In order to ensure Ka Hei positively impacts the community over the long-term, its true success will be rooted in making real, engaging connections between school upgrades and learning opportunities for students and teachers.

This program will enhance the DOE’s existing initiatives to create an interactive learning platform that brings the worlds of STEM (science, technology, engineering, and math) and sustainability to life. Ka Hei will leverage technology to bring real-world relevance to the learning experience that not only meets Common Core State Standards, but can be implemented alongside existing curriculum.

Students and teachers will experience inquiry-based curricula that are hands-on, island-based, and relevant for college and career preparedness. From opportunities to shadow engineers and subject matter experts in the field, to analyzing energy data from a live feed on site, students and teachers will have greater access to the tools and ideas needed to build a more diverse, sustainable energy future for Hawai’i.
The Ka Hei Education Program is organized around themes relevant to preparing students to be stewards of our community. Ka Hei offers opportunities for increased technical expertise around STEM and sustainability, as well as providing activities that will nurture the ongoing development of interpersonal skills to support them on their paths to college and careers.

Hands-On Learning
Teachers will be supported to learn and implement experiments and use kits from partners like Island Energy Inquiry (IEI) and the National Energy Education Development (NEED) Project to engage students in the science behind their school’s energy program.

Real World Application
The Solar Living Lab program will empower teachers and students to access real energy generation data that will increase rigor and relevance in their classrooms. Teachers and students will use interactive, online dashboards to understand how the solar technology on campuses generate energy in real-time.

Inquiry-Based Learning
Students and teachers will participate in inquiry-based learning opportunities that promote understanding of new energy concepts. Activities, materials, and teacher professional development sessions will exhibit research-based models for student-driven, inquiry learning such as the “5E Model,” guided questioning, and more.

College and Career Readiness
Teachers will experience ways to integrate career-focused activities into their existing curriculum. Activities will help develop necessary STEM skills, alongside soft skills like collaboration and communication, to support students on their paths after school.

Grade Level Engagement
Ka Hei will help spark student interest and teacher excitement about STEM and its application across the islands. Students in each grade level will experience relevant educational offerings tailored to what kind of new energy technology is implemented on campus at individual schools, with professional development opportunities for teachers associated with all offerings.

Solar and Energy Efficiency Kits
Through hands-on experiments, students are immersed in the science behind solar energy and energy efficiency, while honing problem-solving skills that can be used across multiple subjects.

Living Laboratories
Leading-edge renewable energy and resource conservation technologies are installed on campus to generate energy savings. Corresponding curriculum materials and online dashboards make real-time data analysis and effective technology integration possible.

STEM Career Exposure
Career-oriented lesson plans help teachers show students how STEM subjects apply to jobs in the real world.

Professional Development
Teachers will have access to a suite of resources designed to support grade and content-specific standards – with specific activities that will enhance curriculum to prepare students for college and careers. Educational activities will be aligned to complement the modernized energy technology that will be implemented on campuses as part of Ka Hei, offering opportunities to enhance learning through professional development that will include the following:

• Sessions designed to enhance teachers’ familiarity and comfort with energy concepts and model best practices for inquiry-based education.

• Island-focused energy curricula aligned with Common Core State Standards, Next Generation Science Standards, and Hawaii Content and Performance Standards III (science), as well as Career and Technical Education standards within the Industrial and Engineering Technologies and Natural Resources pathways.

For more information on the Ka Hei Program, please email kahel@opterraenergy.com.