

Item #8
October 6, 2010
Energy Commission Business Meeting

Green Vehicles, Inc.

**Grant Agreement
for**

GREEN Vehicles Battery Electric Vehicle Pilot Assembly Line

Summary

Green Vehicles will partner with Leyden Energy, the Automotive Technology Group, and the City of Salinas to upgrade its existing facility in Salinas. The goal of the project is to validate vehicle, component, process, and equipment improvements before installing a 2,000 vehicle per year commercial production line for the Triac, Green Vehicle's three-wheeled battery-electric freeway commuter car. The improvements will be evaluated on a pilot assembly line that allows products and the processes by which they are created to be examined.

The Triac is currently produced in low quantities at the Salinas facility as part of a commercial trial. Due to the use of proprietary software and controllers, lightweight vehicle construction, and a new, California based battery technology, Green Vehicles anticipates the Triac will be 40.3% more energy efficient than the Nissan Leaf while costing \$8,000 less.

The Triac's batteries will be supplied by Leyden Energy, a California-based manufacturer. Green Vehicle's Vehicle, Energy and Data Assistant (VEDA) System makes it easy to drive efficiently. The Triac will also be the first commercially-available vehicle to use a continuously variable transmission (CVT) mated to an electric motor, which results in further efficiency improvements.

The Energy Commission will provide \$2,052,560 in Alternative and Renewable Fuel and Vehicle Transportation Program funds, and the project team will provide match funding of \$2,878,611.

Benefits

Successful completion of this project will result in a new electric vehicle production plant in California, which will in turn support in-state production of a promising new battery technology. Green Vehicles alone plans to add 124 employees to its Salinas facility by 2013, and estimates the total number of permanent CA jobs added as a result of the

project to be 496 over the same period, mostly in assembly, material supply, and electronics.

Green Vehicles will market the Triac to a wide audience, and will produce vehicles with 50, 75, and 100 mile ranges, allowing nearly everyone in the market for a new car to order a Triac that matches their budget and driving habits. Pricing should start under \$24,000 for the range-topping 100 mile range model. Each Triac sold will be responsible for GHG emissions reductions of 72% and petroleum use reductions of 575 gallons per year.

Green Vehicles is working with Stanford University staff to develop Best Management Practices for sustainable manufacturing that can be applied to the development and production of energy efficient Zero Emissions Vehicles. The product's sustainability is examined over its full lifecycle- from production to recycling, so that customers can be confident that they are making a responsible choice.

Participants

Green Vehicles is an electric vehicle manufacturer that was founded in 2006 and operates out of Salinas. They have taken their electric freeway commuter vehicle from concept to commercial pilot in just over two years.

Leyden Energy is a California-based research and development and manufacturing company that has developed a promising lithium-ion battery technology for automotive applications. Leyden is also a recipient of funding from the Alternative and Renewable Fuel and Vehicle Transportation Program under PON-09-605.

Automotive Technology Group is a California-based engineering, niche manufacturing, and motorsport specialist that will assist Green Vehicles by providing engineering and modeling support.