LLC	\$14,458,572
Cummins Inc.	\$15,000,000
Delphi Automotive Systems LLC	\$7,480,572
Ford Motor Company	\$15,000,000
General Motors Co	\$7,705,862
Robert Bosch	\$11,953,786

<b>Alternative Fueled Vehicles Pilot Grant Program (Clean Cities)<sup>44</sup></b>	
<b>Awardee</b>	<b>Amount</b>
North Central Texas Council of Governments	\$13,181,171
South Coast Air Quality Management District	\$5,591,611
South Coast Air Quality Management District	\$9,408,389
San Bernardino Associated Government	\$9,950,708
Maryland Energy Administration	\$5,924,190
New York State Energy Research and Development Authority	\$13,299,101
Clean Fuels Ohio's Ohio Advanced Transportation Partnership	\$11,041,500
Utah Clean Cities Coalition	\$14,908,648
Clean Energy Coalition	\$14,970,144
Railroad Commission of Texas	\$12,633,080
City of Chicago, Department of Environment	\$14,999,658
Puget Sound Clean Air Agency	\$14,999,927
Texas State Technical College	\$12,299,828
New Jersey Clean Cities Coalition	\$14,997,240
Greater Long Island Clean Cities Coalition	\$14,994,183
DeKalb County	\$14,983,167
Virginia Department of Mines, Minerals and Energy	\$8,605,100
State of Wisconsin	\$15,000,000
Southern CA Assoc. of Governments Clean Cities Coalition	\$6,917,200
The Treasure Valley Clean Cities Coalition	\$5,519,862

<sup>43</sup>[http://www1.eere.energy.gov/recovery/news\\_detail.html?news\\_id=15723](http://www1.eere.energy.gov/recovery/news_detail.html?news_id=15723).

<sup>44</sup>[http://www1.eere.energy.gov/recovery/news\\_detail.html?news\\_id=15494](http://www1.eere.energy.gov/recovery/news_detail.html?news_id=15494).

Metropolitan Energy Information Center	\$14,999,905
Greater New Haven Clean Cities Coalition, Inc.	\$13,195,000
State of Indiana	\$10,125,000
Kentucky Clean Fuels Coalition	\$10,125,000
Triangle J Council of Governments	\$12,975,388

<b>Advanced Battery and Electric Drive Component Manufacturing Grants<sup>45</sup></b>	
<b>Awardee</b>	<b>Amount</b>
<b>Cell, Battery, and Materials Manufacturing Facilities</b>	
Johnson Controls, Inc.	\$299,200,000
A123 Systems, Inc.	\$249,100,000
KD ABG MI, LLC (Dow Kokam)	\$161,000,000
Compact Power, Inc. (on behalf of LG Chem, Ltd.)	\$151,400,000
EnerDel, Inc.	\$118,500,000
General Motors Corporation	\$105,90,0000
Saft America, Inc.	\$95,500,000
Exide Technologies with Axion Power International	\$34,300,000
East Penn Manufacturing Co.	\$32,500,000
<b>Advanced Battery Supplier Manufacturing Facilities</b>	
Celgard, LLC, a subsidiary of Polypore	\$49,200,000
Toda America, Inc.	\$35,000,000
Chemetall Foote Corp.	\$28,400,000
Honeywell International Inc.	\$27,300,000
BASF Catalysts, LLC	\$24,600,000
EnerG2, Inc.	\$21,000,000
Novolyte Technologies, Inc.	\$20,600,000
FutureFuel Chemical Company	\$12,60,0000
Pyrotek, Inc.	\$11,300,000
H&T Waterbury DBA Bouffard Metal Goods	\$5,000,000
<b>Advanced Lithium-Ion Battery Recycling Facilities</b>	
TOXCO Incorporated	\$9,500,000
<b>Electric Drive Component Manufacturing Facilities</b>	
General Motors Corporation	\$105,000,000
Delphi Automotive Systems, LLC	\$89,300,000
Allison Transmission, Inc.	\$62,800,000
Ford Motor Company	\$62,700,000

<sup>45</sup>[http://www1.eere.energy.gov/recovery/news\\_detail.html?news\\_id=12697](http://www1.eere.energy.gov/recovery/news_detail.html?news_id=12697).

Remy, Inc.	\$60,200,000
UQM Technologies, Inc.	\$45,100,000
Magna E-Car Systems of America, Inc.	\$40,000,000
<b>Electric Drive Subcomponent Manufacturing Facilities</b>	
KEMET Corporation	\$15,100,000
SBE, Inc.	\$9,100,000
Powerex, Inc.	\$8,100,000

<b>Transportation Electrification Projects<sup>46</sup></b>	
<b>Awardee</b>	<b>Amount</b>
<b>Advanced Vehicle Electrification</b>	
Electric Transportation Engineering Corp. (ETEC) (known as Ecotality North America)	\$114,800,000
Chrysler, LLC	\$48,000,000
Coulomb Technologies	\$15,000,000
South Coast Air Quality Management District (SCAQMD)	\$45,400,000
Navistar, Inc. (Truck)	\$39,200,000
<b>Transportation Sector Electrification</b>	
Cascade Sierra Solutions	\$22,200,000
<b>Advanced Vehicle Electrification + Transportation Sector Electrification</b>	
General Motors	\$30,500,000
Smith Electric Vehicles	\$32,000,000
<b>Advanced Electric Drive Vehicle Education Program</b>	
West Virginia University (NAFTC)	\$6,900,000
Purdue University	\$6,100,000
Colorado State University	\$5,000,000
Missouri University of Science and Technology	\$5,000,000
Wayne State University	\$5,000,000
National Fire Protection Association	\$4,400,000
Michigan Technological University	\$2,980,000
University of Michigan	\$2,500,000
J. Sargeant Reynolds Community College	\$72,000
City College of San Francisco	\$50,000

<sup>46</sup>[http://www1.eere.energy.gov/recovery/news\\_detail.html?news\\_id=12697](http://www1.eere.energy.gov/recovery/news_detail.html?news_id=12697).