



SHOWCASE PROJECT: GRANLIBAKKEN CONFERENCE CENTER & RESORT: ENERGY EFFICIENCY UPGRADES

SOLUTION OVERVIEW

The Granlibakken Conference Center & Resort is located less than one mile from beautiful Lake Tahoe in the heart of the majestic Sierra Nevada Mountains. The site is located on 74 wooded acres and is comprised of a conference center, restaurant, lodging units, swimming pool, tennis courts, spa, and outdoor patios and pavilion. The project, which focused on energy efficiency improvements to the conference center and restaurant, was financed by mPOWER Placer through the Placer County Property Assessed Clean Energy (PACE) Program.

The first Granlibakken structure was built in the 1940's. Additional buildings were added over the years and the conference center was built in the 1980's. Due to their energy conservation awareness and commitment to environmental sustainability, the owners had hopes of installing energy efficient retrofits for several of their antiquated systems. However, without a starting point and with the high cost of investment grade energy audits, they were reluctant to move forward with a comprehensive retrofit plan.

After hearing about the PACE program, the conference center owners invited mPOWER staff to present the program details and discuss how Granlibakken could benefit from mPOWER financing. Upon learning about the program and its benefits the owners were eager to move forward with their own improvements and also to be able to provide a model for energy and water conservation measures for like properties, not only in the Tahoe area, but nationwide.

With the help of Sierra Business Council, a regional non-profit, the mPower program, and the property owner, a path forward was developed. In an effort to mitigate up-front out-of-pocket expenses and administrative burdens for property owners, Placer County solicited a request for qualifications (RFQ) from energy service companies and qualified contractors in order to develop a list of pre-qualified firms to submit bids for the installation of energy conservation measures for the Granlibakken and similar properties. The RFQ asked firms to describe their capabilities to identify, design, install, maintain, and monitor comprehensive energy conservation projects at large commercial facilities within the Lake Tahoe region.

From the list of qualified firms that completed the RFQ, Placer County invited three firms to attend a project site visit. Each firm subsequently conducted a free preliminary audit of the facility to identify possible energy conservation measures and to determine an estimated amount of energy savings. Each firm presented their findings along with the cost of conducting an investment grade audit to the Granlibakken team. One firm was selected by Granlibakken to conduct the audit and summarize its

findings in a technical audit report.

SECTOR TYPE

Local Government

LOCATION

Tahoe City, California

PROJECT SIZE

15,000 Square Feet

FINANCIAL OVERVIEW

Project Cost: \$676,000

SOLUTIONS

The convention center received heating upgrades that include the replacement of two obsolete boilers with two high efficiency natural gas boilers and pump motors with variable frequency drives, DHW storage tank and heat exchanger. Air conditioning upgrades were performed through the installation of eleven new hydronic coil units, twelve new condensing units and duct sealing. A building automation system replaced the outdated system.

Kitchen upgrades include the replacement of four obsolete refrigeration systems with energy efficient systems that include scroll remote condensing units with roof-top remote condensers and evaporator coils with electronic commutator motors. The obsolete dishwasher was replaced with an ENERGY STAR® unit. An Intelli-Hood system was installed to interface with the existing kitchen exhaust hood system.

Granlibakken Conference Center Project Details

Energy Conservation Measures	Electric Reduction	NG Reduction	Cost Savings	Payback
	[kWh/yr]	[Therms/yr]	[\$/yr]	[yr]
Heating	18,753	15,000	\$15,188.00	15.5
Cooling	69,282	-	\$9,006.00	17.3
Building Automation	29,747	-	\$3,762.00	9.3
New Refrigeration Compressors & Ecm Evap	16,104	-	\$2,093.00	21.5
New Dishwasher	73,173	-	\$9,512.00	4.4
Melink Intelli-Hood	10,200	1,983	\$3,328.00	6.6
Lighting	2,745	-	\$330.00	11.8
Windows	2,500	318	\$593.00	25.5
Totals	222,504	17,301	\$43,812.00	14.0

OTHER BENEFITS

In keeping true to Granlibakken’s goal of preserving our natural environment, it was only fitting this retrofit served as mPOWER Placer’s initial project. The mPOWER program provides the following benefits for participants:

- An audit process that helps identify potential improvements ranging from EE upgrades to renewables and a financial analysis to help prioritize project opportunities
- Property owners and lenders enjoy increased cash flow and improved property values
- Placer County furthers its energy efficiency performance improvement goals

Annual Energy Use

Baseline(2010)
658 kBtu/sq. ft.

Expected(2016)
372 kBtu/sq. ft.

Actual()
Coming Soon

Energy Savings

43%

Annual Energy Cost

Baseline(2010)
\$105,000

Expected(2016)
\$61,000

Actual()
Coming Soon

Cost Savings

\$44,000





