



GRID RESILIENCE AND INNOVATION PARTNERSHIPS PROGRAM

Accelerating Vehicle-to-Grid Services through Pilot Programs and Toolkits for Utilities and Regulators

Established by the Bipartisan Infrastructure Law, the Grid Resilience and Innovation Partnerships (GRIP) Program is a \$10.5 billion investment to enhance grid flexibility, improve the resilience of the power system against extreme weather, and ensure American communities have access to affordable, reliable, electricity when and where they need it. GRIP funding is administered by the U.S. Department of Energy's Grid Deployment Office (GDO). This project was selected through the second round of GRIP funding.

The Scaling Vehicle-to-Grid (V2G) Integration Nationally (SVIN) project seeks to accelerate V2G adoption across the country. The project will deploy 14 V2G pilot projects using electric school buses (ESBs) in 12 diverse utility territories across the country. ESBs were specifically chosen for their prevalence, consistent and short trips, and long dwell times. As mobile distributed batteries, V2G-enabled vehicles can enhance grid flexibility, reduce expensive system upgrades, and decrease peaking plant usage and emissions.

Anticipated Outcomes and Benefits

Accelerating V2G adoption: SVIN will produce a V2G Policy and Program Toolkit outlining scalable utility V2G program designs and standards of practice for use of the technology in those programs. SVIN will also develop data-driven standardized metrics to measure the value of V2G assets. It will also integrate real-time utility and vehicle operator data with the goal of helping grid operators optimize utility program design for the benefit of their customers.

Cross-country partnerships: With the existing lack of programs valuing V2G services, SVIN will assist 12 utilities gain experience with successful pilots. Project partners include Ameren; Baltimore Gas and Electric Company; the Climate Center; Colorado State University Energy Institute; Commonwealth Edison; Consumers Energy; Duke Energy; Evergy; Eversource; Green Mountain Power; Holyoke Municipal Light and Power; National Grid; Orange and Rockland Utilities; Sacramento Municipal Utility District; Tierra Resource Consultants; Xcel Energy; and Zero Net Energy Alliance.

Community benefits: The project will support an estimated 778 construction, installation, and utility jobs, drawing resources from local unions, utility teams, and fleet operators. Seven project sites are located in Disadvantaged Communities, and four will add vehicle-to-building capacity along with some combination of storage and solar to support community centers. Some or all of this project will be executed in collaboration with the International Brotherhood of Electrical Workers (IBEW) and the National Electrical Contractors Association (NECA).

Project Details



- **Project:**
Scaling Vehicle-to-Grid Integration Nationally (SVIN)
- **Applicant/Selectee:**
Highland Electric Fleets, Inc.
- **GRIP Program:**
Smart Grid Grants
(Bipartisan Infrastructure Law, Section 40107)
- **Federal cost share:**
\$10,918,827
- **Recipient cost share:**
\$10,920,704
- **Project location:**
Colorado, Connecticut, Illinois, Kansas, Maryland, Massachusetts, Michigan, Missouri, New York, North Carolina, Vermont
- **Project type:**
Situational Awareness and System Automation Solutions; Electric Vehicles

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