

Grandfather Mountain Energy Plan

Since its creation in the 1950s, the park has educated the public on environmental conservation and responsible land stewardship. It was only natural for Grandfather Mountain to take the next step from land conservation to energy sustainability and conservation. However logical this next step may have been, Grandfather Mountain's staff lacked the expertise in this field to implement a company wide plan. Beginning in 2006, the management of Grandfather Mountain proposed the development of an energy efficiency program

Through a grant donated by Grandfather Mountain, students and staff from Appalachian State University were brought in to conduct an audit of the park's energy use and institute a plan for renewable and efficient energy usage. In August of 2007 the Energy Efficiency and Renewable Energy Plan for Grandfather Mountain was presented to the board of directors. The plan included efficiency upgrades for all of the park's buildings as well as proposals for on site sources of alternative energy. After reviewing the options the park's management began a rapid move to higher energy efficiency and energy production through alternative means.

Grandfather Mountain's Nature Museum is the largest building within the park and has the highest energy consumption. One initial change made to reduce energy usage includes replacing incandescent lighting with LED and compact fluorescent bulbs. This option not only reduces the amount of electricity used but also greatly reduces the unwanted heat given off by incandescent bulbs. Another sustainable alteration was made by installing destratifying fans on the 50 foot ceilings; warm air trapped high above visitors is circulated down to ground level reducing the energy used in heating. In addition, the restaurant within the Nature Museum now uses biodegradable eating utensils, plates and to-go containers to help eliminate landfill waste. Also, occupancy sensors and motion detectors have been installed to prevent lights from burning needlessly. Future plans for the Nature Museum include Solar Thermal Cells on the roof which will be used to produce hot water and to heat the air in cooler months.

Solar power is also being produced from Photo Voltaic Cells in an open field below the Nature Museum. This source of alternative energy, constructed by a local company, is currently producing 7 kilowatt/Hours of electricity but has been designed to expand to a 50 kW system. Grandfather Mountain managers plan to begin this expansion in 2009.

New projects currently under way include the construction of the new Visitors' Center near the Mile High Swinging Bridge and the Fudge Shop. The Visitors' Center will be constructed using efficient LEED standards and powered using alternative energy sources where available. In the Fudge Shop, fresh fudge will be made and visitors will be educated about energy and land conservation. The Fudge Shop will be built using LEED standards as well and will have renewable elements incorporated into the design. These elements include bamboo flooring and both Photo Voltaic and Solar Thermal Cells for producing heat and electricity to be used by the shop.

Being a nature park of roughly 4000 acres, the park's staff has a sizable distance to cover. Grandfather Mountain's fleet of vehicles includes three hybrid gasoline cars and three diesel buses which can be powered on bio-diesel in summer months. By joining the local bio-diesel cooperative or purchasing directly from a refinery in near by Lenoir, North Carolina, Grandfather Mountain is able to lower the exhaust emissions of its visitor's vehicles.

To protect land by limiting development is a powerful start for land conservation but it cannot be the final step. The actions of our neighbors, near and far, and ourselves reach across property and state boundaries. The management of Grandfather Mountain has recognized this and has made it our goal to enable Grandfather Mountain to become a model of stewardship and sustainability. Through educational programs, working examples and partnerships with regional businesses we plan to preserve the natural beauty of the region for generations to come.