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COMMENTARY

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A Moral Response to Climate Change

Most Vermonters accept the scientific consensus that climate change is happening and that human activity is major contributor.

By GMP's own reckoning, over 20 years, the Lowell turbines are capable of offsetting fewer than 10 days of carbon emissions from New York City traffic.

Many Vermonters believe that climate change is a moral issue.

Some Vermonters believe that we can reverse climate change by reducing our carbon emissions. We can't—even if we were able to eliminate emissions completely, it would take [a thousand years](#) for natural processes to begin to reverse the climate effects that we have already set in motion.

Right now, the best we can do is to prepare for climate change and to stop adding to the damage that we have already done. Those of us who view climate change as a moral issue are presented with two moral imperatives:

1. We must preserve our remaining intact ecosystems in order to enable climate adaptation by the largest possible number of species.
2. We must reduce our emissions of greenhouse gases.

There are thousands of ways that we can reduce GHG emissions, but there is only one way to preserve intact ecosystems: refrain from developing them.

Vermont has some substantial blocks of undeveloped land that will be essential to climate adaptation, but even the most remote parts of Vermont are experiencing development pressure. While creeping residential development nibbles on the edges of our woodlands, industrial wind developers gobble up entire ridgelines—our most ecologically sensitive, high-elevation forests. We must stop both practices.

Here's how the Vermont Natural Resources Council describes [the importance of our undeveloped forests](#):

"Intact blocks of forests provide habitat for a wide variety of species, and maintaining connectivity between large forest areas can ensure that wildlife species are able to travel between habitats and adapt to climate change. In addition, healthy forests protect water supplies, absorb precipitation, and filter water, thereby enhancing flood resilience and water quality in other parts of the watershed... Since forests have a huge capacity to sequester and store carbon, keeping our forests as forests is a surefire way to battle climate change."

Vermont's energy and environmental policies have it wrong. Instead of emphasizing the preservation of our remaining intact ecosystems, we encourage energy developers to industrialize them.

Some Vermonters think that trading an intact ecosystem for electricity, which they believe to be carbon-free, is a good deal. But, when we compromise, fragment, or destroy our few remaining blocks of forest with industrial power plants, we close off opportunities for plants and animals to adapt and survive.



Consider Green Mountain Power's [conversion of Lowell Mountain](#) from an intact ecosystem to an industrial wind energy complex. The industrialization of Lowell Mountain exemplifies, in dramatic fashion, each of the [seven mechanisms](#) of natural heritage loss that our Agency of Natural Resources has identified:

1. direct loss of diversity;
2. destruction of habitat;
3. habitat fragmentation;
4. disruption of movement, migration, and behavior;
5. introduction of invasive exotic species;
6. degradation of water quality and aquatic habitat; and
7. loss of public appreciation for the environment.

Lowell Mountain, as wildlife habitat and as a resource for climate adaptation, was irreplaceable; its value incalculable. So, the decision to industrialize it must have been motivated by some pretty impressive environmental benefits, right?

GMP claims that the Lowell turbines will prevent the release of [74,000 tons of CO2](#) into the atmosphere each year. That claim rests on the assumption that Lowell's electricity will displace dirtier electricity. Since Lowell's production of electricity has fallen short of GMP's promise, so has their promise of CO2 avoidance. If we applied GMP's method of calculating CO2 avoidance to the twelve months that ended June 30, we would arrive at a total of 62,000 tons of avoided CO2.

GMP's calculations exaggerate their avoided emissions because they fail to account for carbon emitted during turbine manufacture and transport, site preparation, and construction. GMP also fails to account for emissions resulting from support operations such as powering the synchronous condenser and providing spinning reserve for the turbines. Acknowledging these emissions would reduce or perhaps even eliminate any carbon savings that GMP could claim for Lowell. Furthermore, GMP's sale of renewable energy credits to polluters [undermines any of their environmental claims](#).

But, let's look at the claim of 62,000 tons of CO2 per year. Does it sound like a lot? It's equivalent to the CO2 produced by traffic in metro New York City in less than half a day (visit [EnergizeVermont.org](#) to see the math).

According to the turbine manufacturer Vestas, the Lowell turbines will last twenty years. That means that Vermont traded an intact ecosystem of incalculable value for an industrial complex that, by GMP's own reckoning, is capable of offsetting fewer than 10 days of carbon emissions from New York City traffic. Will anyone argue that this is a good trade?

If the survival of Earth's species and the preservation of intact ecosystems is a moral imperative, what does that say about our choice in Lowell?

It's campaign season. You will probably hear candidates talking about climate change in moral terms. You may hear them say that we must all "do our part" and that we must continue to industrialize our ridgelines. Ask them if they have a plan for climate change adaptation. Ask them if they see the preservation of intact ecosystems as a moral imperative.

Finally, ask them which Vermont ridgelines they want to sacrifice in order to offset another week's worth of big-city traffic.

This commentary is by Mark Whitworth, Energize Vermont's Executive Director. It appeared in Vermont news outlets in September, 2014.