

# CASE STUDY:

## HOTEL SARANAC RESTORATION & CLEAN ENERGY UPGRADES

The Hotel Saranac was built in 1927 in the center of downtown Saranac Lake. The eight-story building with its iconic illuminated *Hotel Saranac* sign has watched over the village for decades. While the hotel had experienced both improvements and degradation over the years, by 2012, the structure was vacant and in great disrepair. The loss of commercial space for businesses, loss of jobs in the hotel restaurant, gift shop and the hotel itself, and a decrease in the stream of tourists frequenting Saranac Lake caused additional hardship for an already struggling rural village. The once treasured gathering place was now a blight and source of distress.

In 2013, hotelier Fred Roedel purchased the property with the intent of restoring the building to its original grandeur. With deep generational ties to the Saranac Lake region, Roedel considered the renovation an investment in the community. He believed that restoring the Hotel would play a significant role in the revitalization of Saranac Lake's downtown.

In order to make the \$35M project viable, Roedel sought as much support as possible. This included a \$5M Empire State Development (ESD) grant and support for energy saving measures to keep operating costs low and the building optimized for the comfort of employees and guests. Roedel also opted to install an electric vehicle (EV) charging station to provide alternative fuel options for guests and residents. The hotel reopened in 2018 and played a big role in the revitalization of Saranac Lake, including its designation as a \$10M Downtown Revitalization Initiative (DRI) Community.

### Goals:

Roedel set out to restore Hotel Saranac in order to:

- Rejuvenate downtown Saranac Lake
- Attract customers who value green hotel practices
- Reduce operational costs and greenhouse gas (ghg) emissions
- Increase comfort and safety of building operations



*Photo courtesy of Hotel Saranac: The hotel, located in downtown Saranac Lake, adopted a number of energy efficiency and clean energy measures during its restoration process.*

### First Steps:

The Adirondack North Country Association (ANCA) invited Roedel to include his project in an aggregation of clean energy projects to be funded through NYSERDA's Cleaner Greener Communities (CGC) grant program. Working in consultation with ANCA's energy program, Roedel, who cites that utilities are the second largest item in his operating budget, identified the following measures to support their project goals:

- One dual port EV charging station
- Low-flow faucets for 76 guest rooms
- Building envelope improvements including air sealing around the foundations, slabs, entryways; pointing and cleaning, openings and infill; improved sealing on roofing, flashings and other waterproofing and management as needed; and improved caulking around openings throughout the structure
- Installation of high-efficiency windows

Roedel was able to utilize funds from NYSERDA's New Construction program to offset energy saving measures not covered by the CGC or other grants.

## Design and Implementation:

*EV charging station:* The hotel was initially interested in a Tesla wall mount charger to attract higher income bracket Tesla clientele. Upon consultation with nationally recognized EV charging station provider Chargepoint, the Hotel opted to install a system that would accommodate all EV drivers. Working closely with Chargepoint, Hotel staff identified a site in their above ground parking lot that would be free to the public as well as guests. They selected the CT4000, dual port, level 2 model — the first Energy Star certified EV charger. Plugshare performed the installation with a two-person crew who was able to prepare the electrical components and install the unit in half a day. The station is networked to the Chargepoint site to track a variety of metrics, but charging is free. The Hotel opted for a four-year warranty package in case of any malfunctions.

*Low-flow faucets for 76 guest rooms:* The original grant proposal included measures to install low-flow shower heads and sink faucets and dual flush toilets. However, Roedel's parent company, Hilton, declined to install the showerheads and toilets due to a history of guest complaints about low water pressure and poor performance. Each of the guest rooms were fitted with the American Standard Berwick Single Control Vessel faucet with a grid drain which met EPA Watersense criteria, limiting water flow to 1.5 gallons per minute, without compromising performance. This results in a 30% savings on traditional faucets which can consume up to 2.2 gallons per minute. Additionally, the faucet controls the amount of hot water mixing with cold water, saving on electricity to treat waste water and fuel to heat hot water.

*Hotel Saranac owner Fred Roedel stands in front of one of the high-efficiency windows that were installed throughout the historic building.*



## ENVIRONMENTAL & COMMUNITY BENEFITS

**31** Drivers using EV charging station\*

**90** Charging sessions at two charging stations\*

**401 kG** GHG emissions avoided by offsetting fossil fuel miles\*

**24,000** Overnight hotel guests (in 2019)

\* During first 4.5 months in operation

*Building facade design and restoration:* Significant facade work was required to update the building's exterior in keeping with historic registry requirements. A portion of the CGC funds were used to offset these measures which decreased airflow through masonry work and infill.

*Building envelope improvements:* Roedel used funds from the CGC grant to include additional measures that would reduce air infiltration. This included caulking around windows and egresses, increased flashing for the roof, caulking and sealing around basements and other seams. The Hotel also replaced all existing single pane windows with high-efficiency custom made units with careful attention to air sealing around the casings.

## Early Results:

*Free charging for EV drivers:* The EV charging station is free to the public and has hosted over 30 drivers for over 90 charging sessions in its first 4.5 months of operation.

*Wastewater reduction:* The low-flow faucets are rated to reduce waste water by 30%, which will reduce the roughly 3.5 million gallons of wastewater that the Hotel is estimated to generate without water conservation measures (Based upon an average of 100 gallons of wastewater generated per occupancy day and an average of 38 occupancy days/year).

With an average of 1,200 kWh of electricity required to treat one million gallons of wastewater, this will result in water bill savings for the Hotel as well as greenhouse gas emission reductions with fewer gallons of water being treated in the local wastewater treatment facility.

*Energy savings:* According to the EPA, hotel and motel energy performance can vary widely depending upon location, occupancy and design. As this was a gut rehab in a previously vacant building, it is impossible to demonstrate energy savings in whole dollar amounts. However, employees and guests alike concur that the building is extremely comfortable with no known drafty locations as a result of the careful attention to comprehensive air sealing. Building designers opted to include additional energy saving measures such as heat exchangers and insulation of all ductwork.

*Walkable downtown:* The Hotel, restaurant, spa and gift shop have collectively created over 78 direct jobs and anecdotal evidence indicates the 24,000 guests visiting the Village in 2019 are having a significant impact on local business. Guests can peruse Village shops by foot given the Hotel's central location.



*Low-flow sink faucets were installed in 76 guest rooms, resulting in a 30% reduction in water consumption.*

## Next Steps:

Roedel considers the project to be largely complete, but he is always interested in options to reduce operating costs and improve the experience of his guests. He plans to install a Tesla charger in the near future and is exploring opportunities to participate in regional community solar projects. Hotel staff will also be monitoring usage of the EV station over the next four years.



*The EV charging station was installed by Plugshare, which is based in Albany, New York.*

**Challenge 1:** Large projects such as the Hotel Saranac Renovation often involve multiple funding sources. Aligning grant contracts with project scopes when using public funds can be challenging.

**Recommendations:** Hiring a project manager with grant management experience to oversee the entire project is critical to ensuring that all project components are in compliance.

**Challenge 2:** Balance between building performance, guest expectations and reducing operating costs can be difficult.

**Recommendations:** If profit is the sole business priority, or parent companies have final say in design, some energy saving measures might be omitted. The Hotel opted to exclude the low-flow toilet and showerhead options based upon negative feedback and experience. There are abundant resources available to provide guidance for hotels interested in “greening” their operations (see below). Many hotels pursue Leadership in Energy and Environment Design (LEED) certification; however, Roedel believed the program to be unrealistically prescriptive with requirements that don’t necessarily equate to tangible savings. This certification would have been even more burdensome in a rehab situation.

**Challenge 3:** When undertaking a massive gut rehab project, integrating a variety of independent contractors to achieve comprehensive energy savings can be challenging. Additionally, it is much more difficult to incorporate efficiency measures when renovating, especially a historically significant project.

**Recommendations:** Project developers are encouraged to consult with professional architects and engineers who specialize in historic renovations. Some state level historic grants include energy conservation in their required scope.



*Electric vehicles charge up at the Hotel Saranac’s outdoor parking lot. The two charging ports are free to the public.*

## Resources:

**EPA benchmarking tools:** track your building’s use and identify energy saving measures

**US Green Building Council:** (Leadership in Energy and Environmental Design)

**Chargepoint:** turnkey EV installations and networking

**Plugshare:** online resource to track EV station locations and usage

**Plugin Stations:** EV station installation and equipment

**National Grid incentives:** EV charging stations and electric and hybrid electric cars

**NYSERDA incentives:** EV charging stations and electric and hybrid electric cars

**EPA Green Hotels Program:** resources for hotels to reduce energy and implement other environmentally conscientious approaches

