

Back-up Documentation for Business Meeting November 02, 2011

EISG Program Solicitation 10-03

TRUSTEES OF THE CALIFORNIA STATE UNIVERSITY. Possible approval of six grants under CEC Contract 500-98-014, totaling \$524,157, from the Public Interest Energy Research (PIER) programs Energy Innovations Small Grants Solicitation number 10-03. These grants were competitively selected and are capped at \$95,000. The awards include innovative energy research projects in energy storage and renewable technologies, building energy efficiency improvements, grid integration of renewables, and computer modeling of innovative energy technology solutions. (PIER electricity funding.) Contact: David Chambers. (5 minutes)

The specific proposed award is:

1. The University of California at Santa Barbara will receive \$95,000 to study the feasibility of an automatic control system for a tethered flexible wing that would convert renewable energy of high-altitude wind into electricity at a lower cost than fossil fuels. When deployed in large-scale farms, high-altitude wind energy generators will be able to produce electricity at a projected cost of about \$20 per megawatt-hours in year 2030 compared to \$34 to \$37 MWh for fossil sources. Cool Earth Solar, Inc. of Chico will receive \$95,000 to prove the feasibility of a portable, low-cost meteorological station using off-the-shelf components and novel image analysis. The station will measure the amount of solar energy at the ground level, which is important for solar prospecting and for predicting the electrical output of solar energy systems.
2. AOS Solar Inc. of Torrance will receive \$95,000 for a project to research converting carbon dioxide from power plant emissions into gaseous methane. The project would study using a bi-catalytic encapsulated membrane to reduce emitted carbon compounds from stationary sources below statutory levels into reusable gaseous methane and oxygen.
3. Jasper Ridge, LLC of Portola Valley will receive \$95,000 to look at the feasibility of a new battery design and manufacturing process to help meet the needs of renewable energy and distributed electricity storage. It is based on low-cost and lead-acid battery chemistry and existing infrastructures to minimize cost, technical and market risk, which is critical for adoption in the energy storage markets.

4. Makel Engineering, Inc. of Chico will receive \$94,157 to prove the feasibility of using micro-gas chromatograph technology with heat measurements to produce a low-cost fuel quality meter. The fuel quality meter would enable accurate control of combustion fuel flow in power generation systems that utilize variable and low British Thermal Unit fuels such as biogas and landfill gas.

5. Aerisun, LLC, Development and Testing of a New Solar Irradiance Forecast Methodology, \$50,000. This innovative technology addresses California's thirty three percent RPS goal by determining the feasibility of using a new multi-model integrated solar forecast system to reduce day-ahead solar forecasts predictions errors by 10%.

6. Cool Earth Solar, Inc., Portable Low Cost Meteorological Station for Solar Resource Measurement and Forecasting, \$95,000. The goal of this project is to determine the feasibility of a portable, low-cost meteorological station based on off-the-shelf components and novel image analysis. The station would measure the solar resource (i.e., the amount of solar energy at ground level), which is important for solar prospecting and for predicting the electrical output of solar energy systems.