Natural Resources Council of Maine

STATE OF MAINE
LAND USE REGULATION COMMISSION

Application for Development of	)	
Evergreen Wind Power V, LLC	)	PRE-FILED TESTIMONY
Stetson Mountain Wind Farm	)	
Rezoning Application ZP 713	)	

I. Summary

My name is Dylan Voorhees. I am the Clean Energy Director for the Natural Resources Council of Maine (NRCM). NRCM is a private, non-profit, membership organization established in 1959 to advocate for the protection and conservation of Maine's natural resources. NRCM has a strong interest in the development of clean forms of electricity generation that will help reduce the environmental and public health harm caused by existing forms of power production. We share the view articulated in the Maine Land Use Regulation Commission's (the "Commission") Comprehensive Land Use Plan that "windpower offers an attractive alternative to the burning of fossil fuels."[1] We also recognize that the Commission has an important responsibility in considering how to balance impacts and benefits when it comes to wind power projects in its jurisdiction.

The demonstrated need for a significant quantity of wind power, and this project in particular, is clear. Existing uses and principal values in the jurisdiction are highly vulnerable to global warming, as documented in the research by the Northeast Climate Impact Assessment (see Appendix A of this testimony, and attachments to testimony from the Conservation Law Foundation). Maine has made a commitment to reducing its contribution to the problem of global warming, and has a set of strategies and policies that call for additional wind power. Without approval for wind energy projects in LURC jurisdiction, Maine may fail to fulfill its commitments on global warming.

Although it can be challenging to find development sites for wind energy projects, this project has very few adverse impacts on existing resources and uses and is clearly one of the best available sites in Maine. NRCM believes this project is highly compatible with the principal values of the jurisdiction.[2] The project will enhance economic activity in the jurisdiction by harnessing an energy resource without impacting the traditional economic activity of the working forest. The energy and environmental benefits of the project, particularly when viewed within the state's larger strategy for mitigating global warming, help protect the "diverse, abundant and

[1] Comprehensive Land Use Plan (1997), Chapter 3, Natural and Cultural Resources, p 40
[2] Comprehensive Land Use Plan (1997), Chapter 4, Development, p 114.

unique high-value natural resources" of the region. Some recreational users of Baskahegan Lake will find the visual effect of the project to be negative. NRCM believes that the potential visual impact of the project is small when compared with the very substantial negative impacts of existing forms of power generation (including coal and oil), which should not be out of mind as the Commission considers this application.

II. Introduction

Evaluating a wind power project such as Stetson requires a balancing of policy goals, impacts and benefits. This balance is described in LURC's vision statement for the jurisdiction itself: "Through wise management and protection, the jurisdiction should achieve a balance of uses that provide for the continuation of traditional ways of life, sustainable economic opportunities and outdoor recreation for the people of Maine and its visitors."[3] This balancing act has been made more difficult because the environment and economy in LURC territory are at great risk from global warming. Global warming and other environmental hazards arise in large part from generating electricity with fossil fuels.

Chapter three of the Comprehensive Land Use Plan outlines twelve different types of resources in the jurisdiction, their uses and the principle values associated with them. Not a single one of those resources, from Agriculture to Wildlife, will escape the negative impacts of global warming, some of which are already occurring, but many of which are still preventable. (See Appendix A: Impacts of global warming on LURC jurisdiction)

There is no single solution to global warming, but experts broadly agree that a significant increase in clean renewable power is essential. According to the Comprehensive Land Use Plan, "indigenous energy resources provide reasonably priced power and reduce the state's reliance on energy imports."[4] The unorganized territories contain a significant percentage of the state's wind resources and wind remains the most affordable new source of clean energy.

Maine's unorganized territories are undeniably at risk from global warming, but also inherently contain a powerful resource that can be part of the solution. Traditionally "wise management and protection" has meant balancing development with protection. In evaluating this wind energy project in the context of global warming, the Commission should understand that *development* of the resource can actually contribute to *protecting* the jurisdiction.

Maine has made specific and meaningful commitments to reducing its global warming pollution, and has done so in concert with other states and Canadian provinces.[5] Despite these actions, we are not on track to meet the first benchmark of reducing emissions to 1990 levels by 2010.

Like any energy project, the Stetson project will have site-specific impacts. NRCM believes these impacts are more than outweighed by the project's benefits. This single facility can supply

[3] Comprehensive Land Use Plan (1997), Chapter 5, Goals and Policies for the Future, p 133.
[4] Comprehensive Land Use Plan (1997), Chapter 3, Natural and Cultural Resources, p 39
[5] For example, 2006 adoption of California tailpipe emission standards for new cars, and 2007 passage of legislation authorizing Maine's participation in the Regional Greenhouse Gas Initiative.

enough clean power for 20,000 homes, making a significant contribution to the reduction of global warming pollution. When we consider Stetson in the context of the regional power grid it is clear that every kilowatt-hour from wind power will replace a kilowatt-hour from another source, in most cases, a fossil-fuel burning facility.

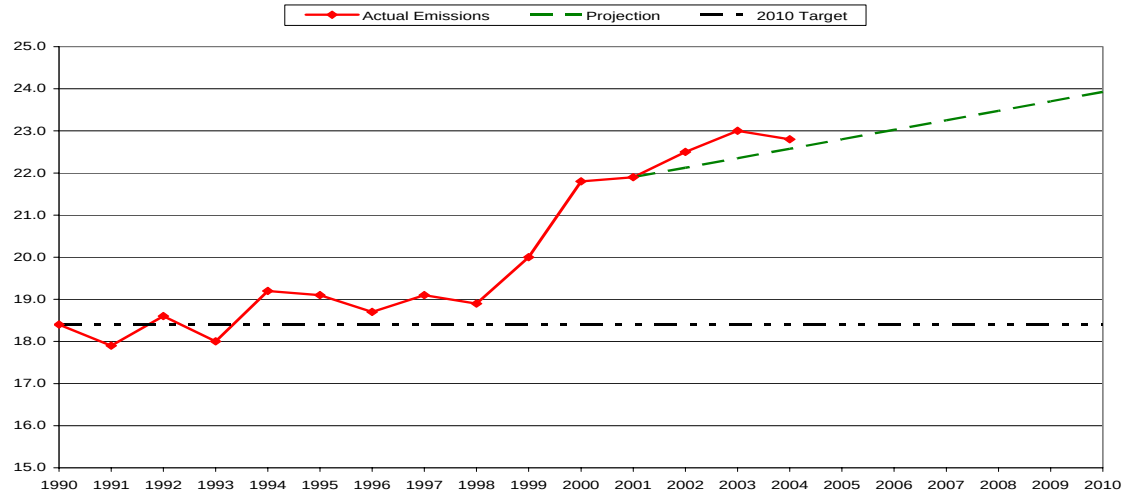
The applicant has taken many important steps to minimize project impacts. Most importantly, they have chosen a site with relatively low natural resource values on an existing system of roads. A small amount of land will be cleared and some new roads constructed—comparable to a small residential subdivision. There will be almost no impact on the use of surrounding areas as timberland under the M-GM zone. Although the project will create a visual impact for people fishing and boating on Baskahegan Lake, NRCM concludes that this does not constitute an undue adverse impact when compared with the impacts from other energy projects or alternative locations for reasonably available wind energy projects in Maine.

III. **The demonstrated need for wind power**

In 2001, all of the New England governors and premiers from six eastern Canadian provinces agreed to reduce global warming pollution to 1990 levels by 2010, with further decreases afterwards (10% below that by 2020, and 75% below that by 2050). These commitments continue to be consistent with what scientists tell us is necessary to avoid the most catastrophic effects of global warming.[6] In 2003 the Maine State Legislature passed legislation that mandated a plan to reach these targets, and the resulting Maine Climate Action Plan (MCAP) remains a strategy guide.

Based on the latest data available from the federal government, Maine is not on track to meet the 2010 goal (figure 1, from U.S. Energy Information Administration). This disturbing trend reflects the fact that many of the actions we have taken as part of the MCAP will not take effect until 2009, and are in effect postponements of action needed now.

Figure 1: Maine Emissions (million metric tons of CO2)



[6] In fact, if these reductions are achieved, then it could help keep emissions—and impacts—below even the "lower-emissions scenario" described by the Northeast Climate Impact Assessment report.

Over a third of our total emissions come from generating electricity, making action in this sector essential to achieving greater reductions. Power plants are a focus of global warming mitigation for other reasons, too. Power plants are easier to regulate than individual buildings or cars, and alternatives exist that are technologically and economically ready-to-go, especially wind turbines.

The relationship between emissions reductions and wind power development can seem complicated, but can be understood using a simple analogy.

The electricity grid in New England is like a large swimming pool full of power. A variety of faucets (power plants) poor water into the pool at various rates. And all of us connected to the grid draw water off the bottom. Right now, the pool is a grey-brown color, because 60% of the water coming into the pool is from burning fossil-fuels. (Another 30% comes from nuclear power.) Adding a wind power project is like adding an additional faucet that provides clean, clear water. *When we add water (kilowatt-hours) from wind projects, we need to turn down the other faucets in order for the pool not to overflow*. Once you have installed a wind project, it is almost free to operate, so it is always cheaper to use that energy whenever it is available. (The most expensive plants burn fossil fuels.) When the wind is blowing hard, more clean water is added to the pool. Each bit of wind power makes the pool cleaner.

The Regional Greenhouse Gas Initiative (RGGI) plays a leading role in Maine's Climate Action Plan because it sets a fixed cap on emissions from power plants from Maine to Maryland. This innovative, regional, market-based program is a strong step in the right direction. To stay under the pollution cap set by RGGI, we must both increase the efficiency of the use of electricity and increase the proportion of clean power on the grid.

Several other strategies in the MCAP call directly for greater deployment of renewables. One of those strategies is a Renewable Portfolio Standard, or a minimum (and increasing) percentage of renewable power that utilities must sell. This standard exists in Maine statute, and was increased significantly by the legislature in 2006. Meeting this standard without new wind power would be impossible.

Maine's existing policies, plans and laws clearly demonstrate a public need for additional wind power. Returning to the swimming pool analogy, a very detailed analysis is required to predict exactly which dirty faucets will be turned down when we add a wind power project. But the effect of cleaning up the mix is unmistakable just the same.

Maine has a "deregulated" power sector in which choices about power plants themselves are controlled only by the market.[7] According to the regional grid operators (ISO-NE), over 90% of the new power plants proposed for Maine are wind power projects. While no state agency can tell power companies what plants to build, *the Commission has an extremely important role to play in determining the energy future for Maine—and thus over our ability to reduce emissions enough to meet our goals*. That is because most of the ridgelines with good wind are in LURC

[7] Policies like RGGI and the Renewable Policy Standard provide *incentives* for clean renewables but do not control development choices. Only the utilities, which distribute the power, are regulated by the state.

territory. Quite simply, the Commission's decisions on wind projects have an enormous impact on Maine's electricity mix and our ability to meet our energy and environmental needs.

IV. Best reasonably available site

NRCM believes that the site for this project is one of the best reasonably available for wind power in Maine. In order to make its own determination, the Commission will need to consider what is reasonably available at all. The twin basic locational necessities for a wind energy project—strong, consistent winds and access to transmission lines—significantly limit the number of sites that can even be considered. Several possible sites are on land with protective conservation status, making them unavailable. An even larger number of potential sites are located in prohibitively difficult terrain.

No location will be without some conflicts with existing resources or uses, even those which can be called the "best available". It is well understood that the majority of strong wind conditions occur either in the high western mountains or along the coast. For this project, Evergreen Windpower has found a location which does not appear on statewide maps of strong wind locations (and was only identified through individual wind energy analysis) where conflicts with existing uses will be minimal. We believe there are very few of these sites. The wind resource may be slightly inferior to some other locations, but the geography of Stetson make it possible to construct an environmentally sound project at a feasible cost.

According to the Comprehensive Land Use Plan, wind projects "are best located in areas on the fringe of the jurisdiction with good existing road access but low natural resource values."[8] This describes Stetson excellently. One third (five miles) of the necessary roads will be existing roads, and the project is not located in an area with significant documented conservation or wildlife habitat values.

V. Adverse impacts of Stetson on environment and community

Perhaps the most challenging task for the Commission is determining whether a wind energy project has "undue adverse impacts on existing uses and resources". NRCM believes that all wind power projects carry a mix of adverse impacts and energy and environmental benefits. Determining whether or not those adverse impacts are *undue* requires a comparison to the impacts from other development, including but not limited to other energy projects, which would be found acceptable by the Commission. We conclude that the impact on forest, wetland, wildlife and recreational resources does not constitute an undue adverse impact.

<u>Impacts on Forest & Wildlife Resources</u>

One of the principle values of the unorganized territories is "the economic value of the jurisdiction for fiber and food production, particularly the tradition of a working forest."[9] The

[8] Comprehensive Land Use Plan (1997), Chapter 4, Development, p 131
[9] Comprehensive Land Use Plan (1997), Chapter 4, Development, p 114

primary existing use at Stetson and surrounds is, in fact, timber harvesting. Under agreements with the landowner, harvesting can occur in the area with minimal impacts.

While Stetson mountain is obviously habitat to an array of wildlife, no rare, threatened or sensitive species will be significantly impacted by the project. One of the most commonly expressed concerns about wind energy is the impact on bird and bat species. Fall and spring avian studies have been completed at the site and indicate a low likelihood of any significant impact. The area has not been identified as an important migratory route, for example, nor is the site believed to be breeding ground for raptors, which seem to be most vulnerable to improperly sited wind projects. Establishment of scientifically credible post-construction monitoring protocols is important to current and future efforts by the Commission to evaluate acceptable levels of impact. The protocols provided by the applicant meet this test.

Evergreen Windpower has committed at least $100,000 for land conservation efforts around Stetson mountain, particularly to conserve valuable wetlands in the Baskahegan stream watershed. NRCM is currently working with the applicant, the Forest Society of Maine and other stakeholders to identify the highest and best use for these funds. Not only will this conservation activity help improve the balance of impacts from the project, it indicates the applicant's commitment and attitude in working proactively with stakeholders to provide a positive environmental benefit to the area and the community.

Impact on Recreational Resources

The area around Stetson mountain does not have broadly recognized scenic recreational resources. There are few established hiking trails in the vicinity and there are not expected to be any adverse impacts to this activity. The area is used for hunting and some motorized recreational activities. These activities already take place in a managed forest with some road development and are unlikely to be impacted.

The project will have a visual impact on some area recreational uses, particularly on Baskahegan Lake, that need to be considered by the Commission. This medium-sized lake is valued by area residents and visitors for fishing and boating in a setting with low development levels.[10] The turbines will be visible from most of the lake, including the public boat launch. (The project generally will *not* be visible from two of the three campsites on islands on the lake.)

The magnitude of the visual impact is difficult to quantify.[11] NRCM believes that the visual impacts of the project do not constitute an undue adverse impact for three reasons. First, although the turbines are obviously large, they will generally be viewed from more than five miles away, putting them in the mid-ground distance which has less visual impact due to the context of other landscape features. Second, the lake is highly valued by local residents, for good reasons, but has not been identified as a resource of larger significance that requires protection from any development whatsoever. Finally, some visual impact is unavoidable with wind power

[10] The area around the lake has remained relatively undeveloped because of the outstanding forest management practices of the Baskahegan Company.

[11] Some research suggests that the opinions of the viewer regarding wind power and clean energy have a large effect on whether the impact is viewed as negative.

projects, but the scale of the impact from the Stetson project is acceptable given society's need for cleaner forms of power generation.

VI. Conclusion

In conclusion, Maine and the Commission face a clear choice about our energy future. One choice is to pursue the status quo—continued reliance on fossil-fuels for our electricity and acceptance of the enormous negative impacts on the environment and public health. The other choice is to pursue a comprehensive strategy to increase our use of clean energy. Because wind power is an essential component of a clean energy strategy, and that resource lies largely in LURC jurisdiction, it falls to LURC to help Maine make that choice when evaluating this individual project.

NRCM strongly believes that the proposed Stetson Mountain Wind Farm falls in the category of best available sites for wind power in Maine. The impacts from this project on existing resources and uses will be real, but small when compared to the benefits.

Appendix A: Impacts of global warming on LURC jurisdiction

The recent research by the Northeast Climate Impact Assessment (NECIA) offers the most recent scientific and economic analysis of the impact of global warming on Maine and the LURC jurisdiction. That research shows the impact in Maine from two scenarios: a higher-emissions scenario and a lower-emissions scenario—neither the ceiling nor the floor of what is possible, but good illustrations that show us the results of inaction.

The results of that research highlight a single point above all else: the choices we make about the amount of global warming pollution we put into the atmosphere make a difference in the very character of Maine. Scientists now use complex computer models with a vast array of variables to describe our changing climate. The biggest variable remains how much pollution we chose to emit today—especially because the choices today will remain in effect in the atmosphere for decades to come.

Forest Resources

Perhaps the most striking impact of global warming on the jurisdiction would be the impact on forest resources, particularly the spruce/fir forests. If we let the higher-emissions scenario occur, suitable habitat for spruce/fir will all but disappear from Maine by the end of the century. (Loss of balsam fir around 85%, loss of red spruce around 70%.) The high-elevation areas of this forest will be especially hard hit. Only under a lower-emissions scenario can we preserve some of these forests, which provide essential habitat for species like the Canada lynx and the Bicknell's thrush. Half of all sawlogs in Maine come from spruce/fir forests, plus one fifth of pulpwood. Combine this with the fact that 35% of the state's total payroll comes from paper and wood products, and the potential economic impact is devastating.[12]

Recreational Resources

Impacts from global warming will be most severe on winter recreation. Snowmobiling is highly vulnerable: by 2050 we will see a 50-65% decline in the viable season. Under the higher-emissions scenario, this decline will be about 80% by the end of the century. Ice-fishing, cross-country and downhill skiing face serious consequences. Some western ski areas may remain viable, but will face dramatically less natural snow and require significantly greater water withdrawal for snowmaking. In the summer, outdoor recreation is threatened by extreme heat and decreasing air quality. The *average* number of days each summer over 90 is expected to top 60 in southern Maine by the end of the century (with over 20 days over 100). Increasing ozone, bad air days and asthma rates are additional negative impacts.

Water & Wetland Resources

The woolly adelgid, which kills hemock trees, is limited by cold winters to coastal Maine. Some further spread northwards is inevitable based on the climate changes we've already caused. Under the higher-emissions scenario, it could spread all the way to Canada. Hemlock plays a vital role in keeping streams cold for many native fish species such as brook trout and salmon; these species will already be impacted by rising temperatures directly. This is just one of the ways in which global warming will disrupt our water resources and our enjoyment of them.

[12] Comprehensive Land Use Plan (1997), Chapter 3, Natural and Cultural Resources, p 43

Other predicted impacts include more high-flow events in winter that carry risk of flooding, and extended low-flow and drought events in summer

These are only examples, but they are clearly “undue adverse impacts”. The Commission cannot stop them by itself. Through the permitting of wind power, however, it is helping to be part of the solution and helping to protect its own jurisdiction from these highly undesirable effects.

VERIFICATION OF DIRECT TESTIMONY

I, Dylan Voorhees, being first duly sworn, affirm that:

I am the Energy Director for the Natural Resources Council of Maine;

I have drafted, reviewed and signed the pre-filed testimony by NRCM in the proceeding before the Land Use Regulation Commission on the application by Evergreen Wind Power for a wind power development project on Stetson Mountain, Washington County.

I am authorized by NRCM to execute this verification to the pre-filed testimony.

Date: July 19, 2007

Dylan Voorhees
Energy Director
Natural Resources Council of Maine

Dylan Voorhees, properly identified, appeared before me this _19_ day of July, 2007 and made affirmation that the facts set forth in the foregoing document are true and correct and subscribed the document before me.

_____
Signature

_____
Name (printed)
acting as Notary Public pursuant to 4 MRSA § 1056

State of Maine, County of Kennebec_____