



Press Release

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Hawaii Natural Energy Institute to Conduct Energy Research at Ilima Intermediate School Utilizing New Project Frog Classroom

Honolulu, HI – Students at Ilima Intermediate School in Ewa Beach, Oahu will have the unique opportunity to learn in a classroom that is itself a learning platform. A 1,200-square-foot, state-of-the-art structure has been installed at the school, the first of three sites selected for energy research that will test the effectiveness of innovative energy efficient buildings powered by renewable energy.

“We’re delighted to participate in and be the beneficiary of this innovative project,” said Assistant Superintendent Randy Moore of the State of Hawaii Department of Education. “It will excite our students and staff on the campus to know they are a part of leading edge research and development work into creating environments that support student learning and are friendly to the planet.”

The pre-engineered test platform, created by California-based Project Frog, Inc., incorporates passive design elements to decrease energy demand, thus increasing the effectiveness of its photovoltaic systems. The structure will be outfitted with high-tech energy monitoring instruments providing valuable research data on the performance of design and material components.

Project Frog’s design provides air quality management and thermal comfort through the use of natural convection and air displacement to reduce the requirements for mechanized systems. Optimized daylighting and glare reduction provides high quality illumination for over 95 percent of daylight hours, keeping the electrical lights off during most of the school year. The design reduces energy consumption, construction waste and operating expense, while providing spaces that are adaptable for a variety of uses.



The front (top) and side (bottom) of the state-of-the-art structure which was created by Project Frog Inc. for Ilima Intermediate School. Image courtesy Priscilla Thompson (HNEI; top) and Hawaii State Department of Education (bottom).

The Hawaii Natural Energy Institute of the University of Hawaii (HNEI) is leading the research study which will analyze the performance of these energy systems for potential future Navy applications in the Pacific region.

"We are excited to play such an integral role in HNEI's research and together advance the science and technology behind all new construction throughout the Islands," said Nikki Tankursley, director of marketing for Project Frog.

"Frog buildings are very responsive to the Hawaiian climate," according to Tankursley. "With a small rooftop photovoltaic array, the classroom at Ilima Intermediate School produces more energy than it consumes."

At Ilima Intermediate School, HNEI will also compare the performance of two different photovoltaic systems, one using a high efficiency crystalline technology, and the other using a newer thin film technology.

"This important assignment is part of a larger research program to evaluate energy technologies for the Office of Naval Research that includes a range of efficiency, storage, and renewable generation systems," said Dr. Richard Rocheleau, HNEI Director.

The Office of Naval Research is providing funding for the project through a grant to the University of Hawai'i. Projects that support the Department of Navy's energy programs to demonstrate technologies that enable increased implementation of alternative energy sources and promote energy security are made possible by the efforts of U.S. Senator Inouye, Senate Appropriations chairman, to ensure that the Department of Defense has adequate resources to make these critical, cutting-edge investments in energy technology.

Project partners include State of Hawaii Department of Education, University of Hawaii – Hawaii Natural Energy Institute, Project Frog, Inc.

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About Hawaii Natural Energy Institute

An independent research branch of the University of Hawaii School of Ocean Earth Science and Technology (SOEST), HNEI is a nationally acknowledged leader in research activities in areas such as hydrogen, fuel cells, biofuels and ocean resources. More recently HNEI has undertaken a pivotal role within the State, consistent with its mandate from the legislature to reduce dependence on fossil fuels while contributing to the development of advanced energy technologies and systems aimed at finding solutions to energy shortage problems. HNEI has also implemented several major public/private partnerships to deploy and demonstrate renewable energy systems to meet Hawai'i's energy needs. HNEI has also initiated two major efforts directed toward solving the technical issues associated with very high penetration of renewable energy technologies onto the grid.

About Project Frog

Better, Greener, Faster. Smart. Project Frog is on a mission to revolutionize the way buildings are created by applying technology to overcome the inefficiencies of traditional construction. The result is a structure that is measurably greener and significantly smarter; brighter, healthier spaces that inspire better performance from the people who occupy them. We offer a versatile ecosystem of products that adapt to all kinds of uses including: healthcare, education and retail. Project Frog's innovative systems are frequent recipients of industry awards for their design and performance. For more information, visit www.projectfrog.com.

About State Department of Education

Ilima Intermediate School

The State of Hawaii Department of Education (DOE) would like to thank The Office of Naval Research, HNEI and Project Frog in realizing this project at one of our schools. DOE Facilities Development Branch Administrator Duane Kashiwai said "we embrace the concepts of both sustainability and healthy learning environments – which are embodied in the Project Frog Portable Classroom. We look forward to the structure being utilized for administrative meetings, classroom instruction and testing at the Ilima Campus. These different activities will allow us to assess user perception and value associated with natural daylighting and passive cooling strategies. The opportunity to utilize the PV technology and energy monitoring equipment as curriculum tools is an exciting opportunity as well."

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The School of Ocean and Earth Science and Technology at the University of Hawaii at Manoa was established by the Board of Regents of the University of Hawai'i in 1988 in recognition of the need to realign and further strengthen the excellent education and research resources available within the University. SOEST brings together four academic departments, three research institutes, several federal cooperative programs, and support facilities of the highest quality in the nation to meet challenges in the ocean, earth and planetary sciences and technologies.

www.soest.hawaii.edu