

Item #2
November 4, 2010
Energy Commission Business Meeting

LEYDEN ENERGY, INC.

Grant Agreement ARV-10-015
for

**Predevelopment and Development of Infrastructure
Necessary for Establishment of California-Based
Manufacturing Facility for Advanced Lithium Ion
Batteries for Electric Drive Vehicles**

Summary

Leyden Energy, Inc, a research, development, and manufacturing company based in Alameda County, will establish a facility in Fremont to develop and test a new, advanced lithium ion battery technology, and design and verify a pilot production line that will be capable of producing 10 electric vehicle batteries each month by the end of the project.

Leyden's patented technology makes their batteries tolerant of high temperatures and high levels of abuse, and flexible enough to incorporate all current lithium ion battery chemistries, which will allow integration of higher performing components as they develop. Leyden is striving to be cost-competitive with overseas battery manufacturers.

AB 118 grant funding will allow Leyden to demonstrate the high quality and cost-competitiveness needed to prove the viability of manufacturing batteries in California, as well as their technology's performance in battery-electric vehicles. A successful pilot line will clear the path toward Leyden establishing a stand-alone manufacturing facility in California that is capable of being a major supplier to the original equipment manufacturers in the electric transportation marketplace.

The Energy Commission is providing \$2,962,743.00 in Alternative and Renewable Fuel and Vehicle Transportation Program funds and the project team will provide match funding of \$2,963,000.00.

Benefits

By funding Leyden's project, the Energy Commission is investing in California's nascent clean-tech industry and encouraging the development of a network of California-based

vehicle technology and component manufacturers that should prove to be well-positioned for growth. Eleven technical and production jobs will be created directly by the project and Leyden projects that 500 more will be created between a future commercial-scale production facility in Salinas and the resulting expansion of the company's Fremont California Technical Center.

Upon completion of the pilot production line, Leyden will supply 10 batteries each month to Green Vehicles, a California-based electric vehicle company, for use in a low-volume commercial trial. This serves two purposes: it allows Leyden to accelerate their commercialization plans by demonstrating their battery's suitability for use in mass-market battery-electric vehicles, and it supplies Green Vehicles with a high-performance battery that help their vehicle be competitive in the marketplace.

Assuming use in a light duty passenger vehicle, each battery pack sold will be responsible for GHG emissions reductions of 72 percent and petroleum use reductions of 575 gallons per year.

Participants

Leyden Energy is a privately held venture capital-funded company incorporated in 2007 in California to develop technology acquired from DuPont. Since 2007, Leyden has installed a fully operational pilot line capable of assembling 300 lithium-ion cells per day.

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. Green Vehicles also is a recipient of funding from the Alternative and Renewable Fuel and Vehicle Transportation Program under PON-09-605.

Implementation Schedule

Leyden Energy plans to begin pilot-scale production and battery testing in June, 2011, and the pilot line will be producing 10 battery packs per month and ready for commercial scale-up by May, 2013.