Small Town vs. Big Wind:

Exploring the Complexity of the Wind Power Debate In Rural Vermont

By

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Abstract

Due to the rise of global warming and much conflict over foreign oil in the last decade, there has been a renewed goal of integrating alternative energy into our national and global energy supply. As more domestic energy companies look for renewable energy options, Vermont is one state that has been targeted for potential wind farm sites. One site in the Northeast Kingdom of Vermont has sparked a tremendous debate over wind power, pitting locals, town governments, companies and environmentalists against one another as they try to reach a conclusion. This paper presents the argument against industrial wind power from the viewpoint of four members of local opposition groups. While accused of having a NIMBY argument, the opposition explains why their position goes beyond NIMBY and asks fundamental questions of legitimacy and consequence. Ultimately, the opposition feels as though they should not be taking responsibility for a problem they do not contribute to and they propose alternative solutions to meet and manage energy demands. This paper further explores the tension between environmentalists in finding solutions to the energy problem and whether the notion of wind power needs to be re-evaluated.

"It's really hard to wrap your mind around the issues. I am an environmentalist; we're organic farmers, you'd like to think 'what could be wrong with wind power?'"
—member of Ridge Protectors

Wind Power as a Way Out

Renewable energy is having a comeback, and the interest stems from an increasing awareness of global climate change. The term 'climate change' has recently experienced a remarkable debut in all realms; while a decade ago, people would have asked "What is it?", today the media and science world are inundated by new data and information about the reality of our planet that is being altered by the human-induced release of greenhouse gases. Predictions for the rise in global temperatures and sea levels are becoming more drastic and scientists are setting back the date when the most serious effects will start to be felt. Why some have dubbed climate change as "the biggest problem humanity has ever had to face," is becoming more understandable. The guiltiest player in the climate change arena is, of course, the United States. Currently consuming over half of the world's energy supply (Turner 1999:688), the United States should be the first to start finding a way out.

Few environmentalists would disagree that wind power should be part of the new energy strategy. Scientists and economists advocate wind power as the most suitable form of renewable energy; other renewable energies, like solar, are still considered too expensive to implement on the scale that the United States needs to curb their carbon emissions. "Wind energy represents the nearest term cost-competitive renewable energy source," writes John Turner, of *Science* magazine, "Wind as an energy resource is possible over the entire United States and presents a dual-use technology: the land can still be used for farming, ranching, and forestry."

(Turner, 1999:687) In other places around the world, especially Europe, the popularity of wind power has excelled at an incredible rate. In Germany, they are adding 2,000 wind turbines a year and are quickly approaching a total of 20,000 (McKibben 2006). If we are determined to reduce our consumption of fossil fuels by about 70 percent, the scientific estimate of what it will take to achieve climate stability (Gelbspan 2002:xi), the widely accepted fact is that the implementation of renewable energy is imperative.

Environmentalists argue that domestic wind power could make a considerable contribution toward achieving energy independence. The term 'energy independence' has two implications, the first being the freedom from dirty energy sources, such as coal, oil, and nuclear; and the second being freedom from the international relations which are fostered over oil agreements. "'The energy problem' is not primarily a matter of depletion of resources in any global sense but rather of environmental impacts and sociopolitical risks; [this] has been the mainstream environmentalist position for decades." (Holdren 2002:69) This is how climate change can be justified, as not just an issue of the environment, but rather an issue for humanity. As more people begin to regard climate change as a humanitarian issue, the important sectors of society, including government, business and civil society, are becoming more focused on solutions to the energy problem.

Prospects for Wind Power in Vermont: A Contentious Debate

When we think about the prospects for wind power in Vermont, there is an assumption that as generally progressive people we would want to endorse this type of development; however, not all Vermonters are so certain. Environmentalists who represent some of the most prominent voices of Vermont are loud and clear about their message; "To say we don't want wind turbines in Vermont is irresponsible," says James Moore, an environmentalist who works with the Vermont Public Interest Research Group (VPIRG). "If not wind, are we going to be supporting coal and mountain top removal? Are we going to support oil and aging nuclear power plants and nuclear waste?" (Rathke 2006) Considering the amount of money that towns could get from the wind developers in property taxes, many Vermonters think "it's a win-win situation". Now there are those who disagree.

From the first moment developers started to look in Vermont for potential wind power sites, local people have not been shy about speaking out in opposition against these projects. In Sheffield, Vermont, a power company by the name of UPC Wind began to look at project sites in 2002. For four years now, the company, the town, and the surrounding towns have been in an ongoing fight about the possibility of twenty 420-foot wind turbines going up on a plot of undeveloped, privately owned, forested land. In response to this proposal, people began to come together to form opposition groups with the intention of keeping industrial wind power out of their community. After hearing all sides of the debate, the final decision will be made by the Vermont Public Service Board, which is slated to take place later this year or

early 2007. Until that date, the opposition groups are holding bi-monthly meetings in the town church to gain support and raise money for the required legal representation.

For this project, I traveled back to my home territory, the Northeast Kingdom, to conduct interviews with four leaders from the opposition groups, Kingdom Commons and Ridge Protectors. As a youth activist in the climate change movement, my intentions were to understand what justification people had for *not* wanting wind power in their community. On the simplest level, I thought it somewhat selfish and hypocritical that people who consume energy would not be willing to help provide that energy, especially if it were to be renewable. I assumed it would be typical not-in-my-backyard (NIMBY) issue; I did not expect my informants to be environmentalists.

As I conducted my interviews, I was pleasantly reminded of the almost innate quality of Kingdom residents to possess a deep connection with the natural environment. I myself found my staunch position on wind power slipping out beneath me as I was consumed by, not only the sheer beauty of the Kingdom, but also its stillness—I sensed my own environmental ethic rooted in that land. Contrary to my expectations, the opposition proved to be not foes, but friendly environmentalists with a different point of view; the one I do not hear too often in the youth climate change activist community. In fact, many were unsure if they would identify themselves as activists, as if the perceived radical nature of activists gives too great a stigma for such a pragmatic debate. Despite how I will present it in this paper, to them their argument was simple: wind power does not belong in the Northeast Kingdom.

Defining the Kingdom: Sense of Place and the Issue of Scale

The Northeast Kingdom, "the Kingdom" for short, is comprised of three counties in the northeast corner of the state of Vermont. The name was given back in 1949, by the late governor and United States senator George Aiken who loved to retreat to the sparsely populated region, to marvel in its wilderness, canoe the lakes and fish the streams when not in session (Downs 1997:xv-xviii). Still today, the region is known for its low population, its great forests and the relatively undeveloped landscape. These qualities are what draw people to the kingdom; they fall in love with the simplicity and the beauty, they go there to escape the chaos of the rest of the world.

These circumstances are at the heart of the opposition to wind power, and whether wind power is considered 'green' (environmentally friendly) development or not becomes insignificant. The Kingdom is a place where any dramatic change in the landscape is bound to generate opposition. Indeed, the argument stands, "symbolically, it would redefine the area and take it in a direction almost diametrically opposed to the direction [we] intended to take it," says a member of Kingdom Commons, while another argues that "[industrial wind power] goes against one of our fundamental Vermont values; we believe in self-sufficiency." Their argument is quite simple actually, "We don't want to destroy our environment to save it", says one man, the founder of the opposition group, Kingdom Commons. The name of the group itself speaks to the deep-seeded belief in the strong relationship between the land and the communities who live there. For many, this debate goes beyond the question of wind power and deals with the intrusion on a region with a

profound sense of place; as another member expressed, "what it comes down to is a love for home; that is our true focus."

So then we come to ask the following questions. If the people are opposed to wind power, what other direction would they like to take? Considering the increased threat of global warming and the limited time we have to develop solutions, how does the Kingdom plan to do its part? How do the people of the Kingdom intend to sustain their economy while meeting their energy needs? The reality of a place like the Kingdom is that while they feel removed from the rest of the world, they are not; they need income as a region and they also need energy sources. With somewhat serendipitous timing, while the debate of wind power is taking the center stage of local politics, another important issue of development is beginning to take root. The local ski resort was recently acquired by a wealthy out-of-state company with the intentions of massive expansion; complete with condos, a club, and a golf course. Indeed this future is also somewhat daunting to the locals; some have begun to draw parallels between the two projects and what the impacts might be on their community.

> I guess Ginn [ski resort development] and [industrial] wind power come down to the same thing. It's just development, and it's in Vermont; it's the future catching up with the past. What brought a lot of new people to Vermont in my lifetime was to get away from the stuff that in effect we brought with us, the whole range contemporary development. And of course in coming here we contributed to creating the very thing we were trying to get away from, just by having demands. And I don't think there is an answer to that…I do think that it's reasonable for people to resist change. Even though change is inevitable, that doesn't mean that it shouldn't be resisted, especially the rates of change. You can say that you can't stop development, and that's true; but you can slow it down and direct it to some extent.

Not only are the opposition groups recognizing the irony in developing a place of such natural beauty and simplicity in the name of 'saving the earth', but they are also recognizing the subtle paradox in their very own decision to

settle in such an area. Indeed, not one of my informants was born and raised in the Kingdom or even in Vermont, they all moved here at some point in the last forty years. Unable to reconcile such a paradox they are left in the likeliest position: to accept change with hesitation, to direct change with intention and to be continuously mindful of what lies at stake.

A common thread of all the arguments against industrial wind is in fact just that—industry. Of course the local population is not entirely against industry, indeed industry is integral to the local economy, but *local* is the operative word. *Industrial wind* means something completely different to these people, and it becomes an issue of ownership and scale. Like ski resort development, the project becomes more significant when there is a transfer of power to out-of-state companies with out-of state interests. The thought of industrial wind conjures up images of towering monstrosities, evoking fear and distrust, and represents the infiltration of big business on a small town; as if wind power might be the first step toward a total loss of control, submission to the ways of big business which are fast and irreversible. The opposition stands by their argument that this type of development has no place in the Kingdom, and as one informant stated, they "will hold as many spaghetti suppers as they need to raise money" to fight the project.

One man summed up the argument when he stood in front of a town meeting during a public forum on the UPC project:

> I've been called a hypocrite, a NIMBY, a tree hugger and just about anything else you can think of, but I know a project of this scale, and it would cause irreparable harm to the future of this state. For forty years we've been paying for a better Vermont. No billboards on our highways, no development above 2500 feet and we work diligently to restore the quality of our lakes and streams. The Northeast Kingdom has been described as the last remaining unspoiled area in this state. Now along come developers to take advantage of the spectacular subsidies that are

> available to wind projects and scalp our mountains, build their 4-lane roads, power lines, concrete bases, put up 330-foot [actually 420-foot] turbines and leave us with morning mountains with red blinking horizons. This is the green mountain state, not the pinwheel state.

Here they use imagery of Vermont as they know it and want to keep it; they pit greedy developers up against locals, fighting over who will ultimately control the land; they make threats of what the state might turn into if we become wooed into the trap of wind power development. A major fear is that wind power development will not stop after the first project; in fact the people of the Kingdom are aware of four more potential proposals in their region. When I listen to these arguments, I begin to understand why they want to influence the direction of development in the Kingdom and what they intend to save when they raise their voice in opposition to industrial wind power.

The Kingdom is Doing Its Part

Once the intentions of UPC were made known to the public, opposition groups formed and people began to mobilize against industrial wind power. As they did research on their own energy demands and production capabilities, it became increasingly clear that the Kingdom should serve as a model for others as one region which is doing quite well in the renewable energy arena. With a biomass plant in Ryegate, a methane plant in Coventry, and numerous small scale hydro-power dams, the Kingdom satisfies 75% of its energy needs from renewable sources (NVDA 2006:4). If the dams on the Connecticut River are included in that calculation, the Kingdom produces more than 200% of their own energy needs. As one informant concludes, “Our portfolio is incredible. The Northeast Kingdom creates 3 times as

much power as we need. Burlington takes from us because we don't use that much power."

Rightfully so, the people of the Kingdom struggle with the idea that, by allowing wind turbines to be put up, they will be taking responsibility for places which are not nearly as conscious about energy consumption as they are. A local author comments,

> It seems to me that there is an implied challenge that this community really needs to come up with a solution to the national energy crisis. And I just wish to define what I see as the valid part of that challenge and the invalid part of that challenge. Yes it is true that as energy users all of us are responsible for that problem and have to play some part in meeting that problem, but I have difficulty whenever there is some kind of a national crisis, or a world crisis or a war; you know people turn to communities like this and to the public spiritedness that's in those communities and say to those people, "what are you going to do about the energy crisis?"

He joins the opposition as they question why places with high energy demands are not being forced to reduce their consumption or at least take responsibility for their energy production. And why should people in the Kingdom have to pay for their negligence?

> Our feeling is that [wind power] is actually bad for the environment because it's allowing them to not change [their consumption levels] and they are putting it on the backs of Vermont, the greenest state in the nation. [If we go through with this wind farm] we would actually be doing harm to ourselves because then the pollution floats back up to us. We are a very green state; they should be as green as we are. If this was for us, if we needed it, if we were using as much oil….but we don't. If they need it, they should do it.

The issue has become, not whether they agree with the notion of wind power, but rather why the Kingdom should agree to help other regions who are not willing to make sacrifices for their own energy demands. The 'green' aspect of wind power is undermined by the idea that the energy is actually going to feed the rest of the nation's energy addiction.

What Would Be Lost?

"Your honors, upon you lies the onus for deciding when and where and whether Vermont will *forfeit* the very peace and quiet that has for generations been the hallmark of her hill towns." –statement to the PSB, 2006

As environmentalists, and more specifically conservationists, the opposition groups are making the argument that the installation of wind power will in fact do more harm than good to the natural world, and that the claim of mitigating climate change becomes less legitimate when the environment is actually at stake. That harm will come from what is physically lost in the process of installation, the view, forest, and animal habitat to name a few; but also from the continuous, long-lasting impact the wind farm would have on the surrounding community, namely lights and noise. In this debate, however, the environmental argument serves as a base for what is in fact a fight for power. The equally important issues of politics and economics will be addressed later in the paper as they presuppose the environmental argument.

Outsiders tend to think that the debate over wind power all boils down to the viewshed argument and whether the locals perceive wind turbines to be an addition or detraction from the beauty of the natural landscape. The media might be partially responsible for projecting this simplification or the proponents of wind power might use it to make the opposition look shallow; either way, the issue of 'viewshed' has become a critical point of the debate. The opposition groups stand firm that the concern over the view is in fact a part, but only a small part of their argument. And why shouldn't the view be of concern to people who live in a place known for its beautiful landscape? "It's very human to ask, 'Why me? Why my ridgeline, my seascape, my viewshed?' [and] these questions have been difficult to answer."

(Komanoff 2006) Indeed, most supporters of wind power are environmentalists who have had to struggle to some degree with this idea of altering a beautiful landscape, which then forces them to go through a reconciliation process about the aesthetics of wind turbines—a sort of philosophical restructuring of the definition of beautiful. Charles Komanoff, an environmentalist writer for *Orion* Magazine, went through this exact process when he realized the disconnect between his own initial uncertainty for big wind turbines and his knowledge of the implications of climate change and burning fossil fuels.

> Thinking back on that November day, I've come to realize that a windmill, like any large structure, is a signifier. The windmills I saw in upstate New York signified, for me, not just displacement of destructive fossil fuels, but acceptance of the conditions of inhabiting the Earth. They signified, in the words of environmental lawyer and MIT research affiliate William Shutkin, 'the capacity of environmentalists—of citizens—to match their public positions with the private choices necessary to move toward a more environmentally and economically sustainable way of life.'

But not all of the citizens of the Kingdom are as convinced as Komanoff, and they are weary of the environmentalist-at-all-costs mentality which they have faced in this debate. "Most Vermonters look at wind power and think 'what could be wrong?' There is a very romantic vision of what a windmill is," said one informant. His was an interesting story in that he initially supported UPC's project. But as time went by he began to realize that not everything the company was saying seemed true; he learned to be cautious of the environmentalist tendency to accept anything that is considered 'good for the environment' and to allow his own values to weigh in.

> We started to see some inconsistencies in what this developer was telling us. The more we knew the worse it got. I don't think we were able to visualize what 420 feet is. It's two thirds of the way up the empire state building, it's unprecedented in this state and New England. Not only are they huge, but they are trying to put them on top of mountains. I don't think we can comprehend it. It will change the whole landscape.

Another of the opposed raised his voice at the public forum about his spiritual connection to the beautiful landscape.

> Perhaps beauty is something you either feel or you don't, but you have to ask why so many people love a view. Most all Vermonters respond to our beautiful views. Neighbors here in Sheffield tell me that when they see the rainbow, it appears in all of its enchantment, right over the top of Hardscrabble Mountain.

Despite their love and attachment to their view of the Green Mountains, many of the informants stressed that the viewshed argument was not their strongest, nor was it the most important. "From the aesthetic point of view, it's just like a blemish or a mar on the horizon but I think the *substantive arguments* are the ones that matter more." The truth is that the aesthetic impact of wind turbines may have fueled the initial opposition to the wind projects in the Kingdom, however after many months of fighting industrial wind, the argument goes far beyond the view and into the roots of the environmental movement, conservationism, and then even deeper into the realm of politics. As another informant told me, "Aesthetics *do* matter, but this is not a simple NIMBY argument." And so this became my quest, to understand why the circumstances in the Kingdom bring the debate beyond NIMBY.

I was told that ninety percent of the people who are opposing the wind power project in Sheffield are conservationists. And when they say conservationists, they are speaking about conserving the land and the way of life on that land, but more specifically they are speaking about the forests. Forests have been used in the environmentalists' philosophy since the days of old; and we can be thankful for the work which led to the establishment of the national parks and forests across the United States. Without them, the entire country might look as Vermont did in the year 1850, when only twenty percent of the state was forested. Now over eighty percent of

the state is forested in either state forests or private land holdings (Meeks 1986:252-256). The problem for the opposition groups, then, is that the land, almost entirely privately owned, is not under the protection of national forest regulations, therefore the landowner has the right to do as he chooses with his land, including the right to sell to a wind farm developer.

The concept of 'conservation' was coined by Gifford Pinchot, the founder of the United States Forest Service, as an ethic which entails the sustainable management of natural resources. His voice still strongly resonates in the hills of the Northeast Kingdom, as the opposition to wind towers is deeply rooted in the love for the forest and the will to preserve it. As one Kingdom Commons member stated, their unwillingness to forfeit the forest is quite clear.

> The interior of Northern New England, the whole belt that comprises of what some people call the Great Northern Forest, from the Adirondacks to the coast of Maine, is problematic when it comes to large scale wind development because the only marketable wind, the only wind that's good enough for large scale projects like the one that's being proposed, is 18 miles per hour average wind speed. That wind in northern New England is only available at maximum elevation on forested land in a very cold climate; and those three things, the elevation that's required, the deforestation that's required, and the problems that are involved in operating wind turbines in an severe winter climate, those three things go a long way to reducing the potential benefits, the amount of electricity that will be generated and increases the negative impacts. When deforestation becomes an impact, at high altitude deforestation is worse than deforestation in general. And, in the state of Vermont, that issue has already been addressed by Act 250 which effectively minimizes any kind of development including logging over 2500 feet. But all these wind projects have to go above 2500 feet because in Vermont you can't get the wind you need at any lower elevation.

The informant made reference to the Great Northern Forest, an informal title for a land which is not regulated as one intact forest, which in reality, is speckled with settlements and cropland and fragmented by roads. Despite this fact, he treats this land as if it was protected and wishes it could be regarded as such to preserve its

natural character and beauty. Perhaps nothing would justify changing such an iconic feature of the Kingdom as the forests.

This was a shared sentiment among my informants, which is precisely why deforestation is one of their primary concerns. But the deforestation argument entails much more than chopping down trees to put up turbines. If the project is approved, turbines will be constructed at the top of a ridge which currently has no roads. In order to get the turbines installed, the project will need 36-foot wide roads for trucks that have a 120-foot turning radius and at least 4 acres of clear-cut forest for each turbine. This degree of impact on an otherwise undisturbed forest undoubtedly makes people question if the notion of 'green energy' is annulled when it requires so much destruction; they begin to weigh the costs and benefits of the project and decide that the cost of that forest is entirely too great to bare.

As I sat with one very concerned husband and wife, looking out from their kitchen windows upon Hardscrabble Mountain where the project is intended to go, I was shown photos of other wind farm construction sites to illustrate their worries—images of ripped up mountainsides, ill-maintained dirt roads creating erosion and water quality problems, an entourage of 18-wheeled vehicles transporting material through rural Germany. These photos were supposed to convince me that this type of thing would happen in our town. Indeed, the pictures are imprinted in my memory; I may have even gasped when I saw them, immediately questioning if I really wanted this kind of development in my hometown. I saw in myself a similar hesitancy as the opposition, the fear that perhaps the stakes are too high and the change too invasive.

What really hit home for this husband and wife though is how the animal habitat will be severely altered or even, in their opinion, destroyed. “The area is full of bears, moose and other creatures who don’t like people, that’s why we should stop [the company] from breaking up a contiguous wildlife area.” The fact that rare species like wolves or lynx might still be living in Vermont is one of their arguments for preserving the habitat. A strong, albeit contentious argument is over the level of harm wind turbines will cause to bat and bird populations. “Wind turbines are like Cuisinarts of the sky,” one informant remarked, borrowing an epithet from a wind farm in Altamont Pass, northern California’s principle raptor flyaway. The Kingdom may not be as utilized a flyaway as Altamont, but there some claim that the UPC project site is a corridor for rare and protected birds. The informant passionately gesticulated how such birds “would just catch the thermals and go right up into the blades.” She has searched for studies on bat and bird deaths from wind turbines, but the results have varied from 2 per year to 2,000 a year; the problem with the site in the Kingdom is that no study has been conducted which is up to the standards of the opposition, or perhaps just one that proves their point.

Many of the opposition argue that if the wind farm will be in their backyard, on land that they frequently use for recreation, they have right to question the safety of both people and animals. Many points of their argument which suggest that this site is inadequate; at this altitude and in this location, safety may well be one of the most valid concerns. The problem with wind turbines at this elevation is two-fold; according to one informant, the first issue is of coldness and ice.

> The frequency at which rime ice forms at [high] elevations is much greater than the frequency of which glaze ice forms at lower elevations because of condensation. All of the turbines will be at higher elevation, so the blades are going to be covered in rime ice over and over and over again. That ice will be thrown off the blades.

The fear is that loose ice might be thrown hundreds of feet, a loose canon bound to hit any one or anything within close proximity of the turbines. To avoid these safety issues, people worry that high fences will be erected to keep people and animals out, limiting the wildlife habitat and human recreation areas even further. The second safety issue is accessibility, especially in a rural place like the Kingdom, which is unequipped with the necessary emergency services in the event of ice, fire from malfunction or wind damage. On some wind farms around the world, there have been instances of turbines crumbling, unable to withstand high winds or other extreme weather conditions.

Perhaps the most substantive and well supported environmental argument is how the local community will be forced to deal with noise and light pollution, which also happens to be the most valid issue for the Public Service Board. Among those who will be surrounded by the project is a boarding school for troubled high school kids who want to escape into the quiet, rural life on a farm in Vermont. But they argue that the mere presence of a wind farm would disturb the intended isolation which the school values so highly. In fact, if the wind power proposal is accepted, the administration has concluded that the school would be forced to close its doors for good. As one neighbor put it, "their small world is going to be completely transformed; the project makes a complete horseshoe around that neighborhood. The school and other families will be in a kind of echo-chamber," and another added, "You would hear the turbines from a half mile away. It sounds like sneakers in a

dryer." Out of all the opposition's arguments, this one is most salient according to the Public Service Board, who responded to the first proposal during the summer of 2006. Many feel that the idea of forcing people to leave their homes and their school in the name of green energy is simply too high a price to pay.

The opposition warns that others beyond the community where UPC is focused should be equally concerned. There is a legitimate fear that once they allow one project to go up wind power development will continue to spread,

> Imagine driving across the Kingdom at night and seeing three or four miles of blinking red lights on the Lowell mountain range, and then a few miles further looking across to the blinking horizon of Sheffield, and then in the distance, projects in East Haven, Brighton and Ferdinand.

And when someone makes a statement like this, you sense that people are shuddering at the thought. The issue of noise and light pollution will resonate strongly for people who live in a place as rural and quiet as the Kingdom, for whom Times Square at night is their worst nightmare come true. But supporters of wind power are asking, "Isn't the burden of noise and lights a small price to pay for a healthier planet? Shouldn't we be looking for cleaner ways to produce the massive amounts of energy we rely on?" The opposition, however, feels that these questions oversimplify and overlook the local issue, worrying that people in support of wind label them as "betraying environmentalists" just because they oppose wind in their community. The following attitude belittles one side of the wind debate by trying to undermine their claim on the land;

> There is an apocalyptic quality to much anti-wind advocacy that seems wildly disproportionate to the actual harm. New York State opponents of wind farms call their website "Save Upstate New York," as if ecological or other damage from wind turbines might administer the coup de grace to the states rural provinces that decades of industrialization and pollution, followed by outsourcing, have not. [Komanoff 2006]

This notion that industrialization and pollution are more damaging to the earth than wind power is most certainly true. However, the opposition is looking at wind power as another form of development that has measurable negative effects. For many people in the Kingdom, the concept of putting up 'clean energy' seems paradoxical when the negative environmental effects are so great.

Messy Politics and the Rural Resistance

"Look at who is putting them up and why, and you will see that it's not about reducing carbon emissions and its not about consumption. The corporation simply sees this as a huge money maker." –Kingdom Commons member

When coupled with the reality of negative effects of wind power on the local environment, the idea of making such a sacrifice becomes even harder to reconcile when the people of the Kingdom meet the faces of UPC and start to develop a relationship with the corporation. The company claims that the creation of jobs and the considerable amount of property taxes paid to the town will be significant benefits to the community. But the opposition feels an overwhelming sense of threat by this company's intrusion on their small world. With strong values of community and conservation, they feel bombarded by a paradigm unfamiliar to their own; weary of hidden motives, and sensitive to inconsistencies between what the company touts and the reality. Strangers to the Kingdom, UPC appears to be using the front of 'green power' to exploit while the real profits will come from the subsidies given as rewards for producing wind power. In a community based on shared values, challenges to those values are bound to provoke voices of opposition.

When you look closely at this debate from an outsider's perspective and you begin to see who the two camps are, it suddenly starts to make sense as to why the

opposition is so motivated and how they have been able to gain widespread support. From the very beginning, back in 2004 when the company took interest in the area, they immediately began to make enemies. UPC made the mistake of putting up a testing turbine on Hardscrabble Mountain to gauge the average wind speed on the top of the ridgeline; they had no idea what a commotion they caused. Unfortunately, they installed the turbine without a certificate of public good (CPG) which could have been obtained had they gone through a review process with the town of Sheffield. From then on, the residents of Sheffield claimed they had good reason to see UPC as untruthful, sly and invasive.

As the debate went on and the opposition continued to grow, they began to liken UPC to other stigmatized icons such as "lawyers", "Enron", and "energy kings". This fueled the local perception that UPC is a stereotypical corporation, full of greed and evil, with no regard for local land or people.

> If these guys were environmentalists, if it was a Vermont company and it were for the state and everything went directly to one of our towns and everything stayed here, it would definitely be different. But these guys are bright young lawyers…if you go on the website—you'll see they're from Enron, they're energy kings—they're not environmentalists. If it was more about the environment, I think we would be having a harder time, but it's just not about that. The company is from Italy the new manager is from Florida Power and Light, it's a power-money scheme.

Here it becomes clear that if the power that will be generated in Vermont was to stay in Vermont, including the jobs and the profits, the debate might be different. But, the informant adds, "Big wind in Vermont is generally considered to be greedy companies involved in sleazy politics." Adding to the suspicion of political schemes, many of the opposed feel as though they are being abandoned by state agencies who are supposed to be objective in the debate, namely VPIRG. One of the major wind farm proposals came from a wind developer in Montpelier who serves on the VPIRG

board, so "there we see a clear conflict of interests," one informant remarked. If "VPIRG is supported by big wind projects," they might play a biased role in their influence over the Public Service Board, the group of three who make the final decision about UPC.

As the opposition continue to ask the questions, "Why me? Why my ridgeline?" they become increasingly skeptical of the politics surrounding wind power and green energy; in their eyes, there are far too many loopholes in the subsidies for wind power. They have started to doubt the legitimacy of a national program that instituted Renewable Energy Credits (RECs), which is a sale of the claim on green energy, but not the actual power. RECs are meant to reduce fossil-fuel use and encourage more states to use green power;[1] but this, they believe, is also what motivates developers to come to Vermont, "We are the greenest state in the nation, for our electric production we have the lowest emissions in the country. Vermont wants to continue to uphold its superior environmental reputation by providing more green energy," therefore, the opposition believes that the state is targeted as being more conducive to green energy development. There are no formal mandates on REC purchasing under the current administration, however individual states are purchasing RECs to look reputable.

> On a national level, states that are behind like Florida and Massachusetts that want more green power, they look to Vermont because we have 5 to 10 times as much green power than we need. So, whatever is extra on our portfolio we can sell. Anything that comes in green, all those [RECs] we are able to sell because we don't need them; if we needed them we would hold on to them. Ninety percent of the wind projects [in the nation] are owned by Florida Power and Light. The reason is that Florida has to buy these and then the own the [RECs]. So, the money is not in the power [itself], no wind project would come to Vermont if there weren't all these subsidies.

[1] More information about RECs, see: Berry, David. 2002 The market for tradable renewable energy credits. Ecological Economics 42:369-379

So then, companies are also allowed to produce power in other states and still own the RECs. Not only does this appear to be unfair, but it becomes ambiguous whether the companies are acting in their financial or environmental interests. As one informant suggests,

> It would be hard to put [wind power] in Florida because they would put up such a fuss about it. And they don't have to be in Florida, They can be anywhere. They aren't after the power, they are after the credits. They have to say that they are investing in green energy. We would rather see them conserve than to reach out and pretend that they are making green power.

Yet another loophole in the wind power subsidies is the federal credits which are given to power companies for both initial capital investments and per unit of energy.[2] While federal credits are funded by American tax dollars, the opposition argues that they will be paying twice for the power, first in subsidies and then again in the actual purchase of energy. "Now these vast subsidies to the wind energy are not personal and family welfare, but rather of corporate welfare," says one informant, putting emphasis on the divide between people and corporations.

But the subsidies alone cannot explain why wind developers are coming to Vermont, a state that is ranked 32th for wind energy potential;[3] nor do they explain why they are congregating in the Northeast Kingdom. My informants were in agreement as to why places like the Kingdom are sighted for wind power projects; they spoke with palpable resentment about the way they feel. "We're being targeted as politically naïve, not empowered, and unsophisticated. We are being victimized," remarked one informant. The company would not expect opposition to speak up in an

[2] For more information about tax incentives and subsidies for wind power, see: Letovsky, Robert. 2005 Catamount Energy and the Glebe Mountain Wind Farm—Clean Energy vs. NIMBY. Saint Michaels College, Vermont. 3

[3] American Wind Energy Association (http://awea.org/faq/tutorial/wwt_potential.html)

area like the Kingdom. “It’s a gold rush, colonialism, the typical scenario of raping the land for its resources and leaving it for the people to cope with,” says another. This tendency to sensationalize the issue and the use self-victimizing language empowers those who are marginalized. And so one informant questions how it could be fair that,

> UPC has dumped 3.5 million dollars into this area…3.5 million dollars into the 4th poorest town in the state. We’re the most vulnerable and the easiest target. Three of the towns that they have picked are in the top 12 for poorest towns in Vermont. The poor select boards are so vulnerable for that money.

The opposition suspects that UPC is giving money offers to encourage people into allowing their land to be used for wind turbines, essentially bribing them into compromising their land for cash. As my informant alluded to, in a town where the average income is $15,500 (Miles 2006); financial hardship is playing a role in this debate. The town itself, including the selectmen and various officials, continues to grapple with the enticing sum of money, between 300,000 and 400,000 dollars annually from UPC in property taxes, which could go into the town’s municipal budget. In addition to direct financial benefits, UPC touts that they will create 3-5 permanent jobs once the turbines are installed; many are claiming this number is insignificant, and the benefits are practically negligible. The opposition tends to believe that the wind farm would only cause further economic problems; increased taxes to pay for subsidies, land devaluation for any property in the same vicinity as the wind farm. There is also a contentious discussion over the impact of a wind farm on a tourism-dependent economy.

One informant responded to the negative social impact of UPC’s presence in their community. Sheffield and surrounding towns have experienced a divide in their

community; “One couple has even gotten a divorce over it,” reported a Sheffield resident, adding “there are serious damages to the town and to the community. Everywhere these projects try to come in, those towns will be divided for the next 20 years, it just ruins the community. Our 5 towns are fighting like there’s a civil war.” The opposition is trying to get people to realize that while the benefits are minor, the risks are tremendous;

> If our survival or some other overriding social good were at stake, most of us would compromise our views of these beautiful ridges, and we would forego the hikes and the hunting that we do there; but, to throw these beautiful ridges away to feed the hunger for profits of the multi-national corporations is simply asking too much.

The informant suggests that, to some degree, the people of the Kingdom would be able to sever their attachment to the landscape as is, but only if the ends were justified. In their case, they feel that the profits will be reaped by a corporation, not humanity as a whole, and certainly not the people of the Kingdom.

The Illusion of Green Energy

“Would you buy a cow that only gives milk twice a week, and you don’t know which days of the week she’s gonna give?” —a farmer’s response to wind power

People are supposed to feel good about green energy, so good that they are dreaming of the day we will finally make the transition from oil and coal to clean energy. ‘Green’, on the most simple level means free; free to harness, free of pollution, free of conflict, free of harm. Why then, is there this sinking feeling that green energy is a hoax, a lie, a money-making scheme? How have people been able to make an enemy out of something that is supposed to be so good? Environmental, political and economic concerns have been discussed, but the people of the Kingdom

also have a growing suspicion that the notion of 'green energy' which UPC is touting might not, in fact, be completely accurate.

> Let's say you have a couple hundred wind turbines in Vermont, the wind developers say that we could provide Vermont with 20% percent of our energy needs. I just don't believe these projections the wind developers make that we can supply 20% of Vermont's needs are realistic.

There is concern over the discrepancy between quotes of total capacity and actual capacity that projections do not take into consideration.

Clearly, the idea of wind power wind is somewhat counterintuitive. After all, wind is not constant and therefore the energy must not be constant either. However, wind developers consider this in their calculations and incorporate average energy production when quoting the expected output. This, however, becomes problematic for people who want greater reliability in their power source, as one informant suggests,

> There is a huge difference between the optimal capacity of a turbine and the amount of power that turbine actually puts out on average in a year. And the capacity factor at Searsburg (another industrial wind farm in Vermont) is around 30% of the maximum capacity.

While, in reality, most viable wind farms operate at an average capacity 25-40%,[4] the average energy output appears to be low and discouraging. Not only does the power appear to be unreliable, the opposition is beginning to feel that a wind farm is ineffective; that because other power sources will always have to be available for use, the addition of wind power will minimally result in a reduction of carbon emissions.

> When it comes to the role wind could play in Vermont, the thing about it is, owing to its intermittency even though you can have a lot of wind capacity, you have to maintain and retain a dispatchable generating facilities equal to your demand. You can't have power outages when you go for a period of time with no wind. So you have to retain the rest of the infrastructure and you have to have generating sources

[4] For more information on wind turbine capacity factors, see American Wind Energy Association (http://www.awea.org/faq/wwt_basics.html)

> that can be throttled down or throttled up. You have a lot of plants that are idling while the wind blows and they come on when then wind isn't blowing.

Taking into consideration the intermittency of wind and the necessity for idling power plants, the opposition has come to the conclusion that "wind doesn't seem to eliminate anything else, it just adds to the mix."[5] Yet another concern for wind power in the Kingdom is the effect of a cold climate on the actual turbine, as extremely cold temperatures might cause the turbine to function less efficiently. One worries that the developer might not have considered the cold climate uncertainty when calculating their expected energy production.

In the end, the opposition cannot reconcile the fact that they are being asked to compromise a common value that all people in the Kingdom share, the reason why they were drawn to the Kingdom in the first place. Their love for vastly undeveloped land, small communities nestled in the valleys, and the idea of local self-sufficiency. This is their cultural identity; they will rightfully fight to preserve it. Symbolically, UPC and the proposed wind turbines represent the development giant that is trying to take over all rural parts of the globe. But, what is perhaps most disconcerting is the fact that the project is actually quite small. The amount of energy that will be added to the grid from Sheffield seems insignificant on the national or even state-wide scale. As one informant stated, "If you are going to trade in the landscape, it has to be for a very good reason, for a huge power source. One to two percent of the state's power is all that these projects would create, that's just not worth it." She adds, in bewilderment, "By the year 2025, maybe, this country will produce one half of one percent of total energy using wind. We're being asked to sacrifice for that?"

[5] The addition of energy generated from wind turbines to the national energy grid does displace energy which is otherwise created from dirty energy sources, such as coal, oil or nuclear. (Turner 1999:688)

The Alternatives to Industrial Wind

"There are malls lit up all along the interstate in Connecticut with every light on, five-million dollar houses with every light on, I've been to dinner in those houses and we talk about the energy crisis and where do they come…Sheffield, Vermont."
—local author against UPC

The voices of the Kingdom may sound strikingly similar to those at the earliest stages of environmentalism, focusing on the preservation of forests and the well being of animal habitat. But those were the dominant voices of the past; we all know that the world, and more importantly, the climate were much different then. Thoreau was a back-to-nature man critiquing development, while Pinchot was a conservationist during the industrialization period in America, but neither could entirely grasp the connection between local actions and global impact, not at the scope or scale that we do now. Today we are living in a time when we know that the way we live in the developed world will affect everyone from the low-lying islands to the coastal plains, and soon enough, global climate change will affect each and every being on the planet. Modern environmentalists must recognize our circumstances and respond to the current problems which are threatening humanity. Many argue that we can fight to preserve the forests of Vermont, but if we do not establish an approach to mitigate climate change, the forest will be unrecognizable. In fifty years, due to the warming of the earth and the northern migration of plants and animals, the forest composition will be vastly different, the plants and animals that live there will be typically "southern" species, replacing the moose, bear and deer we are used to today (Walther 2002:389-395).

That being said, the people opposing wind power may have their roots in conservationism, but they are not ignorant of the troubled state the environment is in

today. They are not pretending that this is the dawn of the century and that we are on the brink of industrialization, where we need to regulate all of our practices to preserve the natural world. Or perhaps I should say that they don't *only* feel this way. Because although we are not on the brink of industrialization, we are thoroughly immersed in different forms of it and our demand for power keeps growing. Indeed they are arguing to slow that growth, to keep development out, to prevent change, to keep life small and community local. But they are fully aware of the global problem that is climate change, how they can play a role in the solution and why renewable energy is important. Although they are so strongly opposed to wind power in the Kingdom, they have considered the need for alternative solutions to combat the rise in energy demands.

Not one of my informants tried to ignore the issues of energy, carbon emissions, and climate change. We discussed the breadth of climate change and talked about alternatives to industrial wind power. While the informants were incredibly passionate about their own local issue, they were simultaneously becoming more involved in the global problem.

> Ironically, as a result of getting involved in this opposition to the turbine project, I learned a lot about global warming. I wasn't totally in denial about it, I was just not very well informed and now I am much more eager to contribute to some kind of positive political action in the state, in a small way at least, to address the issue.

That informant stood out in particular because of the changes he has already made to his lifestyle. Upon pulling into his driveway, the first thing I noticed was the hybrid vehicle in front of the house; upon entering the house, he strategically chose seats next to the window so as not to turn on unnecessary lights; and during our conversation he told me about the new bio-diesel heating he recently installed in his

house. While the typical country-life can be incredibly energy intensive, he serves as an example of ways to minimize that impact.

Each of my informants suggested that other forms of alternative energy are better suited for use in the Northeast Kingdom, including hydro, biomass, methane, and potentially solar.

> After those 2 main sources [Hydro Quebec and VT Yankee], the next two sources in importance in Vermont are indigenous hydro [power] and we also have two good size biomass plants in Vermont. Biomass in the great northern forest makes a lot of sense because we have a huge infrastructure for forestry and logging. There is a tremendous amount of waste wood and biomass is considered carbon neutral because the carbon that you are putting into the atmosphere is carbon that would be released into the atmosphere from that wood just by rotting.

The alternatives they prescribe are more suitable for the Vermont landscape and type of infrastructure the Kingdom already has in place. And despite their animosity toward industrial wind, many consider wind power as an integral part of Vermont's energy plan;

> I do think that there is a future in Vermont for small and even medium scale wind, community owned and operated wind. There are people in the state who are beginning to look in that direction. Smaller turbines don't have the same average wind speed requirement, so they don't have to be sited at higher elevations.

The informant later stated that in his three years working on this project, he had not heard any objections to putting up small wind turbines for individual or community power generation. In reality, the opposition is not against wind power necessarily, but they are against the thought of being lured in by outsiders to serve their energy needs.

One of the most frustrating aspects of this debate is that hardly anyone is talking about the need for people to reduce their energy consumption and become more energy efficient. Buying and selling RECs does not force a state to evaluate their energy consumption. If anything, RECs are a way for states to buy their way out

of taking responsibility for their own energy demand. Taking this into consideration, the people of the Kingdom struggle with the idea of lending a hand to those who selfishly consume without considering who makes the sacrifice for that energy. In Vermont, electricity conservation could be a state-wide mandate; as one informant suggested, "Conservation is huge, if every household changed three or four light bulbs we would save just as much energy as this project will provide—it's really sad. I mean, the conservation could save another 20-30%." And, he adds, "You can do mandatory conservation. We can demand that new housing units to be energy efficient. And also, you can put elevated fees on excessive use, you can boost those fees up and the homes that are really conserving can get a discount." This type of progressive energy regulation is what people begin to advocate when the alternative is to sacrifice a part of their world which they value so strongly. If individuals are either unable or unwilling to manage their own energy consumption, the government has the capability and responsibility to demand changes in consumption levels.

Rethinking the Path of Environmentalism

"People say that wind power *represents* a shift in thinking about energy, I think it *represents* negligence and disrespect. It's just as bad as a coal plant to me."
—member of Kingdom Commons

Now the opposition has presented their argument. And beyond the fight with the corporation, the turbines, and the environmentalists who support it, they really seem to be engaged in a fight with irony—the simple idea that wind power in the Northeast Kingdom is a paradox. There is a certain incongruity in the project, which we all can see, that the Kingdom already serves as a model of one place in the world that is on the right track. Regardless of how others interpret their values, either as

selfish, backwards, or irresponsible, they are entitled to those values. While we might think that wind power is the next necessary step in mitigating climate change, the fact that they do not want it on their ridgelines nor do they need it for their energy, means that we should give them the right to decide.

Whether this is a NIMBY issue or not is still debatable, and really depends on where we, as environmentalists, choose to draw the line. That line might represent the divide between two equally worthy sets of ethics, one of humanity and the other of community. Neither one is more legitimate than the other, but perhaps one is more idealistic, while the other is realistic. Ideally, wind power should make sense in the Kingdom. As people who care deeply for their environment, wind power seems to fit the criteria for acceptable development. But, in reality, there are caveats. There are issues of power, money, and the question of whether the sacrifice is worthy.

In the end, the debate points at an underlying tension within environmentalism itself. There is a divergence between two views which are ultimately both valid, the first being a devout global responsibility and the second being a strong local loyalty. But being a small town girl myself, I think we need to take a moment to look deeper into the idea of what having 'global responsibility' really means. A 'global responsibility' assumes that we have all agreed upon the direction in which the world should go. And that is where the people of the Kingdom really stand opposed to the rest of the world; while they are thinking about consumption and self-sufficiency, everyone else seems to be focused on finding ways to continue living the way we are now.

In his new book, *The Revenge of Gaia: Earth's Climate Crisis and the Fate of Humanity*, the famous scientist and environmentalist James Lovelock explores the complexities of a world on the brink of catastrophe. With perhaps the gloomiest prediction for the future, he offers a very harsh critique of how some are choosing to approach the problem.

> We see those urban politicians [pushing wind power] as like some unthinking physicians who have forgotten their Hippocratic Oath and are trying to keep alive a dying civilization by useless and inappropriate chemo-therapy when there is no hope of cure and the treatment renders the last stages of life unbearable. (Lovelock 2006)

Although entirely too apocalyptic, Lovelock raises the question, "Is wind power the be-all, end-all solution to solving global warming?" And of course, the answer to that is no. What is the answer then? Lovelock's greater point about wind power is that it doesn't actually get at the crux of the problem, that problem being that our civilization lives in a way that is unsustainable. We could go ahead and hastily put up wind turbines on every mountain top, install hydro power on every river and get solar panels on every rooftop in America; but that still would not be enough. Those "solutions" only make the supply of energy bigger without addressing demand. The problem then, for Lovelock and the people of the Kingdom, is that the current approach is too narrow. This is not to say that the idea of wind power is obsolete, but rather that the shift toward green energy sources and a control system for consumption must develop simultaneously. In certain regions of the world, wind power will be entirely appropriate; but for now, the Kingdom should be left as is.

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