SUGARLOAF COMMUNITY WINDFARM

Wind Power and Trail Hiking

Endless Energy Corporation

Hikers and wind farm developers share many concerns, most notably the preservation of our environment for the enjoyment of both current and future generations. As energy demand increases, there's a need to seek alternative and renewable sources of power that generate electricity in an environmentally responsible and sustainable manner.

Because it is clean and utilizes a free and an inexhaustible fuel, wind power is an attractive renewable option that provides efficient power with little impact on the environment. Since mountain ridgelines both provide steady winds and often include hiking trails, hikers and wind turbines are frequent companions.

A few years ago, the proposed Redington Mountain Wind Farm in the mountains of western Maine was denied permits primarily due to visual impact. Because the proposed site is located close to the Appalachian Trail, there were some vocal opponents from various trail affiliates. However, contrary to what these groups and others may say, wind turbines and hiking trails need not be mutually exclusive. The hiking community is generally supportive of wind farms like the one proposed on Redington Mountain. In fact, many have stated that proximity to the large wind turbines actually enhances their hiking experience by lending an extra point of interest along a trip.

http://maineoutdoorjournal.mainetoday.com/blogentry.html?id=7005

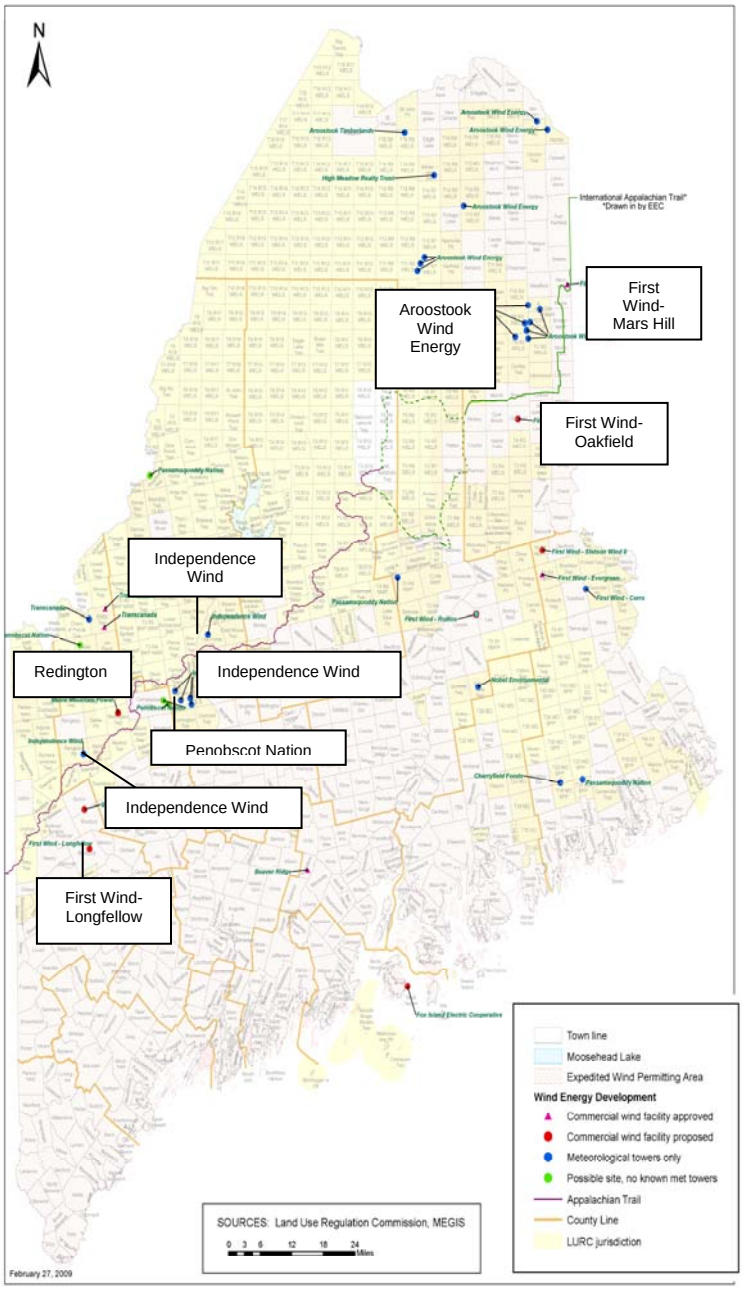

Figure 1: Wind Farms near the AT and IAT- *Adapted from LURC map*

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There are many potential wind farm sites close to the scenic trails of Maine (*see* ***Figure 1***). From this map, one can see seven planned or constructed wind power sites near the Appalachian Trail (AT) and three more near the International Appalachian Trail (IAT). This is no coincidence. The trails follow many of the highest ridges in the state, where wind resources also tend to be strongest. Wind resource can determine both the economic and environmental viability of a wind farm, because energy is proportional to the cube of the wind speed. A location with an optimal wind resource will produce more power out of fewer turbines. By choosing a windy spot, a wind farm developer will minimize the footprint of acreage cleared for construction while still getting a large power output. Hikers and wind farm developers both share an interest in tall ridge lines and a passionate commitment to the environment. With this in mind, it is no wonder that many proposed wind farm projects are close to the trail.

Though wind power has been resisted by some trail organizations, it is embraced by many of the individuals who enjoy hikes near and sometimes even through wind farms. For example, on the Pacific Crest Trail, the Sierra Club has an annual "Windmill-Wildflower" hike in California in which participants tour various wind farms. This has been so popular that it has continued annually for over two decades. Closer to home, one can read in the Maine AMC guide about a hike on Kibby Mountain, which now is the site of current wind farm construction. Also, the International Appalachian Trail—running from Mount Katahdin through New Brunswick, Quebec, Newfoundland and Labrador—goes directly through the Mars Hill Wind Farm (*see* ***Figure 2*** *below*). One can see that the IAT weaves between the turbines on the ridge.

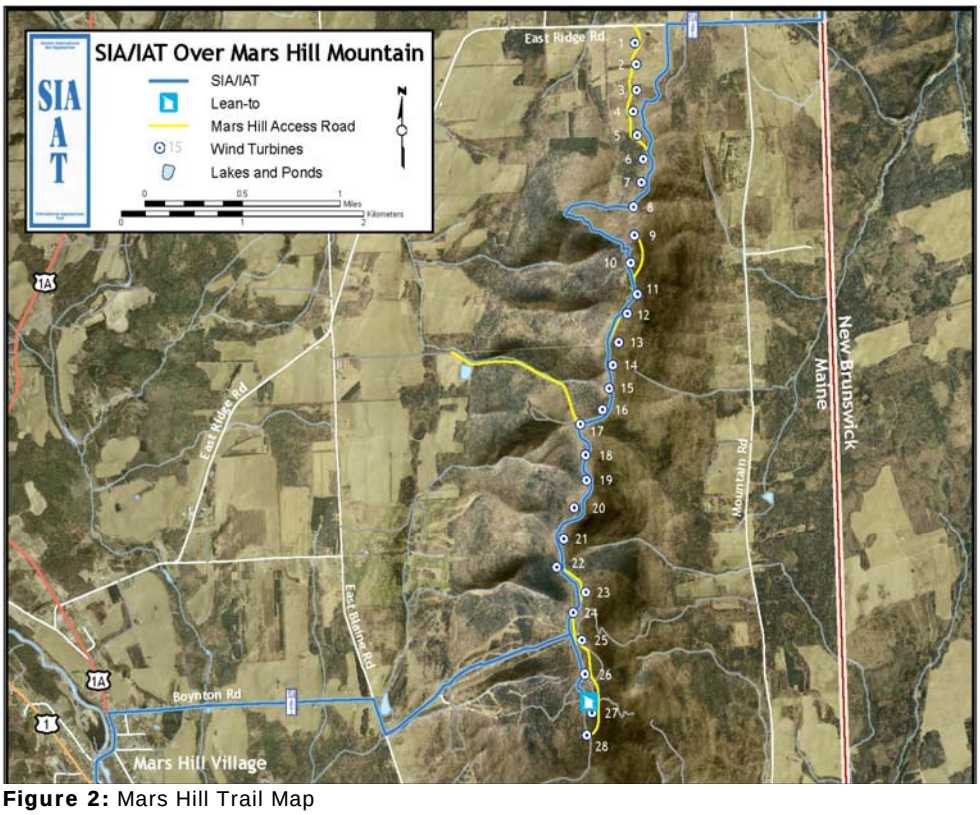

Figure 2: Mars Hill Trail Map
source: http://www.internationalat.org/Pages/SIAIAT_PDF/marshilltrailmap.pdf

The International Appalachian Trail embraces its close quarters with the wind farm. On the IAT website, the organization praises the Mars Hill Wind Farm, saying in reference to some photos of the trail that:

As the International Appalachian Trail also shares Mars Hill Mountain, over the year we have monitored site construction with interest. The images demonstrate that while these towers are now definitely a noticeable part of the landscape, they do not detract from the view. Rather, because of tower placement with an eye to contour of land and spacing, there is an ethereal feel. With a simplicity of wind tower design, one is reminded of other prominent examples of cultural architecture on the land which are pleasant to the eye. For example, there are the pyramids of Egypt, the statues of Easter Island, and the more diminutive inuksuk (stone monuments) of the Inuit of the North American north.
http://www.internationalat.org/Pages/SIAIAT_Pics/index

In the cases of both Mars Hill and the Pacific Crest windmill tours, many people have chosen to travel these specific trails in order to enjoy the presence of the wind farms, showing that opposition to wind farm development near scenic hiking trails is by no means endemic to the hiker population, as some people would put forward.

In the case of the Redington project, the nearest turbine would be about one mile away from a wooded part of the AT and visible from various places on it at distances of 2.8 or more miles. The Appalachian Trail Committee's "Policy on Wind-Energy Facilities" finds such a close distance is unacceptable because it is within four miles. However, it is worth noting that at this particular part of the trail, the AT is actually closer to both the Sugarloaf and Saddleback Ski Resorts as well as to numerous clear-cuts than it is to the proposed wind farm site (*see* ***Figure 3*** *below*). This is a section of the hike that is already near significant development, and it is worth noting that hikers had not given the site much attention until Endless Energy showed interest in putting renewable energy generation near it. Though hiking trails previously mentioned on both Kibby and Mars Hill were in an AMC Trail Guide, Black Nubble was not mentioned while Redington is only listed but not described.

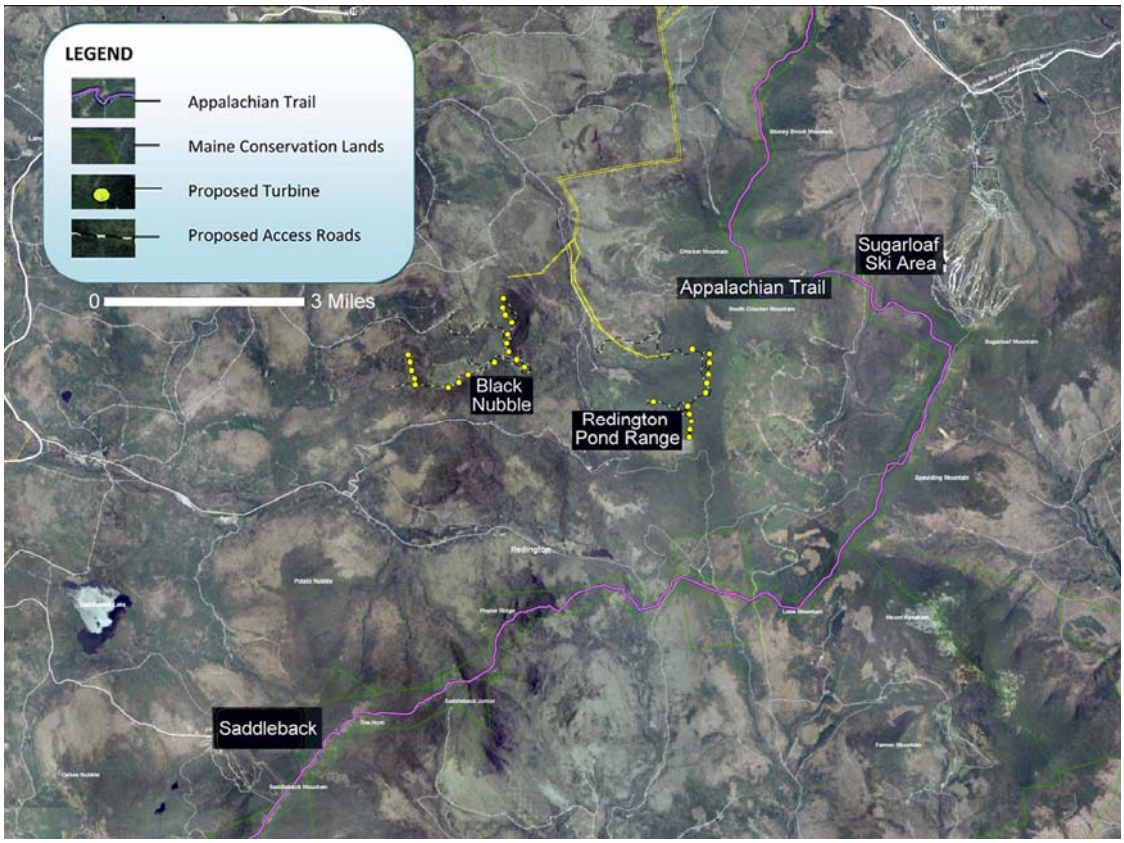

Figure 3: Map of proposed Sugarloaf Community Wind Farm showing proximity to AT

Endless Energy recognizes the recreational value of this land, so it has discussed trail opportunities on the wind farm site with Maine Huts and Trails, which insisted that their trail go between turbines rather than around Black Nubble Mountain. The Sugarloaf Community Wind Farm could potentially be a draw to the area for ecotourism hikers.

There is no doubt that the idea of constructing wind farms near the Appalachian Trail is controversial, frequently engendering mixed reactions and strong emotions. This conflict to a large extent is unavoidable since hikers and wind farm developers value the same types of lands for their respective purposes. Though both categories of people care about nature deeply, at times they often clash over the valuation of the aesthetic implications of clean energy generation. Despite some controversy, there have been and will continue to be opportunities for successful partnerships of the two groups. It is important to remember the successful cases of the Windmill-Wildflower and Mars Hill hikes, which show that wind farms can serve as a popular hiking attraction.

For Further Reading:

1) Letter to the Editor of *Appalachian Trailway News* in which one hiker advocates wind farms near the trails

2) *Portland Press Herald*, "Travel to Mars Hill for trails, turbines" http://maineoutdoorjournal.mainetoday.com/blogentry.html?id=7005

3) Information on the Sierra Club's "Windmill-Wildflower" Annual hikes http://www.wind-works.org/articles/windmillwildflowerhike.html

It embarrasses me to hear any hiker object to seeing other people's non-hiking activity from the A.T. It makes no sense that my merely liking to go to high places that overlook lots of terrain should give me the authority to be the ruler of all that I survey.

That is particularly true in regard to solar energy collection systems (of which wind systems are a subsidiary type). A basic fact about those is that solar energy comes to us in a very democratic form, spread thinly over our planet. To collect significant amounts of it calls for devoting large areas to the process, just as it takes large agricultural areas to provide our excessively large human population with food and fiber (including wood fiber) from solar energy. Those activities cannot be fitted into urban areas and are too extensive to hide elsewhere.

Nor should we, being responsible for the need for them, try to hide from them. **On a scenic trail, we ought to be willing to see our world as we have made it, not as we fantasize it should be.** As a twenty-six year Maine A.T. Club maintainer, I have long been made aware that my Trail surroundings have not been wilderness, but an agriforest maintained for continuous production by its harvest-owners. (I have also learned thoroughly that, without loggers' roads for Tail-maintainer access, the A.T. in Maine would not be as well maintained as it is.)
Only a few years ago did I come to realize how awfully pervasive hiker fantasizing has become. When I attempted a survey of Trail usage from the contents of the club's shelter registers, I was startled to find ninety-five percent of the entries made by, not real persons, but persons escaping form reality as Trail-name fantasy characters.

It's time for the hiker community to grow up and face facts.

Some claim we don't need solar power because we can use fuel cells. Sure, fuel cells are great - but only as portable energy converters that need hydrogen fuel. We might extract that hydrogen from petroleum, but what do we then do with all that remaining carbon? The least-polluting hydrogen source is water, which can be split into hydrogen and oxygen, which the fuel cells then recombine to make water. But, the splitting takes more energy than the cells can release, so we still come back to needing a truly primary energy source, one that is as close as possible to a solar one. And we must get it from where it is to be found.

One thing that would help educate hikers, as well as everyone else, would be measuring all concentrated forms of energy in terms of the Earth-area equivalent of solar energy - not coal in tons and oil in barrels and electric usage in kilowatt-hours, but each of those in acre-years (or hectare-years) that it takes to receive that much energy on the Earth's surface.

Richard B. Innes
Portland, Maine
Appalachian Trailway News - July-August 2003

Travel to Mars Hill for trail, turbines

Aug 28, 2008 01:20 PM By CAREY KISH

A wind turbine towers over the trees at the International Appalachian Trail shelter on Mars Hill. Hill Mountain, the site of Maine's first major wind power project – Mars Hill Wind Farm, which produces enough electricity to power about 25,000 homes. (Photo courtesy of Carey Kish)

Mars Hill Mountain rises abruptly from the level terrain of woods and farmlands of eastern Aroostook County. Driving north on Route 1 through the village of Mars Hill, the mountain's long ridgeline is an impressive sight, especially so when you note the mountain's most distinctive feature: wind turbines.

Mars Hill is the site of Maine's first major wind power project, the Mars Hill Wind Farm (www.marshillwind.com/mars_hill), that began operating several years ago. Twenty-eight wind turbines are evenly spaced across the mountaintop, each rising almost 400 feet into the air. The project, managed by First Wind, produces 42 megawatts of clean electricity, enough to power an estimated 25,000 homes.

Another interesting feature of Mars Hill is that the mountain is traversed by a section of the International Appalachian Trail, a 525-mile footpath that extends from Maine's Baxter State Park through New Brunswick and Quebec to a grand finish at Belle Isle at the northern tip of Newfoundland and the natural end of the Appalachian Mountains.

HOW TO GET THERE

To reach the trailhead, take Route 1A north out of Mars Hill. Go right on Boynton Road for a couple of miles, then left on East Blaine Road for a short distance. Turn right at Big Rock Ski Area and proceed to the lower parking area.

From the front of the base lodge, walk left under the double chairlift and continue on the old service road that winds up a ski trail. Throughout the climb, there are views behind you to the west. Ahead, the spinning turbines get closer and larger with each step. The whooshing sound is unnerving at first, but you get used to it.

At the ridgetop, look right and you'll find your first IAT trail marker, a white plastic blaze with blue lettering. Now almost beneath one of the towers the whooshing sound turns to more of a roar, not unlike that of a jet engine. As you walk along a jeep track, the long shadows of the towers pass over you.

Climb easily to the summit of Mars Hill at 1,734 feet. Here, two more towers rise from a large open grassy area with several picnic tables. The remains of the old fire tower are still evident. To the left is an Adirondack log shelter that is open to the public and sleeps eight hikers. There is a privy, but no water source.

From the south summit, enjoy broad views in all directions, west across Aroostook County and east into Canada. Mount Katahdin and the many peaks of Baxter State Park are visible.

For the return trip, retrace your steps to the car, or do as I did and continue along the ridge to the north summit and beyond for an extensive look at the wind towers, up close and personal-like, and more of the IAT.

Just beyond Tower No. 25 (each is numbered, but do stay clear), continue straight ahead on the IAT. For the next five miles you'll be alternately following the service road and sections of the IAT. The old path across the ridge has been pretty much obliterated by road construction, so sometimes it's easier to just follow the road.

The road walking gets tiring, but I continued to be fascinated by the whirling towers the whole way.

At Tower No. 11, the IAT heads left into the trees and you get a nice mile-long stretch of wooded trail. Back on the tower line and just beyond Tower No. 6, the path descends through a field (full of wildflowers on my visit) to the East Ridge Road.

The Canadian border is just two miles east. To get back, go left and enjoy a pleasant five-mile road walk, passing by working farms where you'll likely get a smile and a wave from a farmer or two.

DOWNLOAD THE TRAIL MAP

Hikers planning to make the Mars Hill hike will need to go the IAT Web site (www.internationalat.org) and download the excellent trail map and detailed hike description. Don't overlook this step as I did (I experienced a few navigational "difficulties").

You'll need to find your way, especially if you plan to do the entire loop around the mountain. Next, hikers are asked to call the wind farm at 425-7929 to alert them that you'll be on the property.

http://www.wind-works.org/articles/windmillwildflowerhike.html

Windmill-Wildflower Hike: an Annual Spring Tradition

Event Draws Attention to Pacific Crest Trail in the Tehachapi Pass

Event Held 21 Years in 2006!

May 15, 2006

Background

The Kern-Kaweah chapter of the Sierra Club has led a hike on the Pacific Crest Trail (PCT) through a forest of wind turbines in the Tehachapi Pass since 1986. The Sierra Club sponsors the hike to draw attention to a little-known section of the PCT near Tehachapi, California.

On May 13, 2006, some 26 hikers made the 21st annual pilgrimage across Cameron Ridge in bright sunshine and a stiff west wind.

Through the late 1980s and the early 1990s the hike was jointly sponsored by the Kern Wind Energy Association.

Heavy rains in the spring of 2005 resulted in a bumper crop of wildflowers, including California poppies (Escholzia Californica), baby blue-eyes (Nemophila menziesii), and the aptly named grape-soda lupine (Lupinus excubitus).

Hikers often enjoy spectacular displays of wildflowers, including some that are endemic to the Tehachapi Pass--and thousands of wind turbines. One flower that is characteristic of this are is grape-soda lupine. The pleasant fragrance and the bright purple color of this lupine is one of the highlights of the annual event.

More than 700 people, from children to octogenarians, have taken the six-mile walk across Cameron Ridge in the heart of the Tehachapi Wind Resource Area.

The Windmill-Wildflower hike was organized by Paul Gipe and Tony Swan. Tony has lead every hike since the event began.

The Pacific Crest Trail stretches from Mexico to Canada following the crest of the Sierra Nevada for much of its length. The route over Cameron Ridge offers sweeping vistas of the Mojave Desert, the Garlock Fault, and some 3,500 wind turbines.

The Sierra Club is a national environmental group that supports the responsible development of renewable resources, including wind energy.

The PCT section that crosses Cameron Ridge is open to the public, but hikers are advised to stay on the trail.

Details

The hike typically takes place on the first or second Saturday of May. Check with the hike leaders for details or see the spring issue of the Kern-Kaweah chapter newsletter at kernkaweah.sierraclub.org

The hike leaves the trailhead at the junction of Cameron Road and Tehachapi-Willow Springs Road promptly at 9:00 am. Spring weather at 5,000 feet (1,500 meters) in the Tehachapi Mountains is unpredictable. The temperature can vary from near freezing to sweltering.

Hikers are advised to dress appropriately, bring at least one quart of water per person (two quarts per person recommended), and pack a lunch.

A car pool leaves from Bakersfield at 7:30 am. For more information on car pooling call Tony Swan at 661 363 5106 or Paul Gipe at 661 325 9590.