



Background:

Aloha Tower Marketplace is located on the downtown Honolulu waterfront, Piers 8 and 9, and borders the iconic Aloha Tower that was built in 1926 to welcome passenger ship arrivals. Aloha Tower Marketplace is operated by Hawai'i Pacific University (HPU) under a lease with the State of Hawai'i Aloha Tower Development Corporation (ATDC), and it is an anchor for HPU in the downtown area. Aloha Tower Marketplace is vibrant, mixed-use space, featuring student residences, community spaces, restaurants, and shops designed to serve HPU students, Hawai'i residents, and visitors from around the world.

Sustainability Mission:

Through sustainable development practices, HPU is committed to making positive contributions to the environmental, social, and economic well-being of the State of Hawai'i and the planet. Implementing sustainability into the culture of the University encourages the inclusion of sustainability concepts, principles, and practices in the curriculum; improves upon human and environmental health; enhances social justice in the HPU community; and ultimately contributes to the long-term success of HPU.

Energy Efficiency:

- ✚ **First Phase:** Installed a 310 kW solar photovoltaic system (PV) via a 20 year Power Purchase Agreement (PPA) with Holu Energy LLC, the Hawai'i subsidiary of EnSync Energy Inc. **Second phase** will include an additional 350 kW in solar capacity to the system. The PPA will provide HPU's Aloha Tower Marketplace with a total PV system capacity of 660 kW.
- ✚ Improved lighting efficiencies in exterior and interior spaces by installing LED lighting fixtures on the 1st and 2nd floors of Aloha Tower Marketplace (ATM). *Estimated Annual Savings = 215,885 kWh; Average Energy Savings Per Year = \$49,654*
- ✚ Embarked on a de-lamping, daylighting and extensive use of solar tubes to further reduce lighting energy use on the 2nd floor of student residences at the ATM Waterfront Lofts.
- ✚ Installed occupancy sensors in HPU offices, meeting spaces, and multi-purpose rooms.
- ✚ Replaced 11, 175w Metal Halide Lamps in the ATM Piers 5 & 6 Parking Lot with 52w RAB LED Fixtures. *Estimated Annual Savings = 16,644 kWh; Average Energy Savings Per Year = \$3,995*
- ✚ Replaced 10, 250w and (32) 400w Metal Halide Fixtures on ATM, Piers 8 & 9, with 45w LED HID Retrofit Lamps. *Estimated Annual Savings = 68,836 kWh; Average Energy Savings Per Year= \$15,835*
- ✚ Replaced 30, 70w Metal Halide Lamps in the Irwin Park Parking Lot with 24w LED HID Lamps. *Estimated Annual Savings = 9,329 kWh; Average Energy Savings Per Year = \$2,146*
- ✚ Replaced 9, 180w Sodium Lamps with 24w LED HID Lamps. *Estimated Annual Savings = 6,465k kWh; Average Energy Savings Per Year= \$1,487*
- ✚ Switched to thin client Samsung monitors, which operate on a virtual cloud instead of a PC. They use about 10-15% of the energy used by a single PC.

- ✦ Installed ENERGY STAR® certified Toshiba printers for offices spaces and the student Learning Commons. The printers go into a low-power mode and an off mode after 30-90 minutes of inactivity.
- ✦ Installed ENERGY STAR certified refrigerators in the 2nd floor student residences at ATM.
- ✦ Installed Low E window film technology that will block solar heat gain into the interior spaces. This will greatly reduce the air conditioning load, while at the same time let in a good amount of sunlight to naturally light the spaces.
- ✦ Specified an R-30 ceiling insulation system for air conditioned areas, much of which is under overhangs to help ensure that electrical energy is not wasted.
- ✦ Increased the roof insulation with additional layers of DensDeck® insulation for the Aloha Tower Marketplace Project. Replaced the entire tiled roof with Sika Sarnafil cool roof.
- ✦ Installed a highly efficient central plant automation system with Direct Digital Control, which is necessary to convert the existing constant flow condenser water system into a variable flow condenser water system. This helps to minimize utilities costs.
- ✦ Replaced the central plant old low efficiency pumps with premium efficiency pumps.
- ✦ Installed premium efficiency motors for all the central plant cooling towers.
- ✦ Installed Variable Frequency Drives (VFDs) for all the central plant cooling tower fans and condenser water pumps to allow equipment to run more efficiently. *Estimated Annual Savings = 194,193 kWh; Average Energy Savings Per Year = \$44,665*

Water Conservation:

- ✦ Embraced the “EPA WaterSense Program.” Virtually all water consuming fixtures are designated as WaterSense compliant. This includes shower heads, toilets, and urinals.
- ✦ Set Landscape Irrigation System timers for early morning watering.
- ✦ Use native and drought-tolerant plants for landscaping.

Recycling & Waste Reduction:

- ✦ Implemented a single-stream recycling program which includes office paper, newspapers, cardboard, HI-5 bottles, aluminum cans and glass bottles/jars.
- ✦ E-waste Recycling Drive is offered twice per year at our Earth Week event in April and Sustainability Week event in October.
- ✦ All unwanted furniture and office equipment is donated to community organizations.
- ✦ Double-sided printing is defaulted as part of the campus sustainability initiative.
- ✦ PaperCut, the University’s print management service was launched in 2017. Students can print directly from VDIs, via Web Print, or via Email-to-Print. This has helped monitor, track, and reduce unnecessary printing by students.
- ✦ Reuse previously used paper for note paper.
- ✦ Used adaptive re-use techniques for the existing ATM structures, including reusing almost the entire second floor as new student residences. As a result, HPU has significantly extended the useful life of the structures and reduced demolition debris going to the landfill.

Transportation:

- ✚ Offers a shuttle service between its two major campuses, Downtown and Hawaii Loa Campus.
- ✚ Offers subsidized bus passes for students.
- ✚ Hosts an online ride-sharing program called “HPU Green Ride.” It is dedicated to supporting and encouraging our students, faculty and staff to carpool.
- ✚ Enrolled in the Enterprise CarShare Program.
- ✚ Bikeshare Hawaii Biki Station located at Aloha Tower Marketplace.

Pollution Prevention:

- ✚ Used low VOC paints and interior materials to provide a healthier indoor environment.
- ✚ Monitor carbon dioxide levels in high occupancy areas with wall mounted environment CO2 sensors. This is to ensure that the required amount of outside air is supplied to these spaces to maintain acceptable indoor air quality for the occupants.
- ✚ Specified use of refrigerants that have zero Ozone Depletion Potential (ODP) in all of our new air conditioning equipment.
- ✚ Installed CRI Green Label Plus Certified Interface carpet tiles. The Interface carpet tiles and adhesives have a very low emission of VOCs to help improve indoor air quality.
- ✚ Encourage HPU students, faculty and staff to use alternative modes of transportation, such as biking, walking, carpooling and taking the bus.

Staff Involvement:

- ✚ Mālama HPU Fort Street Beautification Project. Mālama HPU is co-organized by the Office of University Relations and Office of Human Resources. In the Spring of 2017, members of the HPU community painted trash cans and water fountains along Fort Street. In the fall of 2017, the Mālama HPU team cleaned and helped to restore the Fort Street Padrao Monument and surrounding mosaic.
- ✚ Provide opportunities for students, faculty and staff to learn about our environmental practices through HPU Sustainability Facebook page and Pipeline announcements.
- ✚ Invite staff to help plan and participate in HPU’s Sustainability Week and Earth Week events.

Community Service:

Hawai’i Spotlight Program: Students have the opportunity to explore different parts of the island and learn about the Hawaiian culture and the community we live in. It focuses on the core values HPU embraces — aloha, pono, and kuleana — encouraging students to identify ways to exemplify the values in their daily lives.

Community service events for Fall 2017/Spring 2018 included:

Ho’okua’aina at Kapalai Farms: Volunteers had the opportunity to learn firsthand how Native Hawaiians cultivated kalo in the Ahupua’a of Ko’olaupoko. They helped with restoration efforts.

Hawai'i Nature Center: Volunteers helped remove invasive species that threaten the indigenous plants and watershed. Students had the opportunity to learn about the diverse ecosystems on O'ahu.

Loko Ea Fishpond: Volunteers had the opportunity to learn about the history of Waialua and the Loko Ea Fishpond and participated in helping to restore the 400 year old loko i'a.

Papahana Kuaola: Volunteers helped Papahana Kuaola restore the Ha'iku stream and learn about the different native species that once thrived in this area versus the introduced species that repopulated Ha'iku stream.

Pali LookOut: Volunteers helped the Ko'olau Mountains Watershed Partnership (KMWP) to restore the space and learned more about what the surrounding area looked like in old Hawai'i.