Hi Bill,

See responses to your questions below.

You will note that the responses go a bit beyond your specific questions because once I began digging into these issues, I came across other peripheral issues that are worth addressing.  This raises an additional issue.  So far, we have limited our analysis to the specific questions you have directed to us.  As the zoning regulations and enhanced energy plans are finalized, they will need to be read through to ensure that they are coherent and internally consistent. Remember that courts and the PUC will read ambiguity and inconsistency in favor of landowners and against the Town.  **It is probably worth having the zoning administrator read through at least the zoning regulations to ensure that they make sense**.  We are also happy to do a broader review (maybe with a focus on energy regulation) if you want.  Let me know about this, or any other questions that come up.

Best,

Nick

In your 11/21 message you suggested cross referencing Sections 505 and 506 of our zoning regulations with the new language that would replace point #4, Sec. 207 (top of p.20) and point #10, Sec. 209 (top of p. 21).  How exactly would you suggest we do the cross referencing?  For example, should we re-title Sec. 505 as "Siting Wind Energy Systems" (thus eliminating ambiguous references of "individual" wind energy systems)?  Should the language of the first sentence of that section be changed to read "Wind energy systems up to 15kW which are subject to..." (thus eliminating possible ambiguity about the term "small scale")?

Where and how would you suggest we do the cross referencing for Sec. 506?

You could edit Section 505 as set out in blue text below.

Also, while you state here in which district wind systems are allowed, you could also add this as a permitted or conditional use in those districts.  For example, you could list “wind energy systems operated solely for onsite electricity consumption” in section 501.3 (Forest District) as either the #7 permitted use, or as the #4 conditional use.  If you decide this should be a conditional use, you should change the language in Section 505 to reflect that.

**Making wind turbines a conditional use might be wise, as this would give the Town greater supervision and control over what types of turbines are installed.  This is particularly true given that wind installations may involve building a new private road, and because you are allowing systems for onsite consumption at existing homes above 2000 feet.**

Note that the last bullet point under decommissioning (Stabilization or re-vegetation of the site as necessary to minimize erosion) is vague because it does not say what is “necessary”.  You may want to require applicants for wind systems to provide a re-vegetation plan that becomes part of the approved application and that they (or their successors) are then required to follow.

**Section 505 ~~INDIVIDUAL~~ WIND ENERGY SYSTEMS**

~~Small scale individual w~~Wind energy systems operated solely for onsite electricity consumption which are subject to municipal zoning regulations (i.e. systems not subject to 30 V.S.A. § 248) shall comply with the following provisions.

Regulations

* Turbines shall not be allowed or permitted unless they are setback a minimum of two (2) times the highest blade height measured in a straight line from the closest property line.  Highest blade height is measured from the base of the turbine to the tip of a blade in its upright, vertical position.
* Turbines shall not be allowed or permitted unless applicant clearly demonstrates noise will not exceed ~~the~~ 41 dBA Fast Lmax daytime at the closest property line and 39 dBA Fast Lmax nighttime.
* Turbines shall not be allowed with lights.
* Turbines and associated development shall not be allowed on slopes of 20% or greater.
* Noticeable shadowing, shadow flicker, and the risk of ice throw from wind turbines is prohibited.
* ~~Maximum turbine~~ The highest blade height allowed, as measured from the base of the turbine to the tip of a blade in its upright, vertical position is 120 feet; maximum blade length is 20 feet.
* The rated capacity of the systems shall not substantially exceed the on-site electric usage of the end-user ~~and shall not be interconnected to the electric utility system~~.
* Turbines are subject to restrictions set out in Sections 207 and 209 of these regulations.

Use Regulations in districts

i) Hamlet (H) and Historic Districts (HD) ~~Individual~~ wind energy systems are ~~a~~ prohibited ~~use~~.

ii) Forest District (F) ~~Individual~~ wind energy systems ~~units~~ are a permitted use.

iii) Rural Residential District (RR) ~~Individual~~ wind energy systems are a permitted use.

iv) Recreation Commercial (RC) ~~Individual~~ wind energy systems ~~units~~ are a permitted use.

Abandonment

• A~~n individual~~wind system that is out-of-service for a continuous 12 month period ~~without service~~ will be deemed to have been abandoned. The ZA may issue a Notice of Abandonment to the owner or operator and the owner or operator shall have the right to respond within 30 days from the Notice receipt date. The Notice of Abandonment may be ~~within~~ withdrawn if the Owner provides information that demonstrates the system has not been abandoned.

• If the system is determined to be abandoned, the owner or operator shall remove the entire system at the Owner’s/Operator’s sole expense within 150 days of receipt of ~~Note~~ the Notice of Abandonment. If the owner fails to remove the system, the Zoning Administrator may pursue a legal action to have the system removed at the Owner’s expense.

Decommissioning

• Any turbine installation which has reached the end of its useful life or has been abandoned shall be removed. The owner or operator shall physically remove the installation no more than 150 days after the date of discontinued operations unless an extension is granted for good cause (e.g. weather). The owner or operator shall notify the Zoning Administrator by certified mail [within XX days after the date of discontinued operations] of the proposed date of discontinued operations and plans for removal. Decommissioning shall consist of the following points.

• Physical removal of all turbine installations including but not limited to the structures, equipment, security barriers, and ~~transmission~~ distribution lines from the site.  Physical removal of all peripheral elements including but not limited to pathways, fences, meters, and equipment.

• Disposal of all solid and hazardous waste in accordance with local, state and federal waste disposal regulations.

• Stabilization or re-vegetation of the site as necessary to minimize erosion.

You could edit Section 506 as set out in blue text below.

**Note that under 24 V.S.A. § 4414(15)(A), screening requirements for solar may not be more restrictive than screening requirements for commercial development.  That means the screening requirements for commercial activity (in Section 401) must be modified to correlate to (or be more restrictive than) the requirements set out here.   Note that screening requirements only apply to ground-mounted systems.**

I would also re-name the commercial screening section as follows: “Section 401 C: Screening Requirements”.

**Note also that the section on setbacks is redundant here.**  Under 30 V.S.A. § 248(s), the setbacks included here already apply to ground-mounted solar installations that require a CPG (i.e. systems that are not subject to zoning).

**It makes sense for setbacks in the zoning regulations apply to systems that are regulated through zoning – i.e. systems operated for on-site electricity consumption.  Because systems for on-site electricity use are likely small, it may not make sense to have different setbacks based on the size of systems.  Furthermore, it might make sense to simply require ground-mounted solar systems to comply with the setbacks of whatever zoning district they are in – see below for what this could look like.  Nevertheless, you should look at the setbacks for each district and decide whether these would be sufficient to meet your goals.**

As recommended above for wind systems, you could also add “solar energy systems operated solely for on-site electricity consumption” as a permitted use in the section specific to each district (e.g. section 201.1, 201.2, etc.).  You could also make solar a conditional use, although it may not be as useful to do so as it would be with wind.

**Section 506 ~~SITING~~ SOLAR ENERGY SYSTEMS**

The following regulations apply to solar installations operated solely for on-site electricity consumption except as otherwise noted.  Solar installations are subject to restrictions set out in Sections 207 and 209 of these regulations.

A. ~~Setback Requirements for~~ A ground-mounted solar energy installation~~s~~ must comply with all setback requirements for the zoning district in which it is located. ~~under Act 56 standards 30 V.S.A. § 248(s)~~:

~~This subsection sets minimum setback requirements that shall apply to ground-mounted solar electric generation facilities approved under this section.~~

~~(1) The minimum setbacks shall be:~~

~~(A) From a State or municipal highway, measured from the edge of the traveled way:~~

~~(i) 100 feet for a facility with a plant capacity exceeding 150 kW; and~~

~~(ii) 40 feet for a facility with a plant capacity less than or equal to 150 kW but greater than 15 kW.~~

~~(B) From each property boundary that is not a State or municipal highway:~~

~~(i) 50 feet for a facility with a plant capacity exceeding 150 kW; and~~

~~(ii) 25 feet for a facility with a plant capacity less than or equal to 150 kW but greater than 15 kW.~~

~~(2) This subsection does not require a setback for a facility with a capacity equal to or less than 15kW.~~

B. Screening Regulations

The purpose of these screening regulations is the preservation of the rural and scenic character of Windham while promoting the use of renewable resources.  These requirements apply to ground-mounted solar installations operated for on-site electricity consumption (i.e. installations that are subject to zoning regulations) and to ground-mounted solar installations that are net-metered or operated for off-site electricity consumption (i.e. installations that are subject to 30 V.S.A. § 248) (see 30 V.S.A. § 248(b)(1)(B)).

a) Topography and ~~N~~natural ~~B~~barriers shall serve as screening where feasible.

b) Existing flora shall be preserved to block ~~the~~ ground mounted solar units from public roads and residences.

c) Should new screening need to be developed, the use of year round solid vegetative barrier of non-invasive, zone appropriate plant materials ~~will~~ shall be used.

d) Screening ~~will~~ shall be maintained – ~~A~~any diseased or dead plant materials ~~will~~ shall be replaced in a reasonable time frame.

e) Solid screening is not required to hide the units but should be landscaped to visually blend into its surroundings except when in conflict with abutting residences privacy.

C. Use Regulations in districts

i) Hamlet (H) and Historic Districts (HD) Ground mounted and roof mounted solar units are a conditional use.

ii) Forest District (F) Ground mounted and roof mounted solar units are a permitted use.

iii) Rural Residential District (RR) Ground mounted and roof mounted solar units are a permitted use.

iv) Recreation Commercial (RC) Ground mounted and roof mounted solar units are a permitted use.

D. Abandonment or Decommissioning

Any ground mounted solar unit installation which has reached the end of its useful life or has been abandoned shall be removed. The owner or operator shall physically remove the installation no more than 150 days after the date of discontinued operations. The owner or operator shall notify the Zoning Administrator by certified mail of the proposed date of discontinued operations and plans for removal. Decommissioning shall consist of:

1.Physical removal of all ground mounted solar unit installations including the structures, equipment, security barriers, and ~~transmission~~ distribution lines from the site.

2.Disposal of all solid and hazardous waste in accordance with local, state and federal waste disposal regulations.

3.Stabilization or re-vegetation of the site as necessary to minimize erosion.

In our enhanced energy plan we will change Policy 4.12 (p.22) to use the language you have suggested about ridgelines being all land over 2000 feet with the three noted exceptions.  If we do that, should we also change Policy 3.1, Action Step #4 (p.20)  to include similar language?  Or, can Policy 3.1, Action Step #4 remain as it is with the assumption that the new Policy 4.12 will sufficiently modify it?

You should include this language in Policy 4.12, and Policy 3.1, Action Step #4.  In addition, you could change the second bullet point in Policy 4.7 to read:

Fragile natural areas including ridgelines over 2,000 ft. elevation, subject to the exceptions set out under Policies 3.1 and 4.12.

Also in the enhanced energy plan, per your suggestion, would it be appropriate to add the following language as a fifth paragraph under the heading *Areas Unsuitable for Renewable energy Siting* on page 8?

Yes, with the proposed revisions set out in blue text below.  I would put this as the fourth paragraph.

"High-elevation sites above 2000 feet are especially fragile for a variety of reasons, particularly because they are the source of the headwaters for numerous streams and rivers.  Because development in these areas could enhance the possibility of increased runoff and flooding which would endanger the health and safety of residents in Windham and/or downstream communities, these areas are only appropriate for limited, low-impact development.  Because installation and maintenance of solar arrays has a lighter impact than wind turbines, some small-scale (i.e. solely for on-site electricity consumption or net metered not to exceed 15kW capacity) and medium-scale (i.e. not to exceed 150 kW capacity) solar development ~~is~~ may be appropriate, whereas anything more than small-scale (i.e. solely for on-site electricity consumption or net metered not to exceed 15kW capacity) wind development is notappropriate, and is therefore prohibited.  Furthermore, medium-scale solar development above 2,000 feet ~~should~~shall be limited to areas that are already cleared, such as former ski slopes, in order to minimize the impact on fragile natural resources.”

Your recent e-mail said that "maybe" the language about land above 2000 feet and the three exceptions also should be included in the Town Plan.  The Town Plan refers to the importance of protecting headwaters and fragile areas in several places, but it does not specifically talk about the danger of downstream flooding in connection with industrial wind.  Our Town Plan needs to be updated and readopted by January of 2020.  If our enhanced energy plan is judged to be compliant with Act 174 by the WRC next spring, the Planning Commission will then take on the task of merging the enhanced energy plan and the energy chapter of the current Town Plan.  When we do that, the language quoted above about ridgelines and the three exceptions will be incorporated into the updated Town Plan.  Therefore, I'm thinking that there is no need right now to go through the process of modifying the language in the Town  Plan.  Do you agree?

Yes, I think that makes sense.  In the interim, if the Enhanced Energy Plan is adopted before it is merged with the existing energy chapter of the Town Plan, you could add a paragraph at the beginning to explain this process.

Do you intend that the Enhanced Energy Plan will fully supersede the energy chapter of the existing Town Plan? If so, you could add a paragraph stating:

“This Enhanced Energy Plan is designed to update the energy chapter of the existing Town Plan.  The provisions set out in this Enhanced Energy Plan therefore supersede the energy chapter of the existing Town Plan.  To the extent that this Enhanced Energy Plan conflicts with any provision of the existing Town Plan, the provision of this Enhanced Energy Plan shall apply.”

If you intend that the Enhanced Energy Plan does not fully supersede the existing energy chapter, you could state:

“This Enhanced Energy Plan is designed to update the energy chapter of the existing Town Plan.  The provisions set out in this Enhanced Energy Plan therefore both complement and supersede the energy chapter of the existing Town Plan.  To the extent that this Enhanced Energy Plan conflicts with any provision of the existing Town Plan, the provision of this Enhanced Energy Plan shall apply.  To the extent that a provision of the energy chapter of the existing Town Plan addresses an issue not addressed in the Enhanced Energy Plan, that energy chapter provision shall apply.”

This paragraph could then be removed once the Enhanced Energy Plan is merged into the new 2020 Town Plan.