Chowan County Planning Board
Wind Ordinance Review and Recommendations

The Chowan County Planning Board is performing a review of the 2013 Chowan Wind Energy Facilities ordinance with one over-riding perspective in mind:
the Objective of County Laws is to “Protect the Health, Safety & Welfare of the Community.”

As such, we *enthusiastically* welcome economic development to Chowan County — but with the fundamental stipulation that we can not support any proposed project that undermines the health, safety and welfare of our community, our local businesses, or our environment.

Further, we would not endorse any large proposed project that is making financial claims, until there is an objective evaluation that concludes that the project was a **net** economic benefit to our community.

We believe we have a responsibility to encourage responsible economic growth, while providing reasonable protections for our community.

***S**ome Protections that must be considered are:*

Protections for the health and safety of local families.
Protections for residents near any proposed wind project,
to be allowed the quiet enjoyment and use of their property.
Protections for the home values of hard-working citizens.
Protections for existing County businesses.
Protections for local taxpayers and ratepayers.
Protections for birds, bats and other wildlife.
Protections for our natural resources.

Due to the limited time allotted for the review and the highly technical nature of Industrial Wind Facilities, the Chowan County Planning Board decided that it made no sense to “reinvent the wheel”. Since there are many other US communities that have already investigated this matter very thoroughly and objectively, we decided to look at the work product and conclusions of some of these other communities, *especially* where they have clearly given this matter careful scrutiny.

A good example is the town of Bethany NY. After over a year of intensive investigation they came up with this very detailed study. In their exhaustive analysis, they identify and explain some forty (40) issues of concern with industrial wind energy development.

Some other good examples where citizens did research and came up with reasonable ordinances include:

Eddington (Maine)
Jackson (Maine)
Madison (Idaho)
Montville (Maine)
Sumner (Maine)
Sweetwater (Wyoming)
Trempealeau County (Wisconsin)

In North Carolina there have been no industrial wind development projects constructed. As such, there are no NC counties that have first-hand experience with wind energy.

On the other hand, several NC communities have had wind energy proposals. Our investigation concluded that Carteret County and the Town of Newport both wrote excellent wind laws in response to those solicitations. What we liked about them is that they both were focused on the health, safety and welfare of local citizens

When carefully looking through these and other wind laws, what becomes apparent is that there are six (6) key issues that need to be properly specified in any protections-oriented wind law:

1 - Property Value Protection (Potential Loss)
2 - Adequate Setbacks
3 - Proper Acoustical Limits
4 - Environmental Assurances and Aesthetics
5 - Decommissioning Rules
6 - A Sufficient Escrow Account

The following pages provide more specifics about each of these important issues.
The most significant take away message, is that the current Chowan County Wind Law *does not* adequately address ANY of these key areas.

A little over a year ago, our neighbors in Carteret County were faced with a similar situation. In late 2013 Carteret County, NC was formally notified that a large industrial wind project (*Mill Pond*) was proposed for their county. Although the county had a good 2008 wind law (*Tall Structure Ordinance*) in place, the Commission decided that **in the interest of protecting the health, safety and welfare of Carteret County citizens**, the outdated wind law should be revisited— particularly since much more wind energy research had been made available since 2008.

The Commissioners realized that they needed adequate time to properly conduct a review, so they arranged for a public hearing to discuss a moratorium. (Here are the official minutes of that meeting, which had over 500 attendees!). At the end of the meeting, they unanimously passed a sixty (60) day moratorium.

At that public hearing the Commissioners agreed to key issues that need to be properly addressed in any county wind law. These are what we identified earlier in this report. Briefly, the basic objectives for the proposed regulations of key issues are:

1) to provide meaningful health, safety, and economic protections to local citizens, businesses, the environment, and the military
2) that they are legally defensible (e.g. are based on research from independent, qualified experts).

During the moratorium, the research conducted by the Carteret Commissioners and Carteret Planners, concluded that there was legal precedent for regulating all of the key issues as other US communities have adopted similar provisions.

This led to the Commissioners passing an updated wind ordinance, that incorporated each and every one of these key points.

The following are the Key Principles, as well as some *sample* research supporting them:

1 - Have a Property Value Guarantee. This would compensate property owners within two (2) miles for any property value losses due to this industrial development. This isn't a fabricated concern as there have been numerous studies by independent experts who have concluded that such residential property value losses will often occur.

> **Is this defendable?** YES, the County certainly has the legal authority to protect the private property rights of its citizens. Further, the wind industry's public position is that there won't be any such losses — so it will be hard for them to say that providing a guarantee of their own claim is an unreasonable burden on them.

2 - Have sufficient setbacks. The recommended distance is **one (1) mile** from all non-participating residential property lines to the nearest turbine. The purpose of this is to provide reasonable health and safety protection to nearby residents.

> **Is this defendable?** YES, the County certainly has the legal authority to protect the health and safety of its citizens.
>
> A one mile setback is not some unreasonable distance, as several independent experts have advocated for larger separations. For example, this 2012 study concluded: "there is a significant probability of adverse health effects for human beings living within 1.25 miles of wind turbines".
>
> Also, see this **list** of over ***forty*** locations that presently have a mile or more setbacks, or studies that recommend such a distance — so there is ample precedence and scientific basis for establishing such a limit.

3 - Have adequate Acoustical Standards. The purpose of this is to also provide reasonable health and safety protection to nearby residents. The recommended maximum turbine noise allowed is **35 dBA**. This number was determined by independent experts to be the ideal limit that will protect nearby citizens from audible noise, *as well as from low frequency infrasound.* In other words it is a *proxy value* for the infrasound, without having to go to the trouble and cost of specifying and testing low frequency sounds.

> **Is this defendable?** YES, the County certainly has the legal authority to protect the health of its citizens.
>
> This is not an arbitrary, capricious or punitive regulation, as there is scientific evidence from independent PhDs who have concluded that this is an appropriate limit (e.g. this study — and note the numerous scientific references). This study (by different independent experts) comes to the same conclusion.
>
> It should be clearly understood that there are two concerns here: **a)** sounds that can be heard, and **b)** low-frequency sounds that can *not* be heard (low frequency, infrasound). Some people will find the later part strange, but the fact is that "sound" is an energy wave, and it affects you whether or not our ears alert us to it being there.
>
> The World Health Organization states: "*Health effects due to low frequency components in noise are estimated to be more severe than for community noise in general*."
> It is difficult (and expensive) to do meaningful infrasound tests. The experts have

concluded that doing a better job testing and limiting the sounds we can hear, will also effectively reduce the impact from infrasound — i.e. will act as a **proxy** for low level sounds. Put another way, a properly worded **35 dBA** limit reasonably protects citizens from both of these types of noise.

4 - Have reasonable Environmental Protections. These would be rules to protect birds, bats, vegetation, water resources, etc. T*he County rules should incorporate the "best practices" of the ordinance review data.*

a) The County would determine what tests need to be done on the proposed project *vs* the developer deciding what tests his own project needs to comply with.
b) The County would hire independent experts *vs* the developer employing and supervising persons known to be sympathetic to the developer's business.
c) The developer would provide the money for testing to the County *vs* the developer paying sympathetic inspectors directly. The net economic effect is that there is no increase in cost to the developer, and there is no cost to the County.

Is this defendable? YES, the County is within its rights to protect the environment (wildlife and ecosystems) within its jurisdiction — especially since the state has neglected to adequately cover these matters.

Further, the County is certainly within its rights to make sure that these important tests are done by *independent* experts, with no quid-pro-quo relationship with the developer. To have the developer determine what tests his facility must comply with, and then hire his own people to conduct those tests, is clearly *contrary* to providing adequate protections to citizens, and the environment.

5 - Proper Decommissioning
Although this is addressed in the existing Chowan County ordinance, those provisions need to be more protective.

Is this defendable? YES. Even wind developers acknowledge the necessity of a decommissioning agreement. The key aspects of this are: **a)** the developer should shoulder ALL the risk, **b)** there should be an upfront assurance that money will be there in 15+ years, as the initial developer will likely be long gone, and **c)** there needs to be adequate legal protections for the community as the developer is a LLC, which is a corporation basically immune from legal prosecution.

6 - Require an Escrow Account of $50,000 upon the developer's application. This money would be used to pay County expenses related to all aspects of this project. Anything unused would be returned to the developer.

> **Is this defendable?** YES, this is a very special, highly complex matter — extraordinarily more involved than approving a conventional business.
>
> A quick investigation into the experiences of other areas indicates that the costs to the County could easily exceed $100,000 for them to investigate, legislate, follow, negotiate, etc. what will need to be done over 20± years. There is no justifiable reason why Chowan taxpayers should pay for the costs related to this extremely profitable business.
>
> On the other hand, if the County is not compensated for the extra effort required to do a thorough job, they might be inclined to "save" money by cutting corners. The County should **not** reduce protections to its citizens due to a lack of funding, especially when there is a simple solution to it.
>
> The fact is that the industrial wind business is extraordinarily profitable — e.g. these ventures will likely make *tens of millions of dollars a year*. As such, an Escrow Account is not an unreasonable burden on the developer, as $50k to these people is literally lose change.

This report is fairly lengthly and we appreciate your patience, but there are many complicated issues to understand about this extremely important matter, which could have an impact on our county for the next 20 years and beyond.

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Appendix A: Several Notes

Note 1 — One question that may come up — *Doesn't the state have adequate rules to provide all these protections?*

The short answer is an unequivocal NO. The situation with NC laws and agencies is outlined on this NC webpage.

Note 2 — Some may claim that the above provisions will make the Chowan County law "the strictest in the state". That is simply not so. For example, please check out the Ashe County (NC), Code of Ordinances (Title XV, Chapter 163). (Note that this was passed in **2007**.) Some relevant provisions are:

> § 163.21 (A) - (2) *says:* The maximum wind turbine height for a large wind energy system ... shall in no event be more than **199 feet**.
>
> § 163.21 (F) *says:* No portion of a large wind energy system shall be located ... if the wind turbine height exceeds the top of the vegetative canopy surrounding such large wind energy system by more than **35 feet**.
>
> § 163.21 (G) *says:* The aggregate noise and/or audible sound of a large wind energy system shall not exceed five (5) decibels above the existing average noise/ decibel level on adjacent properties;

The Town of Blowing Rock passed an outright prohibition, and Banner Elk effectively did the same thing. **All** of these conditions are more stringent than what is being recommended here.

Note 3 — What should be clearly kept in mind is that there can be conflicting "rights" in cases lit this. For example:

a) the rights of some out-of-state investors to start and operate a new business in Chowan county, *vs*

b) the rights of people and businesses already in the community.
(For example a citizen's right to peaceful enjoyment of their home, a citizen's right to health and safety, a citizen's rights against adverse possession, an existing local business' right to continue to operate, etc.)

If legislators say that they are going to be "cautious" and *reduce* regulations on said investors — that specifically means they are going to *increase* the health, safety and economic problems caused to local citizens, businesses, and the environment. Why should existing citizens and businesses to be penalized for the financial gain of an out-of-state entrepreneur?

Note 4 — Why is there no recommendation for "turbine height"? The reasoning is that if the rest of these items are properly written, then other issues (like height, flicker, etc.) will take care of themselves. Yet, we recommend that turbine height continued to be considered in any subsequent County Wind Ordinance text amendments.

That said, allowing anything over 500 feet seems to be unwise — if for no other reason that it introduces new technology where we have almost zero real world experience to know what other new issues may result. See Appendix B (below) for a more detailed

discussion of whether specifying a **low** height limit in a wind law is all that needs to be done.

Appendix B: What about Specifying a Low Height Limit for Wind Turbines?

The positives:

1) Having an ordinance that has a low height limit for turbines (let's say 200 feet), is the model of simplicity. Nothing else is needed in the ordinance as such a limit effectively excludes any industrial wind project (as all modern turbines are 400 feet or higher).

2) There are substantial legal precedents for communities to limit structural heights — e.g. with buildings, signs, towers, etc.

3) There is NC state legal precedent with the 1983 Mountain Ridge Protection Act which prohibits structures taller than 40 feet. The Act lists several justifications as to why — and some of these would apply to turbines.

4) There is NC legal precedent with the 2007 Ashe County Code of Ordinances (Title XV, Chapter 163), which has gone unchallenged. Two provisions are:

   § 163.21 (A) - (2) *says:* "The maximum wind turbine height for a large wind energy system ... shall in no event be more than 199 feet."

   § 163.21 (F) *says:* "No portion of a large wind energy system shall be located ... if the wind turbine height exceeds the top of the vegetative canopy surrounding such large wind energy system by more than 35 feet."

5) There is NC legal precedent with the 2014 Carteret County Tall Structures Ordinance (¶3.3). Which limits industrial wind turbine height to 275 feet.

6) Since NC ordinances regularly include a turbine height limit (often 500 feet), that would imply that local jurisdictions have the authority to set such a limit. (There has been no successful lawsuit that has concluded that local jurisdictions were overstepping their authority in setting such a limit.) So if they have the "right" to set 500 feet, then why not 400 feet, or 300 feet?

The negatives:

1) If the ordinance is strictly just a low height limit, the community is then essentially putting all their eggs in one basket. If the developer sues and the courts say that the community exceeded their rights, and throws out that limit — that would mean the community is left with no protections at all.
2) From a scientific perspective, it is hard to defend a specific limit (e.g. 200 feet), as there are no scientific studies for that exact height.
3) Likewise it is harder to defend a specific limit (e.g. 200 feet) from the claim that it is an arbitrary number. The question will be raised: why not 225 feet, or 250 feet, or 275 feet? That might be difficult to legally answer.