



Wind/Solar Renewable Energy Community Survey

Summary Report



SNHPC

October 2014

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Introduction

The Southern New Hampshire Planning Commission (SNHPC) has completed for the first time a community survey on wind/solar renewable energy among the 15 municipalities in the SNHPC Region. The survey was conducted during August and September 2014.

The purpose of the survey is to obtain information about how each municipality regulates and permits various types of wind and solar renewable energy systems in their communities. The survey also provides an opportunity to compare practices between communities and to look for opportunities to advance the deployment of these systems within the region.

To obtain this information, a survey questionnaire was developed and distributed electronically to all the planning and zoning officials; building and code enforcement officials; and tax assessors for the region's 15 municipalities. The questionnaire consisted of nine questions focusing on wind systems and twenty questions focusing on solar PV and solar thermal energy systems (See Appendix for the link to the questionnaire). There were seven other general questions integrated into the questionnaire inquiring about community participation in energy related planning activities, master plans, Energy Committees, and various programs such as a Property Assessment Clean Energy (PACE) District as provided for by RSA Chapter 53-F.

A total of 19 survey returns were obtained. Questionnaires were submitted fairly evenly among town planners, building inspectors and town assessors. Almost two-thirds of all the municipalities in the region (10 out of 15 towns) participated in the survey, representing a response rate of 66.6 percent.

As a result of the survey, two municipalities (the towns of Candia and Derry) were selected by SNHPC to participate in a follow-up pilot study to conduct a more thorough assessment of the towns' renewable regulations and policies, and to develop and offer specific guidance and recommendations to advance the deployment of wind and solar energy within these communities. This report provides a summary of the survey results and findings. A complete summary of the survey raw data is provided in the Appendix.

Survey Results

Question #1: Municipality Name:

New Boston
Goffstown
Bedford
Hooksett
Londonderry

Candia
Auburn
Chester
Derry
Windham

Question #2: I am the Municipality's:

Planner	6
Zoning/Code Enforcement Officer	2
Building Inspector	5
Town Assessor	5

Question #3: In 2008, the Office of Energy and Planning developed a model ordinance for small wind energy systems. Has your municipality adopted this model ordinance or something similar? If yes, please provide date of adoption:

The following Municipalities have adopted this model ordinance: Bedford, Chester, Goffstown, Hooksett, Londonderry, New Boston, and Windham.

Question #4: Does your municipality have large wind energy systems regulations? Large wind energy systems are electricity generating facilities with a capacity of over 100 kW and less than 30 megawatts, consisting of one or more wind turbines:

None of the (10) Municipalities responding to this survey have these regulations in place.

Question #5: Are small wind energy systems permitted in your community?

Not at all	0
By variance or special exception	0
By right as an "accessory use" in all zoning districts	6
These towns include: Bedford, Chester, Hooksett, Londonderry, New Boston, Windham	
By right as an "accessory use" in only SPECIFIC districts	1
These towns include: Goffstown – only permitted in Agriculture and Conservation Open Space districts	
The following Towns have no ordinance:	3
Auburn, Candia, Derry	

Question #6: Does your planning board require a small wind energy system to have:

Site Plan Approval	Bedford, Chester, Hooksett, Londonderry, New Boston, Windham, Goffstown
Conditional Use Approval	0
Both	0

Question #7: Are wind powered energy systems – large or small – exempt from local property taxes under RSA 72: 61-72? (See RSA in Appendix)

<u>Yes</u>	<u>No</u>
Bedford, Derry, Londonderry, New Boston, Windham	Auburn, Candia, Chester, Goffstown, Hooksett

Question #8: If you replied “No” to question 7, how does your municipality assess the value of wind energy systems for property tax purposes?

<u>Replacement Cost:</u>	<u>Comparable Value:</u>	<u>Other:</u>
Bedford	Auburn	Chester
Hooksett	Candia	Goffstown
Londonderry	Windham	

Question #9: Are there any existing wind powered energy systems in your community?

Small Wind Systems:	7 – Auburn, Bedford, Candia, Derry, Goffstown, New Boston, Windham
Large Wind Systems:	0
Both:	0

Question #10: Are there any wind powered energy systems located on municipal-owned land and if so, was a long-term lease required for the system?

<u>No lease required:</u>	<u>No systems on municipal owned land:</u>
Windham	Auburn, Bedford, Candia, Chester, Goffstown, Hooksett, Londonderry, New Boston
Derry	

Question #11: Does your municipality have any of the following standards for wind powered energy systems (if applicable)?

	<u>Yes</u>
Setbacks	Bedford, Chester, Goffstown, Hooksett, Londonderry, New Boston, Windham
Structure Height	Bedford, Chester, Goffstown, Hooksett, Londonderry, New Boston, Windham
Visual Impact	Bedford, Chester, Hooksett, Londonderry, New Boston, Windham
Non-Reflective Colors	Bedford, Chester, Hooksett, Londonderry, New Boston, Windham
Lighting	Bedford, Chester, Hooksett, Londonderry, New Boston, Windham
Site Clearing	Bedford, Chester, Hooksett, Londonderry, New Boston

Question #12: Is there a definition for Solar PV/Thermal systems in your municipal zoning ordinance?

None of the (10) Municipalities responding to this survey have a definition for Solar PV or Solar Thermal Systems in their zoning ordinance.

Question #13: How are Solar PV/Thermal systems for residential and commercial use considered in your zoning ordinance? Are these systems defined as an:

Accessory Use	4 – Candia, Chester, Hooksett, Windham
Accessory Structure	4 – Auburn, Bedford, Chester, New Boston, Windham
Heating/Cooling/Equipment	3 – Chester, Derry, Windham
Public Utility	0

Question #14: Are Solar PV/Thermal systems in your community permitted by right in:

All Zoning Districts	8 – Auburn, Bedford, Candia, Chester, Derry, Hooksett, New Boston, Windham
Specific Districts	0
Not Permitted By Right	0
Only by Variance or Special Exception	0
Commercial Property Requires Site Plan Review	1 - Candia

Question #15: Does your municipal planning board require Solar PV/Thermal systems to have:

	<u>Roof/Façade mounted</u>	<u>Ground mounted</u>
Site Plan Approval:	0	1 - Candia
Conditional Use:	0	0

Question #16: Does your zoning ordinance have size limitations on Solar PV/ Thermal systems?

	<u>Yes</u>	<u>No</u>
Roof façade mounted	0	10
Ground mounted	0	10

Question #17: Are building integrated/roof mounted Solar PV/Thermal systems exempt from building height restrictions?

Yes: 2 – Derry, Windham No: 5 – Auburn, Bedford, Candia, Chester, Hooksett

Question #18: Are ground mounted Solar PV/Thermal systems exempt from zoning setbacks?

Yes: 0 No: 7 - Auburn, Bedford, Candia, Chester, Hooksett, Derry, Windham

Question #19: Are ground mounted Solar PV/Thermal systems exempt from impervious surface coverage and or Floor Area Ratio (FAR) requirements?

Yes: 3 – Bedford, New Boston, Windham No: 5 – Auburn, Candia, Chester, Derry, Hooksett

Question #20: Are building integrated or ground mounted Solar PV/Thermal systems exempt from municipal historic district guidelines?

Yes: 1 – Bedford No: 7 – Auburn, Candia, Chester, Derry, Hooksett, Goffstown, New Boston

Question #21: Does your municipality require a building permit and an electrical permit or both for Solar PV/Thermal systems?

Building Permit Only	0
Electricity Permit Only	3 – Goffstown, Hooksett, New Boston
Both	7 – Auburn, Bedford, Candia, Chester, Derry, Londonderry, Windham
Neither	0

Question #22: Does your municipality's subdivision regulations require developments to utilize passive solar energy techniques for residential lot and building orientation?

Yes: 0	No: 8 – Auburn, Candia, Chester, Bedford, Derry, Goffstown, Hooksett, New Boston
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Question #23: Has your municipality considered adopting a standard "one permit" for Solar PV/Thermal systems?

Yes: 2 – Hooksett, Windham	No: 8 – Auburn, Candia, Chester, Bedford Derry, Goffstown, New Boston
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Question #24: Is one respondent responsible for receiving and approving applications for Solar PV/Thermal systems?

Yes: 10 - Departments: Building Department
No: 0

Question #25: Are structural/ professional engineering stamps required for every building/ roof top installation?

Yes: 3- Chester, Bedford, Londonderry	No: 7 – Auburn, Candia, Derry, Goffstown Hooksett, New Boston, Windham
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Question #26: Can a non-electrician install the racking system and panels for Solar PV/Thermal systems as part of the building permit?

Yes: 7 – Auburn, Bedford, Candia
Chester, Derry,
New Boston, Windham

No: 2 - Goffstown, Hooksett

Question #27: Do you inspect Solar PV/Thermal systems after installation or require a certificate of occupancy, or similar permit?

Yes: 9

No: 1 - Londonderry

Question #28: Has your staff received solar – specific training for improved Solar PV/Thermal permitting?

Yes: 3 - Bedford
Chester
Windham

No: 6 - Auburn, Goffstown,
Candia, Londonderry,
Derry, New Boston

Interested: 1 - Hooksett

Question #29: Does your municipality offer any local incentives, rebates, or loans for Solar PV/Thermal systems?

Yes: 2 – Candia, New Boston

No: 8 – Auburn, Bedford, Chester, Derry,
Goffstown, Hooksett,
Londonderry, Windham

Question #30: If you were to make your zoning regulations more flexible and friendly toward Solar PV/Thermal systems, what would you recommend?

Windham - Provide incentives; educate the public on this option; engage the Energy Committee

New Boston - If they are considered accessory uses then I don't think we need to do anything, they would just follow the regular zoning requirements re: setbacks etc., being on the roof they could be higher than the building if the Building Inspector allowed it.

Bedford - We do not believe we could be more flexible.

Question #31: Are solar PV/Thermal systems (all or specific sizes and uses) exempt from local property taxes under RSA 72: 61-72?

Yes: 4 – Windham, Derry,
New Boston

No: 7 – Auburn, Bedford, Candia, Chester,
Goffstown, Hooksett, Londonderry

Question #32: Has your municipality adopted a property assessed clean energy (PACE) district in which loans may be made to property owners for energy efficiency and clean energy improvements under RSA chapter 53-F?

No: 10 (None of the towns responding to this survey have adopted a PACE district)

Question #33: Does your municipality have an Energy Chapter in your master plan as provided by RSA 674:2?

Yes: 4 – Londonderry, Chester,
Bedford, New Boston

No: 6 – Auburn, Candia, Derry, Goffstown,
Hooksett, Windham

Question #34: Does your municipality have a formally adopted Energy Commission as provided for by RSA 38-D or ad hoc energy committee?

Yes: 4 – New Boston, Bedford,
Derry, Windham

No: 4 – Auburn, Goffstown,
Hooksett, Londonderry

Question #35: Does your municipally own or lease a Renewable Energy System?

	<u>Own</u>	<u>Lease</u>	<u>Neither</u>
Wind-Powered	1*	0	7
Solar PV	0	0	7

*This town is: Windham

Question #36: Do you think your municipality ever considered putting either a Wind or Solar system on municipal–owned land?

	<u>Yes Both</u>	<u>No Both</u>
Wind	Bedford, Hooksett,	Candia, Chester, New Boston
Solar	Londonderry, Windham	

Question #37: Do you believe your municipal government would be interested in participating in a community renewable energy project under the new virtual net metering laws (RSA 362-A: 9, XIV)?

	<u>No</u>	<u>Yes</u>
Solar-PV	0	6*

*These towns include: Bedford, Candia, Chester, Derry, Hooksett, Windham

Survey Results and Overall Findings**Wind Energy:**

While seven municipalities in the SNHPC Region have adopted the OEP Model Ordinance for Small Wind Energy systems, some municipalities still have not, such as Auburn, Candia and Derry. More importantly, none of the municipalities in the region have in place land use regulations for large wind energy systems with a capacity of over 100 kW and less than 30 megawatts. Generally, this is not a major concern as the SNHPC Region is not ideally suited for large wind energy systems. Small wind turbines, however, are a viable source of renewable

energy within the region and all municipalities should be providing opportunities for this source of power in their communities.

Among those communities allowing small wind energy systems, most communities (six responding to this survey) permit these systems “by right” as an accessory use in all zoning districts. This is the preferred best practice. Only one municipality (Goffstown) which allows small wind energy systems by right as an accessory use restricts these systems to one zoning district in the community: Agriculture and Conservation Open Space District. Applicants for small wind energy systems outside of this district, however, can still apply for a use variance from the Zoning Board of Adjustment.

All seven municipalities which have adopted the small wind energy model ordinance require “site plan approval” for such systems through the planning board. No municipality responding to the survey utilizes the Conditional Use Permit process. For those municipalities which restrict small wind energy systems to only one zoning district, a more effective best practice would be to allow these systems as a Conditional Use as opposed to a Use Variance. In this fashion, applicants would only go to the Planning Board for approval and not both the Zoning Board of Adjustment and the Planning Board.

Regarding the question of local property taxation, only five municipalities responding to the survey offer an exemption for small wind powered energy systems under RSA 72: 61-72. A total of five municipalities responding to the survey currently do not offer this exemption. Clearly the best practice would be to offer this exemption as allowed by state statute. This requires a warrant article and favorable vote of town residents at town meeting.

With regard to the question how to assess these systems for local property tax purposes, the survey results indicate that many different approaches and methods are applied, including replacement cost, comparable value, etc. The lack of a clear and consistent guidance on the most appropriate assessment methodology and approach to valuation is a recognized constraint working against renewable energy. A best practice from the state is needed in valuation so clear and consistent guidance is provided to municipalities.

The survey results indicate there are currently seven small wind powered energy systems in the region. These systems are located in the towns of Auburn, Bedford, Candia, Derry, Goffstown, New Boston and Windham.

Also, the survey results indicate there is only one wind powered energy system located on municipal-owned property (Windham) in the region. None of the other towns responding to the survey have small wind powered energy systems on municipal-owned land.

Almost all the municipalities which have small wind powered regulations in place in their zoning and site plan regulations include provisions addressing setbacks, structure height, visual impact, non-reflective colors, lighting and site clearing.

Solar PV & Solar Thermal Energy:

One of the most significant findings of this survey is that none of the ten municipalities responding to the survey have definitions for Solar PV or Solar Thermal systems in their zoning ordinance. This is a major concern with respect to permitting various types of solar systems, particularly larger ground-mounted systems and solar arrays for residential and commercial use. The lack of a clear definition leads to local inconsistencies in how to permit these systems.

The survey results indicate there is more consistency with how rooftop mounted PV or Thermal solar systems are permitted among municipalities in the region. Almost all the municipalities (total of 9) responding to the survey treat these systems as an “Accessory Use” or “Accessory Structure”. Three municipalities treat these systems as “Heating/Cooling/Electrical Equipment”. While an “Accessory Use” is an acceptable and favorable ruling, the best and most favorable practice would be to permit these systems as “Equipment”.

The survey also shows that all the municipalities responding allow Solar PV/Thermal systems as permitted “by right” in all zoning districts within the community. This is very positive and the results provide a good indication that communities in the region support solar as a beneficial form of renewable energy. The survey results, however, are not clear with respect to if or when “site plan” approval would be required for a ground mounted Solar PV system. One municipality responded that site plan approval would be required for commercial ground mounted systems. However, it is not clear if site plan approval would also be required for residential use.

Under the new “net metering” laws of the state, the development of various ground mounted community solar PV systems is growing around the state and it is clear that many communities are not prepared for how to address and/or regulate these systems. While there is no clear guidance or model ordinance as of yet for NH municipalities, the good news is that none of the municipalities responding to this survey restrict these systems.

Most of municipalities responding to this survey (except for two) indicate they do not require roof mounted solar PV/Thermal systems to comply with their building height zoning standards. Imposing height restrictions could be an obstacle for deploying rooftop solar. Rooftop solar systems that are attached to the roof or side of a building are similar to other heating and cooling mechanical equipment. As such, the best practice would be to exempt these systems from local building height restrictions.

None of the municipalities responding to the survey indicate that they exempt ground mounted solar systems from complying with local zoning building setback requirements. The placement and location of ground mounted solar arrays must take into account existing site conditions and adjacent land use. Thus, this requirement is a necessity.

Requiring ground mounted solar systems to comply with other zoning dimensional standards such as Floor Area Ratio (FAR) and impervious surface coverage requirements, however, does unnecessarily restrict the size and use of solar arrays. Municipalities should reconsider these standards as ground mounted solar arrays do not increase the amount of drainage on a site nor would they exceed the allowable space as provided for by the building envelope on the site.

A total of seven municipalities indicated that they exempt building integrated or ground mounted solar PV/Thermal systems from having to comply with local historic district regulations, while one town does not. These survey results indicate that many communities in the region do not view solar PV/Thermal systems as negatively impacting the character of historic buildings or sites. See photo of rooftop solar PV panels on the historic Pandora Building in Manchester.



Source: "Installing Solar on the Roof of Energy Park." Flickr. Yahoo!, n.d. Web. 04 Nov. 2014.

With regard to the survey question related to building and electrical permits for solar PV/Thermal systems, it is clear that a majority of the municipalities responding (7) require both permits, while only a minority (a total of 3 municipalities) require just an electrical permit. Generally, this is a decision of the municipality's building official based upon the standards and practices the municipality currently has in place. Currently there is no clear best practice in place for requiring that solar PV/Thermal systems only obtain an electrical permit for installation. Both roof and ground mounted systems require assembling and installing racking equipment and panel structural support (which must be attached to the building or ground to withstand specific wind and snow loads), a building permit is justified.

However, with respect to the question whether a structural or professional engineering stamp is required for a building permit for a rooftop installation, a total of seven municipalities responded "no", and three municipalities responded "yes". Clearly this is a key question within the solar industry as there is a high cost involved in obtaining an engineering stamp. Clear and consistent guidance is needed in this area in order to implement a best practices approach.

Clear guidance is also needed with respect to the question whether a non-electrician can install the racking system and panels for solar PV/Thermal systems as part of the building permit. The survey results indicated that seven municipalities feel this is ok, while two towns disagreed.

In addition, a total of nine municipalities indicated they require an "inspection" or the issuance of a Certificate of Occupancy or other similar permit after the solar PV/Thermal system is installed. Only one municipality does not require this inspection. The need for inspection after installation is another key question as it increases costs for solar installers. Again clear and consistent guidelines are needed in this area.

Most of the municipalities responding to the survey (except for two) indicate they have considered implementing a standard one permit approach for installing solar PV/Thermal systems. Clearly this approach would save time and costs and could be an effective best practice to promote increased solar use and deployment in the region.

All the municipalities responding to the survey indicate the Building Department is the primary contact point for receiving and approving applications for solar PV/Thermal systems within their community. The Planning Department generally reviews applications for ground mounted systems which may or may not require site plan approval based upon zoning and local site plan regulations.

In addition, all municipalities responding to the survey noted that they require new subdivisions to utilize passive solar energy techniques and practices in residential lot orientation and building orientation as part of their subdivision regulations.

The survey results indicate that only three municipalities have obtained specific training for improved Solar PV/Thermal system permitting. Clearly these results demonstrate there is a need for specific solar training and guidance for municipalities in the region.

Regarding the availability of local incentives, rebates and loans for solar systems, the survey results indicate only two municipalities have such provisions in place. Again these results illustrate that more work and effort is needed in this area to enable communities and property owners to take advantage of the benefits of solar as a renewable form of energy.

Specifically, only four municipalities in the survey noted that they currently offer local property tax exemptions for solar PV/Thermal systems under RSA 72:61-67. In addition, only four communities have adopted Energy Chapters as part of their town master plan (as provided for by RSA 674:2), and none of the municipalities have established PACE districts to offer loans for clean energy improvements (as provided for under RSA Chapter 53-F).

The survey results also indicate only three municipalities have formally established local Energy Commissions under RSA 38-D and only four municipalities have ever considered installing a wind or solar system on municipal-owned land or participating in a community renewable energy project under the state's new virtual "net metering" laws (RSA 362-A: 9, XIV).

Regarding the overall question about what the municipality can do to make their zoning regulations more flexible and friendly toward Solar PV/Thermal systems, only one municipality responded that they could provide incentives, educate the public and engage their Energy Committee to be more active on this issue. Other municipalities responding pointed out that they could not be any more flexible or do anything new or different to improve solar permitting, except to follow zoning setbacks and implement the town's building requirements.

Appendix

Responses to Wind/Solar Renewable Energy Community Survey

Link to survey:

<https://www.surveymonkey.com/s/7KNKBP9>

Question #6: Does your planning board require a small wind energy system to have:

Londonderry – Site Plan Approval

New Boston - Building permit only with Building Inspector review. There are details in the zoning ordinance.

Candia – Conditional use approval

Chester -Building Permit

Bedford -Not for an individually owned windmill

Hooksett - none

Windham –Site plan approval

Question #8: If you replied “No” to question 7, how does your municipality assess the value of wind energy systems for property tax purposes?

Hooksett - We consider replacement cost and the contributory value to the overall property

Chester - 20% of the cost of installation is the yearly exemption

Goffstown - Income approach

Question #9: Are there any existing wind powered energy systems in your community?

Windham - 1 Located at High School; High School (Town) owns the wind energy system

Derry - 2-3

Auburn, Bedford, Goffstown - 1

Candia - One existing wind powered system (to my knowledge) on Knowlton Rd.

Londonderry - No systems in community.

New Boston – Small

Question #11: Does your municipality have any of the following standards for wind powered energy systems if applicable?

Windham - Must meet all property line setbacks as required for structures; may not be reflective in color

Candia - Minimal clearing only to allow for visual buffer

Chester - Shall not be artificially lit unless required by FAA; Limited to what is necessary to construct and operate system

Londonderry - Artificial lighting permitted only if required by FAA; Clearing to be limited to that which is necessary for the construction, operation and maintenance of the system or as otherwise prescribed by laws, regulations and ordinances.

Bedford - There are structure height and boundary standards front, side and rear. No color or visual.

Chester:

17.4.2 Tower - The maximum tower height shall be restricted to 35 feet above the tree canopy within 300 feet of the small wind energy system. In no situation shall the tower height exceed 150 feet.

Lighting - A small wind energy system shall not be artificially lit unless such lighting is required by the Federal Aviation Administration (FAA). If lighting is required, the applicant shall provide a copy of the FAA determination to establish the required markings and/or lights for the small wind energy system.

17.4.12 Clearing - Clearing of natural vegetation shall be limited to that which is necessary for the construction, operation and maintenance of the small wind energy system and as otherwise prescribed by applicable laws, regulations, and ordinances.

17.4.1 Setbacks - The setback shall be calculated by multiplying the minimum setback requirement number by the system height and measured from the center of the tower base to property line, public roads, or nearest point on the foundation of an occupied building.

a) Small wind energy systems must meet all setbacks for principal structures for the zoning district in which the system is located.

b) Guy wires used to support the tower are exempt from the small wind energy system setback requirements.

MINIMUM SETBACK REQUIREMENTS			
Occupied Buildings on Participating Landowner Property	Occupied Buildings on Abutting Property	Property Lines of Abutting Property and Utility Lines	Public Roads
0	1.5	1.1	1.5

Goffstown:

5.23.4.2 *Tower Height*: The maximum tower height shall be restricted to 35 feet above the tree canopy within 300 feet of the tower, but not more than 100 feet.

5.23.4.1 *Setbacks*: The tower shall be setback 150% of the system height from property lines and above ground utility lines.

Hooksett:

Tower: Height Restrictions - The maximum tower height shall be restricted to 35 feet above the tree canopy within 300 feet of the small wind energy system. In no situation shall the tower height exceed 120 feet.

Lighting - A small wind energy system shall not be artificially lit unless such lighting is required by the Federal Aviation Administration (FAA). If lighting is required, the applicant shall provide a copy of the FAA determination to establish the required markings and/or lights for the small wind energy system.

Clearing: Clearing of natural vegetation shall be limited to that which is necessary for the construction, operation and maintenance of the small wind energy system and as otherwise prescribed by applicable laws, regulations, and ordinances.

Setbacks: The setback shall be calculated by multiplying the minimum setback requirement number by the system height and measured from the center of the tower base to property line, public roads, or nearest point on the foundation of an occupied building.

i) Small wind energy systems must meet all setbacks for principal structures for the zoning district in which the system is located.

ii) Guy wires used to support the tower are exempt from the small wind energy system setback requirements.

MINIMUM SETBACK REQUIREMENTS			
Occupied Buildings on Participating Landowner Property	Occupied Buildings on Abutting Property	Property Lines of Abutting Property and Utility Lines	Public Roads
0	1.5	1.1	1.5

Londonderry:

3.15.4.1.2 *Tower*: The maximum tower height shall be restricted to 35 feet above the tree canopy within 300 feet of the small wind energy system. In no situation shall the tower height exceed 150 feet.

3.15.4.1.8.3 A small wind energy system shall not be artificially lit unless such lighting is

required by the Federal Aviation Administration (FAA). If lighting is required, the applicant shall provide a copy of the FAA determination to establish the required markings and/or lights for the small wind energy system.

3.15.4.1.12 Clearing: Clearing of natural vegetation shall be limited to that which is necessary for the construction, operation and maintenance of the small wind energy system and as otherwise prescribed by applicable laws, regulations, and ordinances.

3.15.4.1.1 Setbacks - The setback shall be calculated by multiplying the minimum setback requirement number by the system height and measured from the center of the tower base to property line, public roads, or nearest point on the foundation of an occupied building.

3.15.4.1.1.1 Small wind energy systems must meet all setbacks for principal structures for the zoning district in which the system is located.

3.15.4.1.1.2 Guy wires used to support the tower are exempt from the small wind energy system setback requirements.

MINIMUM SETBACK REQUIREMENTS			
Occupied Buildings on Participating Landowner Property	Occupied Buildings on Abutting Property	Property Lines of Abutting Property and Utility Lines	Public Roads
0	1.5	1.1	1.5

New Boston:

Tower: Height Restrictions - The maximum tower height shall be restricted to 35 feet above the tree canopy within 300 feet of the small wind energy system. In no situation shall the tower height exceed 150 feet.

Lighting - A small wind energy system shall not be artificially lit unless such lighting is required by the Federal Aviation Administration (FAA). If lighting is required, the applicant shall provide a copy of the FAA determination to establish the required markings and/or lights for the small wind energy system.

Clearing: Clearing of natural vegetation shall be limited to that which is necessary for the construction, operation and maintenance of the small wind energy system and as otherwise prescribed by applicable laws, regulations, and ordinances.

Setbacks: The setback shall be calculated by multiplying the minimum setback requirement number by the system height and measured from the center of the tower base to property line, public roads, or nearest point on the foundation of an occupied building.

a) Small wind energy systems must meet all setbacks for principal structures for the zoning district in which the system is located.

b) Guy wires used to support the tower are exempt from the small wind energy system setback requirements.

MINIMUM SETBACK REQUIREMENTS			
Occupied Buildings on Participating Landowner Property	Occupied Buildings on Abutting Property	Property Lines of Abutting Property and Utility Lines	Public Roads
0	1.5	1.1	1.5

Windham:

718.4.3 The maximum small wind energy system height shall not exceed (tower) 150 feet as measured from the base of the structure on which it is mounted.

718.4.10.3 A small wind energy system shall not be artificially lit unless such lighting is required by the Federal Aviation Administration.

718.4.1 Setbacks: The setback shall be measured from the center of the tower base to property line, public roads, or nearest point on the foundation of an occupied building.

718.4.2 Setbacks for a small wind generating system (tower) is:

718.4.2.1 No setback from occupied buildings on participating landowner property

718.4.2.2 1.5 times the tower height from occupied buildings on abutting properties

718.4.2.3 1.1 times the tower height from property lines of abutting property and utility lines

718.4.2.4 1.5 times the tower height from public ROW

718.4.2.5 Small wind energy systems must meet all setbacks for principal structures for the zoning district in which the system is located.

718.4.2.6 Guy wires used to support the tower are exempt from the small wind energy system setback requirements.

Question #14: Are Solar PV/Thermal systems in your community permitted by right in:

New Boston - For question 13 I would say that they are not mentioned at all but would probably be considered an accessory use by the Building Inspector.

Candia - Commercial property will require site plan review.

Question #30: If you were to make your zoning regulations more flexible and friendly towards Solar PV/Thermal systems what would you recommend?

Windham - Provide incentives; educate the public on this option; engage the Energy Committee

New Boston - If they are considered accessory uses then I don't think we need to do anything, they would just follow the regular zoning requirements re: setbacks etc., being on the roof they could be higher than the building if the BI allowed it.

Bedford - We do not believe we could be more flexible.

Question #31: Are solar PV/Thermal systems (all or specific sizes and uses) exempt from local property taxes under RSA 72: 61-72?

Candia - Property owners can apply for tax exemption.

Bedford - No limitations at present.

Chester - Same as above for wind. 20% of the cost of installation is the exemption

Windham - Residential only

Solar Energy Systems Exemption

RSA Section 72:61

72:61 Definition of Solar Energy Systems. – In this subdivision "solar energy system" means a system which utilizes solar energy to heat or cool the interior of a building or to heat water for use in a building and which includes one or more collectors and a storage container. "Solar energy system" also means a system which provides electricity for a building by the use of photovoltaic panels.

Source. 1975, 391:1. 1993, 93:1, eff. April 1, 1993.

Section 72:62

72:62 Exemption for Solar Energy Systems. – Each city and town may adopt under RSA 72:27-a an exemption from the assessed value, for property tax purposes, for persons owning real property which is equipped with a solar energy system as defined in RSA 72:61.

Source. 1975, 391:1. 1991, 70:26. 1993, 93:2. 2003, 299:17, eff. April 1, 2003.

Section 72:63

72:63 Procedure for Adoption. – [Repealed 2003, 299:29, VI, eff. April 1, 2003.]

Section 72:64

72:64 Application for Exemption. – Applications for exemptions under RSA 72:62 shall be governed by the provisions of RSA 72:33, 72:34, and 72:34-a.

Source. 1975, 391:1. 1977, 502:4. 1983, 155:10. 1995, 265:8, eff. Jan. 1, 1996.

Wind-Powered Energy Systems Exemption

Section 72:65

72:65 Definition of Wind-Powered Energy Systems. – In this subdivision "wind-powered energy system" means any wind-powered devices which supplement or replace electrical power supplied to households or businesses at the immediate site.

Source. 1977, 185:1, eff. Aug. 13, 1977.

Section 72:66

72:66 Exemption for Wind-Powered Energy Systems. – Each city and town may adopt under RSA 72:27-a an exemption from the assessed value, for property tax purposes, for persons owning real property which is equipped with a wind-powered energy system.

Source. 1977, 185:1. 1991, 70:28. 2003, 299:18, eff. April 1, 2003.

Section 72:67

72:67 Procedure for Adoption. – [Repealed 2003, 299:29, VII, eff. April 1, 2003.]

Section 72:68

72:68 Application for Exemption. – Applications for exemptions under RSA 72:66 shall be governed by the provisions of RSA 72:33, 72:34, and 72:34-a.

Source. 1977, 185:1; 502:6. 1983, 155:10. 1995, 265:9, eff. Jan. 1, 1996.

Source. 1979, 280:1, eff. Aug. 20, 1979.