



VERMONT SKI RESORT KEEPS WATER PARK RUNNING YEAR-ROUND WITH PROPANE.

Jay Peak's \$50 million in annual revenue is boosted by amenities including 10 restaurants, three hotels, and a massive water park that rely on cost-efficient propane.

BACKGROUND

Jay Peak Resort is one of the premier ski resorts in New England. Founded in 1957 in the Northeast Kingdom of Vermont, just two miles from the Canadian border, it has 350 skiable acres, nine ski lifts, an iconic 60-person aerial tram, and a reputation for lots of natural snowfall.

The resort has undertaken a significant improvement in base-area amenities in the past seven years. To add to the more than 250 condos and townhomes on the mountain, the resort built three hotels with more than 300 total rooms.

HEATED BY PROPANE BOILERS TO A COMFORTABLE 83 DEGREES, JAY PEAK'S PUMP HOUSE WATER PARK ATTRACTS

350,000

VISITS EACH YEAR

To make the resort more profitable year-round, Jay Peak also constructed an

NHL-sized ice arena, a golf course that hosts 12,000 rounds per year, and a year-round indoor water park with several large slides, a kids play area, and a stand-up flowrider. In total, the resort has an annual revenue of \$50 million, with 300,000 skier visits and 350,000 water park visits each year.

CHALLENGE

Northern Vermont's long winters and frigid temperatures are ideal for natural snowfall, but they also mean the resort requires reliable heating — and a lot of it. Natural gas is unavailable in the Northeast Kingdom, and heating such large facilities with electricity alone is both impractical and prohibited: New commercial buildings in Vermont are not allowed to use electric resistance heat.

SOLUTION

To meet the large heating demands for the hotels and water park, as well as to fuel a variety of other amenities throughout the resort, propane is an ideal choice. Delivered by a local propane retailer, it's versatile enough to work even in Jay Peak's remote, rural location. It's powerful enough to fuel the resort's sophisticated, high-efficiency boiler plant. And it has reliably kept the resort running and heated throughout even the coldest winter conditions.

COMPANY

Jay Peak Resort
Jay, Vermont

ANNUAL PERFORMANCE

Revenue: \$50 million
Skier visits: 300,000
Water park visits: 350,000

CHALLENGE AND SOLUTION

To keep its three hotels and popular water park cozy in the frigid winters of northern Vermont, Jay Peak Resort requires a high-performance heating system. Propane is versatile enough to work in the resort's remote, rural location and powerful enough to fuel the high-efficiency boiler plant.

RESULTS

- Propane boilers at the Hotel Jay and water park create cost savings of 14 percent, or more than \$100,000 annually, and reduce emissions by nearly 900 metric tons of CO₂ per year compared with heating oil.
- Restaurant kitchens, residences, and luxury outdoor amenities rely on versatile propane for applications like cooking, fireplaces and fire pits, clothes drying, and heat.
- Developments like the large hotels and water park that drive Jay Peak's \$50 million in annual revenue simply wouldn't be possible without propane.

“We made the decision to go with propane over heating oil for a number of reasons,” says Andy Stenger, Jay Peak’s director of facilities and development. “Cost was a driver, energy efficiency was a driver, emissions was a driver. When we added all those decision points up, propane was a clear winner.”

Many of the buildings throughout the resort are fueled by standalone tanks, and a larger propane storage system serves the flagship Hotel Jay and water park.

RESULTS

HIGH-EFFICIENCY PROPANE BOILER SYSTEM CREATES SAVINGS OF OVER \$100,000 ANNUALLY.

Maintaining a cozy 83-degree temperature in the water park throughout Vermont’s frigid winter requires a lot of heating power — and propane is up to the task. A central boiler room at the Hotel Jay and water park includes 12 AERCO Benchmark 3.0 propane boilers, each with three million British thermal units [Btu] of capacity. The boilers have a 15:1 turndown ratio, meaning that they can easily meet all part-load conditions.

Depending on return water temperatures and the load being served, the propane boilers will range from 87 to 98 percent efficiency. Oil boilers in this same input range average just 85 percent efficiency¹. Providing all of the snow melting, heating, and hot water with an oil boiler system would cost roughly 14 percent more every winter and have about 20 percent greater CO₂ emissions. By choosing a more efficient propane boiler system, the resort saves more than \$100,000 annually in the central boiler room alone and reduces the carbon footprint of the facility by nearly 900 metric tons of CO₂ per year².

PROPANE KEEPS THE KITCHENS RUNNING.

Jay Peak has 10 restaurants, ranging from small snack bars to fine-dining options, and each of them relies on propane equipment for



“PEOPLE ENJOY PROPANE FIREPLACES. THEY’RE EASY, THEY’RE CLEAN, THEY DON’T REQUIRE WOOD, AND IT’S A USER-FRIENDLY APPLICATION.”

ANDY STENGER
DIRECTOR OF FACILITIES
AND DEVELOPMENT, JAY PEAK

cooking. “The chefs that cook in these restaurants enjoy cooking with propane — they prefer it,” Stenger says.

RESIDENCES ARE COZY AND RUN EFFICIENTLY.

There’s nothing like curling up by the fire after a long day on the slopes, so propane fireplaces are included in nearly all of the condos and townhomes at Jay Peak, and in all hotel rooms in the Hotel Jay and Tram House Lodge. The resort began replacing wood fireplaces throughout the resort about 15 years ago.

Jay Peak worked with Vermont’s energy efficiency utility, Efficiency Vermont, to choose residential appliances and systems that were both efficient and reduced electrical consumption. As a result, most residences use propane boilers to provide baseboard heat and domestic hot water, as well as propane-fueled fireplaces, clothes dryers, and cooking equipment.

PROPANE FUELS LUXURY HOSPITALITY AMENITIES.

Each hotel at Jay Peak includes an outdoor propane fire pit, providing a comfy, campfire-like gathering place after skiing or on cool summer nights. Propane patio heaters extend the outdoor dining season at several of the resort’s restaurants, and outdoor propane barbecues at the base of the mountain create a party atmosphere in the late winter and spring. Perhaps most impressive is a propane-fueled hydronic snowmelt system that runs under the resort’s paver walkways. “It keeps the walking surface safe so there’s no slips and falls, and it also cuts down considerably on snow removal and labor,” Stenger says.

REMOTE DEVELOPMENT RELIES ON PROPANE.

Ultimately, developments like the large hotels and water park that drive Jay Peak’s \$50 million in annual revenue simply wouldn’t be possible without propane. The fuel provides a reliable heating source even for large businesses and developments in remote areas that lack natural gas infrastructure. And Stenger’s company is continuing to use propane at other developments across Vermont.

¹Average efficiency based on data from the Air-Conditioning, Heating, and Refrigeration Institute. www.ahrinet.org.

²Cost projections for heating oil based on U.S. Energy Information Administration data. www.eia.gov.

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ABOUT JAY PEAK AT
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FOR MORE INFORMATION

To learn more about propane-powered appliances and the Propane Education & Research Council, visit Propane.com.

THE PROPANE EDUCATION & RESEARCH COUNCIL was authorized by the U.S. Congress with the passage of Public Law 104-284, the Propane Education and Research Act (PERA), signed into law on October 11, 1996. The mission of the Propane Education & Research Council is to promote the safe, efficient use of odorized propane gas as a preferred energy source.

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