

Reducing its carbon footprint

It's been 10 years since Jiminy Peak revved up its wind turbine, and now the resort is 100 percent powered by renewable energy.

In 2007, when Jiminy Peak installed a \$4 million 1.5 MW wind turbine on the western flank of its mountain, many thought the 70-year-old resort was taking a huge financial risk.

But 10 years after the switch was thrown, Brian Fairbank, chairman of The Fairbank Group that runs the resort, looks back at a risk worth taking. The 253-foot high turbine paid for itself in seven years, and today, combined with a 12-acre 2.3 MW solar field and 75 kWh cogeneration unit at the slopeside, Country Inn at Jiminy Peak in Hancock, Massachusetts, can claim to be one of the few resorts in the U.S. powered 100 percent by renewable energy.

When asked whether a second turbine is planned, Fairbank said they already have all the electricity they need.

"We're now focusing on drastically reducing our carbon footprint and greenhouse gas emissions," he said. "Conservation is the most cost-effective form of energy-use reduction, cost control, and containment."

The installation of the turbine was met with great fanfare, music, flags, and speeches. Rotor bearings were replaced about 45 days into its service life, but since then, the turbine has run without major issues.

Today, the "Zephyr," as it's nicknamed, is the first megawatt-size turbine at a ski resort and remains



The Jiminy Peak wind turbine recently turned 10. It helped the resort become one of the few in the U.S. powered 100 percent by renewable energy. (Courtesy: jiminypeak.com)

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the largest. It has become a symbol of the resort, as much as the barn is to Steamboat Ski Area, or the snowfields are to Sugarloaf.

Zephyr is also a social media star, a veritable selfie magnet, with a strong online presence. Employees wear turbine pins and school groups visit to tour the site and view an educational documentary called “Forever Green.”

DEPENDABLE POWER PRODUCER

“It has been an exceptional, dependable power producer for us,” said Jiminy’s Jim Van Dyke, vice president of environmental sustainability, and a veteran 43-year employee. “The turbine handles 33 percent of our energy needs on an annual basis, up to 66 percent in the winter when the winds blow strongest.”

“As far as electricity is concerned, we’re already at 100 percent renewable power,” he said. “We’re good. Excess power not needed by the resort goes out on the national grid, for which the resort receives credit to use when the turbine is working at less than full capacity or when the resort’s need exceeds the turbine’s capacity.”

“Our focus now is upon reducing our carbon footprint,” Van Dyke said. “We’re still burning gasoline and diesel to run snowcats, still using propane to heat, and on busy weekends, 1,500 cars are in the parking lots, most with internal combustion engines.”

To that end, he points to a number of steps already underway to further reduce the resort’s impact on the planet. These improvements include:

- Installation of a 2.3-MW community solar project with Massachusetts-based project developer and owner Nexamp, Inc. The solar field, near the base of the mountain, significantly expands Jiminy Peak’s renewable energy commitment while extending the environmental and cost-saving benefits of solar energy to the community.
- Replaced the entire 450-gun snowmaking arsenal with energy-efficient Snowgun Technologies “Sledgehammer” snowguns. The new guns convert more water with less air and at warmer temperatures than traditional snowguns. This means the resort runs air compressors for fewer hours, consuming less electricity, while producing 100 percent more snow (assuming Mother Nature cooperates).
- Jiminy Peak has equipped two PistenBully groomers with digital mapping and GPS to tell drivers exactly how much snow is beneath their treads, blades, and rollers. The maps are based on aerial photography captured during summer, and are accurate to within two inches (5 cm).

“Rather than eyeball it, the SNOWSat technology allows us to more precisely gauge depth and place more

snow where the cover is thin, and less where the cover is already sufficient for skiing or riding. This means fewer passes by groomers,” Van Dyke said, noting that Jiminy Peak is one of only a few resorts in the U.S. using the new technology.

CAT’S MEOW

Speaking of groomers, Jiminy Peak is purchasing the new energy efficient Pisten Bully 600 E+ snowcat, one of three in use in the Northeast. Built by the German company Kassbohrer, Pisten Bully’s “Green Machine” 600E+ is the world’s first groomer with a diesel-electric drive. One of the most significant advancements in snow-grooming technology over the past two decades, the 600 E+ uses a diesel engine to drive two electric generators, which power electric motors that turn the tracks and the snow tiller.

It reduces the emission of nitrogen oxides and carbon dioxides by 20 percent, produces 99 percent fewer sooty particles, and registers a 20 percent fuel savings over its standard 600 model.

Other energy savings include:

- Installation of four EV charging stations, working with an Albany, New York, EV Drivers Club, with support from Tesla. Van Dyke said EV car owners, in addition to saving on fossil fuels, will be recharging with renewable electricity generated by both solar and wind.
- More than 230 slope-side lights have been replaced with lighter, brighter, more energy-efficient LED lighting covering 60 percent of the mountain. The difference has been likened to that between a manila envelope and a white envelope.
- By using propane for both hot water and electricity, the Country Inn’s 75 kWh cogeneration unit eliminated one propane burner. At the same time, 658 lights in the Country Inn were converted to LEDs to be more efficient.
- Excess heat from two snowmaking compressors is used to warm three Village Center buildings, a total of 34,000 square feet, thus reducing propane and electricity consumption.

“We’re getting down to the granular level, including waterless urinals in all base lodges. Each one saves 40,000 gallons per year,” Van Dyke said. “Conservation makes perfect business sense today, just as the turbine did 10 years ago. We save money, besides which, it’s the right thing to do.”

“Massachusetts’ beauty and health are an integral part of our business,” he said. “We live here so working to maintain it comes naturally.” ↵

Source: Jiminy Peak Resort
For more information, go to jiminypeak.com