

Vallejo Project Proposal to the DOE Inclusive Energy Innovation Prize

Grass Roots Innovation: A Renewable Energy Boat—Unleashing the Power of Underserved Youth to Revitalize the Boat-Building Industry in Vallejo, California

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Title: *Grass Roots Innovation: A Renewable Energy Boat*

Team: Adjoa McDonald (Vallejo Project); Sam Millender (Lead), Electronics Expert; Paul Kirsch (Co-lead), Model Maker

Description: The *Grassroots Innovation* team requests funding to support a youth skills and jobs training project for 25 young adults in the disadvantaged community of Vallejo, California that will produce model boats designed to run entirely on renewable energy and that are completely self-sustaining. The model boats will use multiple renewable energy sources and apply best design practices for maximum energy efficiency. These model boats will provide a template for larger boats during a potential Phase 2 project. Material outcomes include: the production of two (4-foot) wooden-hulled, renewable energy-powered (wave, solar, wind, and rechargeable batteries) model boats. Social outcomes over the eight-week intensive science/STEM summer program for 18-24 disadvantaged youth include: 1) developing project management skills, specifically, how to turn an idea into a deliverable; 2) developing social skills, that is, by functioning as a cooperative team; 3) developing engineering skills with training in: CAD design, drawing and reading circuit diagrams, building “breadboards,” soldering circuit parts and assembling a model; 4) developing a sense for “thinking outside the box,” research, planning, innovation, and entrepreneurship; and 5) developing prototypes for what will ultimately become socially and environmentally responsible products. The location of the project will be on Mare Island in Vallejo, former home of the Mare Island Naval Shipyard. We plan that this Innovation Prize project will serve as the foundation and hub for future, large-scale renewable energy business development—in the very area where boatbuilding was done at a large scale during World War II.

Partners: There are no other partners at this time.

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Link to 3-minute video: <https://youtu.be/e0TAR0pAlg>