



DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT AND TOURISM

NATURAL ENERGY LABORATORY OF HAWAI'I AUTHORITY

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NEW SOLAR-POWERED FACTORY FOR LOW-COST WATER TANKS AND OTHER MOLDED PRODUCTS ARRIVES ON HAWAII ISLAND

KAILUA-KONA, HAWAII – The Natural Energy Laboratory of Hawai'i Authority's (NELHA) Hawai'i Ocean Science and Technology (HOST) park is home to the island's newest manufacturing facility – an outdoor factory that molds large plastic products using 100% solar energy. Built and operated by LightManufacturing, Inc. (LMI), the factory uses patented technology to mold high-capacity water tanks using pollution-free solar thermal energy. The company reports the system can also mold aquaculture tanks, road barriers, kayaks and other products which are typically imported into Hawai'i.

LMI deployed its equipment in mid-October to a one-acre site at the HOST Park and had the solar-powered factory up and running by December, when the firm molded its first 290-gallon water tank using the power of the sun and without burning any fossil fuels. The company's Solar Rotational Molding system uses an array of silent, sun-tracking mirrors called 'heliostats' to reflect more than 100,000 watts of free solar heat directly into the molding chambers. A national leader in solar power, Hawai'i derives nearly 16 percent of its power from the sun, according to the [Solar Energy Industries Association](#), and is a perfect environment for this breakthrough use of 'raw' solar energy for industry.

Gov. David Ige said, "Manufacturing is critical to diversifying our economy away from its dependence on tourism and enhancing the resiliency of our islands. NELHA shows that government can create the conditions for innovative businesses to work with Hawai'i's natural resources in a way that makes Hawai'i better. LightManufacturing's innovation with solar energy to manufacture needed goods without having to ship them here and ultimately reduce waste is an important step along this transition."

LightManufacturing, Inc. CEO Karl von Kries added that "large capacity, commercial-grade water storage and septic tanks in Hawai'i are expensive for two reasons: the cost of expensive imported fossil fuels for traditional on-island molding, or the well-known costs to import bulky products from the mainland. By eliminating fossil fuels, we can reduce costs, massively improve sustainability, and improve access for customers to critical products like water tanks".

He added that one of LMI's long-term goals is to use plastic, such as what washes up on Hawai'i beaches that community groups clean up regularly, that would otherwise find its way into landfills and mold it into useful products, thereby addressing another one of Hawai'i island's challenges with waste. "We have some prototype solar-powered plastic recycling systems which show good promise," says von Kries. With no fossil fuels required for power, the Solar Rotational Molding system is designed to make sustainable manufacturing a practical reality, especially once plastic can be sourced from a renewable resource.

"We are excited to host this new containerized technology project which is easily deployable on a small footprint. This will be LMI's first facility based on the successful demonstration site in California. Its innovative use of solar heat through sunshine to manufacture important items locally addresses several ongoing Hawai'i Island waste and cost challenges." said Gregory Barbour, Natural Energy Laboratory of Hawai'i Authority executive director.

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About Natural Energy Laboratory of Hawai'i Authority (NELHA)

NELHA administers the world's premier energy and ocean technology park. This unique master-permitted park is located on 870 acres of prime coastal property in Kailua-Kona, Hawai'i and offers research support facilities for the development of renewable energy and other demonstration projects that utilize the unique resources found at the park. It is the world's largest facility that continually brings ashore high quality, pristine supplies of both warm surface and cold deep seawater 24 hours a day with views to reap economic potentials from the dual temperature seawater delivery

system and high solar insolation. Tenants located in HOST Park work at the pre-commercial, commercial, research and educational levels. It is the largest diversified economic development project in the State and is solely focused on developing green economic projects. More information on NELHA can be found at nelha.hawaii.gov.

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