Wailea Inn Hybrid Solar System

Introduction

In February 2019, SunDrum Solar commissioned a 40-collector hybrid solar PV-T system at Wailea Inn on the island of Maui, HI. This system now serves as the main source of heat for their DHW and their pool, and is configured such that space heating and A/C can be added easily in the future. The warm, sunny climate in the town of Kihei enables this system to run at excellent COP's year round, and to provide a substantial portion of their heating load directly from the sun. The next-generation HarvestHP™ system installed at the inn combines the efficient hybrid solar collectors developed and patented by SunDrum® Solar with the thermal efficiency of water-to-water heat pump technology to produce a supreme solar energy system. When the sun is shining, the system is in "Active Mode" capturing thermal and electrical energy from the sun like any traditional photovoltaic and flat plate solar thermal system. When the sun's direct rays are weak or not available, "Harvest Mode" uses the thermal collectors to absorb heat energy from the environment and utilizes the heat pump to boost the temperature of the fluid. This makes the system capable of delivering solar energy on-demand 24 hours a day, eliminating the criticism of solar being an intermittent energy technology.

Collectors

Mechanical Room

System Information

Location:	Maui, HI, USA
Application:	DHW, Pool, Space Heating, AC
Rated Power Output:	56kW, (26kWt, 30kWe)
Yearly Energy Output:	56,470kWht
Yearly CO2 Reduction:	70,000lbs
Solar Collectors:	40 SDM100-300, 650Wt
System Format:	Indirect Closed Loop
Storage Capacity:	240gal
Backup Heating:	Electric

Pool

Contact Information

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