



Case Study

Customer
A Hawaiian Resort

Location
Hawaii

Industry
Lodging

Product
Innovation



Hawaii Resort Saves Energy with Hybrid DHW System

What the Customer Needed

As propane costs continued to rise in Hawaii, a beachfront resort sought a more cost-effective and sustainable approach to domestic water heating. The property, which includes 350 guest rooms, commercial laundry facilities, and a high-demand kitchen operation, required a solution capable of supporting substantial hot water demands while reducing fuel consumption and avoiding costly electrical infrastructure upgrades.

Working through an Energy Savings Performance Contract (ESPC), the resort partnered with an energy services provider to modernize its domestic hot water system. The new solution needed to integrate with existing infrastructure, serve two buildings from a common plant, utilize existing storage assets where possible, and provide the reliability expected from a hospitality facility where uninterrupted hot water service is essential.

The Solution

To meet the performance and reliability requirements of the Hawaiian resort, the project team implemented a hybrid domestic hot water system combining a Lync Aegis® water-source heat pump water heater with three AERCO Innovation® condensing water heaters.

At the heart of the redundancy strategy are the three Innovation water heaters, which provide backup capacity and ensure continuous hot water availability under all operating conditions. Utilizing the existing propane infrastructure at the resort, the Innovation water heater units deliver rapid response to peak demand events while maintaining precise outlet water temperature control. Their fully modulating condensing design allows the system to match varying load requirements efficiently while minimizing fuel consumption. The compact footprint also simplified installation within the existing mechanical room.

The Aegis heat pump water heater serves as the primary heat source during normal operation, recovering heat from the property's 50-55°F chiller water loop. This approach enables the resort to produce domestic hot water while simultaneously extracting heat from the cooling system, creating operational synergies that improve overall facility efficiency.



The hybrid plant combines the efficiency of heat pump water heating with the reliability and fast response of AERCO Innovation water heaters, ensuring guests have uninterrupted access to hot water at all times.

The hybrid system also incorporates a new 300-gallon storage tank alongside an existing storage vessel and two dedicated recirculation loops operating at 120°F and 140°F to serve different hot water requirements throughout the property. Together, the components create a flexible domestic hot water plant capable of supporting guest rooms, commercial laundry operations, and food service facilities while maintaining consistent hot water delivery.

Results

The upgraded domestic hot water system has successfully reduced the resort's dependence on propane while providing the reliability required for continuous hotel operations. Since startup, the Aegis heat pump has handled the majority of day-to-day water heating needs, with the AERCO Innovation water heaters providing seamless backup capacity and additional output during peak demand periods.

By integrating AERCO Innovation water heaters as full-capacity backup, the resort gained a resilient domestic hot water system capable of meeting peak demand while reducing overall propane consumption.

The hybrid design gives the resort the best of both technologies: the high operating efficiency of heat pump water heating combined with the proven reliability and responsiveness of AERCO's Innovation water heaters. If maintenance is required on the heat pump system, the water heaters automatically assume the full domestic hot water load, ensuring uninterrupted service to guests and staff.

In addition to lowering operating costs, the system contributes to overall building efficiency by removing heat from the condenser water loop, providing a beneficial cooling effect for the facility. The result is a resilient, energy-efficient domestic hot water plant that delivers long-term value, reduced fuel consumption, and dependable performance for one of Hawaii's premier beachfront destinations.

