Guide to Federal Funding, Financing, and Technical Assistance for Plug-in Electric Vehicles and Charging Stations

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This document was prepared by the U.S. Department of Energy and U.S. Department of Transportation

Funding and Financing Opportunities

This guidance document was collaboratively developed by the U.S. Department of Energy and Department Transportation to highlight examples of federal programs that support funding and financing for plug-in electric vehicles (PEVs) and charging infrastructure. For further information the Department of Energy's Alternative Fuels Data Center provides a comprehensive database of federal and state programs that support plug-in electric vehicles and infrastructure: http://1.usa.gov/29avJez.

Funding Programs

- **U.S. Department of Energy/Energy Efficiency and Renewable Energy (EERE):**
  - **Clean Cities:** Within EERE's Vehicle Technologies Office, the Clean Cities program advances the nation's economic, environmental, and energy security by supporting local actions to reduce petroleum use and greenhouse gas emissions in transportation. The program releases annual open and competitive funding opportunities for cost-shared projects to significantly accelerate the deployment of alternative fuels and alternative fuel infrastructure. Program scope includes light-, medium-, and heavy-duty vehicles that use fuels such as biodiesel, electricity, E85, hydrogen, natural gas, and propane, as well as the fueling infrastructure needed to support them. Learn more about Clean Cities: https://cleancities.energy.gov/, visit the Vehicle Technologies Office financial opportunities page: http://energy.gov/eere/vehicles/vehicle-technologies-office-financial-opportunities, or search the EERE Exchange website for open funding opportunities: 1.usa.gov/1t9rBBk

Electric Vehicle Charging Stations. *Image source: Alternative Fuels Data Center (AFDC)*

  - **State Energy Program (SEP):** SEP provides "formula" grants to states to assist in designing, developing, and implementing renewable energy and energy efficiency programs. Each state's energy office receives SEP funding and manages all SEP-funded projects. SEP also provides an opportunity for states to compete for funding of innovative ideas that highly leverage federal funding for specific high-impact market transformation projects.
    - Point of Contact: U.S. Department of Energy, Phone: (202) 586-5000, energy.gov/eere/wipo/state-energy-program

- **U.S. Department of Energy/Loan Programs Office (LPO):**
  - **Title XVII Clean Energy Loan Guarantees:** The Title XVII innovative clean energy projects loan program (Title XVII) provides loan guarantees to accelerate the deployment of innovative clean energy technology. The U.S. Department of Energy is authorized to issue loan guarantees pursuant to Title XVII of the Energy Policy Act of 2005. Loan guarantees are made to qualified projects and applicants who apply for funding in response to open technology-specific solicitations. The Title XVII loan program applies to a wide range of energy technologies and is currently accepting applications in response to the following open Title XVII solicitations:

- Advanced Fossil Energy Projects Solicitation
- Advanced Nuclear Energy Projects Solicitation
- Renewable Energy and Efficient Energy Projects Solicitation
    - Under the Renewable Energy and Efficient Energy Projects solicitation, there may be circumstances under which certain electric vehicle (EV) charging infrastructure, including associated hardware and software, may be a qualifying technology. Specifically, LPO has determined that EV charging facilities may properly be characterized under the Solicitation as Distributed Energy Projects that employ efficient electrical transmission or distribution technologies.

To be eligible for a Title XVII loan guarantee, a project must meet all of the following requirements:

- Be an "Eligible Project" as defined in an open solicitation in the technology area described therein.
- Employ new or significantly improved technologies as compared to commercial technologies in service in the United States at the time the guarantee is issued.
- Avoid, reduce, or sequester anthropogenic emissions of greenhouse gases.
- Be located in the United States (foreign ownership or sponsorship of the projects is permissible as long as the project is located in one of the fifty states, the District of Columbia, or a U.S. territory).
- Provide a reasonable prospect of repayment.

(Reference 42 U.S. Code 16513)

- Point of Contact: Title XVII Loan Guarantee Program, 202-586-8336, lgprogram@hq.doe.gov, http://energy.gov/lpo/title-xvii

- **Advanced Technology Vehicles Manufacturing (ATVM) Loan Program:** The Advanced Technology Vehicles Manufacturing (ATVM) direct loan program was established in Section 136 of the Energy Independence and Security Act of 2007 to support the production of fuel-efficient, advanced technology vehicles and qualifying components in the United States. The program provides direct loans to automotive or component manufacturers for reequipping, expanding, or establishing manufacturing facilities in the U.S. that produce fuel-efficient advanced technology vehicles or qualifying components, or for engineering integration performed in the U.S. for advanced technology vehicles or qualifying components. In order for a vehicle to be an advanced technology vehicle, the vehicle must be a light-duty vehicle that satisfies specified emission and fuel economy standards, or an ultra-efficient vehicle. To be a qualifying component, the component must be designed and installed for the purpose of meeting the performance requirements for an advanced technology vehicle. (Reference 42 U.S. Code 17013)
    - Point of Contact: Advanced Technology Vehicles Manufacturing Loan Program, 202-586-8146, atvmloan@hq.doe.gov, http://www.energy.gov/lpo/atvm

- **U.S. Department of Transportation (DOT)/Federal Aviation Administration (FAA):**
    - **Airport Zero Emission Vehicle (ZEV) and Infrastructure Incentives:** The Zero Emission Airport Vehicle and Infrastructure Pilot Program provides funding to airports for up to 50% of the cost to acquire ZEVs, and to install or modify supporting infrastructure for acquired vehicles. Grant funding must be used for airport-owned, on-road vehicles used exclusively for airport purposes. Vehicles and infrastructure must meet the Federal Aviation Administration's Airport Improvement Program (AIP) requirements, including Buy American. To be eligible, an airport must be for public use. The program gives priority to applicants located in nonattainment areas as defined by the Clean Air Act and projects that achieve the greatest air quality benefits, as measured by the amount of emissions reduced per dollar of funds spent under the program. Reference Public Law 112-95 and 49 U.S. Code 47136a)
        - Point of Contact: Federal Aviation Administration, www.faa.gov/airports/environmental/zero_emissions_vehicles

- **U.S. Department of Transportation/Federal Highway Administration (FHWA):**
    - **Congestion Mitigation and Air Quality Improvement (CMAQ) Program:** The CMAQ program is one element of the Federal-aid Highway Program that provides a funding source for States, local governments, and transit agencies to fund transportation projects and programs that help meet the requirements of the Clean Air Act and help reduce regional congestion on transportation networks. CMAQ investments support transportation projects that reduce the mobile source emissions for which an area has been designated nonattainment or maintenance for the ozone, carbon monoxide and particulate matter National Ambient Air Quality Standards (NAAQS) by the Environmental Protection Agency (EPA). Eligible activities include traffic management centers, transit capital investments, transit and rail operating costs, travel demand management strategies, congestion relief efforts (such as high occupancy vehicle lanes), intermodal freight projects, diesel retrofit projects, bicycle and pedestrian programs, and alternative fuel vehicles and infrastructure. A project supported with CMAQ funds must demonstrate that the project reduces emissions, is located in or benefits an EPA designated nonattainment or maintenance area and is a transportation project. (23 U.S.C. 149)
        - Point of Contact: Federal Highway Administration, www.fhwa.dot.gov/environment/air_quality/cmaq
    - **Surface Transportation Block Grant Program (STBG):** Under the Fixing America's Surface Transportation Act or FAST Act, the long-standing Surface Transportation Program was converted into the Surface Transportation Block Grant Program, acknowledging that this program has the most flexible eligibilities among all Federal-aid highway programs and aligning the program's name with how FHWA has historically administered it. The STBG promotes flexibility in State and local transportation decisions and provides flexible funding to best address State and local transportation needs. Funds apportioned to a State for the STBG provide for the construction of electric vehicle charging stations associated with 1) construction of truck parking facilities (23 U.S.C. 133(b)(1)(E); and 2) fringe and corridor parking facilities (e.g. park and ride facilities) (23 U.S.C. 133 (b)(5)). Fringe and corridor parking facilities must meet specific requirements (contained in 23 U.S.C. 137).
        - Point of Contact: Federal Highway Administration, http://www.fhwa.dot.gov/specialfunding/stp/
    - **Federal Lands:** Under the Tribal Transportation Program (TTP), Federal Lands Transportation Program (FLTP), and Federal Lands Access Program (FLAP), any project eligible for funding Title 23 of the U.S. Code is eligible for funding as long as the project meets the purpose associated with the respective program. Under the CMAQ program (23 U.S.C 149) and the STBG program (23 U.S.C. 133), electic vehicle charging stations that contribute/benefit air quality are eligible to be funded. Therefore based upon eligibility under those provisions, TTP, FLTP and FLAP funds may be applied to EV fueling improvements.
        - Point of Contact: Federal Highway Administration, https://flh.fhwa.dot.gov/

- **National Highway Performance Program (NHPP):** The NHPP provides support for the condition and performance of the National Highway System (NHS), for the construction of new facilities on the NHS, and to ensure that investments of Federal-aid funds in highway construction are directed to support progress toward the achievement of performance targets established in a State's asset management plan for the NHS. NHPP-eligible activities include the installation of electric vehicle charging stations along the NHS as part of the construction of fringe and corridor parking lots, i.e., park-and-ride lots (23 U.S.C. 137) and of truck parking rest areas (Section 1401 of Pub. L. 112-141). Restrictions on charging fees to the public for use of electric vehicle charging stations on the Interstate System will apply (23 U.S.C .111).
    - Point of Contact: Federal Highway Administration, http://www.fhwa.dot.gov/specialfunding/nhpp/

- **Advanced Transportation and Congestion Management Technologies Deployment Initiative:** DOT's advanced transportation and congestion management technologies deployment (ATCMTD) initiative (23 U.S.C. 503(c)(4)) provides grants to eligible entities to develop model deployment sites for large scale installation and operation of advanced transportation technologies to improve safety, efficiency, system performance, and infrastructure return on investment. Grant funds may be used to deploy advanced transportation and congestion management technologies, including integration of intelligent transportation systems with the smart grid and other energy distribution and charging systems.
    - Point of Contact: Federal Highway Administration, ATCMTD@dot.gov

- **State Infrastructure Banks (SIBs):** Capitalized with Federal support, these State-controlled infrastructure investment funds can offer a range of loans and credit enhancement products to public and private sponsors of highway or transit capital projects. The FAST Act authorizes a State DOT to capitalize a SIB using funds from three FHWA programs: the National Highway Performance Program, the Surface Transportation Block Grant Program, and the National Highway Freight Program. However, a SIB can assist a project eligible for Federal-aid under any FHWA program, such as the Congestion Mitigation and Air Quality (CMAQ) program (above). The law governing SIBs expressly allows two or more states to establish a "multi-state infrastructure bank," although there is no requirement that the states be geographically contiguous.
    - Point of Contact: Federal Highway Administration, http://www.fhwa.dot.gov/ipd/finance/tools_programs/federal_credit_assistance/sibs/

- **U.S. Department of Transportation/Federal Transit Administration (FTA):**
    - **Low and Zero Emission Vehicle Funding:** Financial assistance is available to recipients that are local, state, and federal government entities; public transportation providers; and private and non-profit organizations for capital projects involving low or zero-emission public transportation vehicles. Funding may cover up to 85% of project costs, with a required 15% non-federal cost share requirement. Eligible vehicles must be designated for public transportation use and significantly reduce energy consumption or harmful emissions compared to a comparable standard vehicle. For more information, see the FAST Act Section 5339 fact sheet and the FAST Act website. (Reference Public Law 114-94 and 49 U.S. Code 5339(c))
        - Point of Contact: Federal Transit Administration, Office of Program Management, U.S. Department of Transportation, Phone: (202) 366-2053, www.fta.dot.gov

Incentives and Tax Credits:

- **Alternative Fuel Infrastructure Tax Credit:** Fueling equipment for electricity, E85, liquefied hydrogen, liquefied petroleum gas (propane), natural gas, or diesel fuel blends containing a minimum of 20% biodiesel installed between January 1, 2015, and December 31, 2016, is eligible for a tax credit of 30% of the cost, not to exceed $30,000. Permitting and inspection fees are not included in covered expenses. Fueling station owners who install qualified equipment at multiple sites are allowed to use the credit toward each location. Consumers who purchased qualified residential fueling equipment prior to December 31, 2016 may receive a tax credit of up to $1,000. Unused credits that qualify as general business tax credits, as defined by the Internal Revenue Service (IRS), may be carried backward one year and carried forward 20 years. For more information about claiming the credit, see IRS Form 8911, which is available on the IRS Forms and Publications website. (Reference Public Law 114-113; 26 U.S. Code 30C and 38; and IRS Notice 2007-43 (PDF))
    - NOTE: This incentive originally expired on December 31, 2013, but was retroactively extended through December 31, 2016, by H.R. 2029.
    - Point of Contact: U.S. Internal Revenue Service, Phone: (800) 829-1040, www.irs.gov

- **Alternative Fuel and Advanced Vehicle Technology Research and Demonstration Bonds:** Qualified state, tribal, and local governments may issue Qualified Energy Conservation Bonds subsidized by the U.S. Department of Treasury at competitive rates to fund capital expenditures on qualified energy conservation projects. Eligible activities include research and demonstration projects related to cellulosic ethanol and other non-fossil fuels, as well as advanced battery manufacturing technologies. Government entities may choose to issue tax credit bonds or direct payment bonds to subsidize the borrowing costs. For information on eligibility, processes, and limitations, see IRS Notices 2009-29 (PDF), 2010-35 (PDF), and 2012-44 (PDF) or contact local issuing agencies. (Reference 26 U.S. Code 54D)

- **Qualified Plug-In Electric Drive Motor Vehicle Tax Credit:** A tax credit is available for the purchase of a new qualified plug-in electric drive motor vehicle that draws propulsion using a traction battery that has at least five kilowatt-hours (kWh) of capacity, uses an external source of energy to recharge the battery, has a gross vehicle weight rating of up to 14,000 pounds, and meets specified emission standards. The minimum credit amount is $2,500, and the credit may be up to $7,500, based on each vehicle's traction battery capacity and the gross vehicle weight rating. The credit will begin to be phased out for each manufacturer in the second quarter following the calendar quarter in which a minimum of 200,000 qualified plug-in electric drive vehicles have been sold by that manufacturer for use in the United States. This tax credit applies to vehicles acquired after December 31, 2009. For more information, including qualifying vehicles and sales by manufacturer, see the Internal Revenue Service (IRS) Plug-In Electric Vehicle Credit website. Also refer to IRS Form 8936, which is available via the IRS Forms and Publications website. (Reference Public Law 112-240, Section 403; and 26 U.S. Code 30D)
    - Point of Contact: U.S. Internal Revenue Service, Phone: (800) 829-1040, www.irs.gov

- **Qualified Two-Wheeled Plug-in Electric Drive Motor Vehicle Tax Credit:** A credit is available for the purchase of a new qualified two-wheeled plug-in electric drive vehicle that draws propulsion using a traction battery that has at least 2.5 kilowatt hours (kWh) of capacity, uses an external source of energy to recharge the battery, has a gross vehicle weight rating of up to 14,000 pounds, is manufactured primarily for use on public roadways, and can drive at least 45 miles per hour. The credit is for 10% of the cost of the qualified vehicle, up to $2,500, and applies to vehicles acquired between January 1, 2015, and December 31, 2016. For more information about claiming the credit, see the Internal Revenue Service (IRS) Plug-In Electric Vehicle Credit

website and IRS Form 8936, which is available on the IRS Forms and Publications website. (Reference Public Law 114-113 and 26 U.S. Code 30D)

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- Point of Contact: U.S. Internal Revenue Service, Phone: (800) 829-1040, www.irs.gov

Technical Assistance

- **U.S. Department of Energy/Energy Efficiency and Renewable Energy:**
  - **Clean Cities:** Clean Cities offers a variety of technical assistance for the purchase and use of advanced technology and alternative fuel vehicles, including plug-in electric vehicles.
    - The program works with nearly 100 coalitions across the country. These local groups bring together and partner with stakeholders in their region, including businesses, fuel providers, vehicle fleets, state and local government agencies, and community organizations. Find your local coalition: cleancities.energy.gov/coalitions.
    - The Alternative Fuels Data Center provides foundational information, publications, and more than 15 interactive tools to help stakeholders choose the way to reduce petroleum that best meets their needs: afdc.energy.gov.
    - The Clean Cities Technical Response Service provides experts on demand who can help find answers to technical questions (800-254-6735, technicalresponse@icfi.com).
    - Clean Cities Tiger Teams assist coalition coordinators, stakeholders, original equipment manufacturers, and fuel providers overcome obstacles to deploying alternative fuels and advanced vehicles and make informed choices to reduce their petroleum consumption.
    - Learn more about the technical assistance available through Clean Cities: cleancities.energy.gov/technical-assistance/.

- **Workplace Charging Challenge:** The Workplace Charging Challenge seeks to achieve a tenfold increase in the number of U.S. employers offering workplace charging by 2018. The Challenge offers a variety of resources, including technical assistance, to help employers install, promote, and increase the use of workplace charging. Learn more on the Challenge's website: energy.gov/eere/vehicles/ev-everywhere-workplace-charging-challenge.

- **Feasibility and Implications of Electric Vehicle (EV) Deployment and Infrastructure Development:** A guidance document commissioned by the Federal Highway Administration (FHWA) to analyze the potential deployment of electric vehicles in the United States and their potential impact on the mission of FHWA, including financial implications for available highway revenues. The result of the project is intended to help transportation agencies understand whether and how transportation policies, programs, infrastructure, services, funding models, and administrative activities may have to change as more electric vehicles are deployed on highways, roads, and streets-whether by simply responding to the increased vehicles, more actively supporting them, or proactively helping to accelerate their deployment. For the full report: http://www.fhwa.dot.gov/environment/ climate_change/mitigation/publications/ev_deployment/

- **Strategic Planning to Implement Publically Available EV Charging Stations: A Guide for Businesses and Policymakers:** A guide published by the C2ES and the National Association of State Energy Officials (NASEO) with support from the U.S. Department of Energy's Clean Cities Program, this report describes key factors that affect financial performance, market opportunities, basic business models, and innovative financing mechanisms that can help support public charging. Read the report: www.naseo.org/data/sites/1/documents/publications/Strategic-Planning-to-Implement-Publicly-Avaiable-EV.pdf

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