



REV Testimony re: Siting Bills S. 292, S. 201 and S. 191

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Witness: Gabrielle Stebbins, Executive Director, Renewable Energy Vermont

Thank you for the opportunity to speak before you regarding Senate Bills 292, 201 and 191.

For the record, my name is Gabrielle Stebbins and I am the Executive Director of Renewable Energy Vermont, REV, the state trade association for renewables representing 300+ businesses from solar hot water to biomass to wind to hydro and solar electricity.

The Vermont businesses that I represent have worked hard to grow our local, renewable resources and we are proud of the many achievements that have been made.

For example, this past July, an organization called Environment America found that Vermont ranked again as being within the top ten states of solar installation per capita. <http://www.environmentamerica.org/news/ame/new-report-ranks-top-12-states-leading-us-solar-power>

Also, today, more than 30% of public school students attend a school heated by wood. <http://www.biomasscenter.org/services/programs/vermont-fuels-for-schools-vffs.html>

These are notable achievements and the industry appreciates the support the Legislature has given through their development of energy policy that leads to more stable energy costs, job opportunities and the ability to rely on our own, locally-produced energy.

While Vermont has made great strides in our clean energy transition, we must ensure that we continue to do this. Today, the “spot market” price for energy in the Northeast states is 24 cents per kiloWatt hour – this is based on an ISO-NE app. Meanwhile, solar is being built way below this price, with the Standard Offer projects currently at between 13 – 14 cents per kilowatt hour and net-metering projects realizing less than 24 cents also. The wind projects in our state have cost

roughly between 9-12 cents per kilowatt hour. We must move towards a future that maintains our economic competition as it relates to jobs, energy costs, energy self-reliance and climate mitigation. We must continue to diversify our risk – as recently reported upon by a CNBC story which highlighted the spike in natural gas prices as a result of relying on this fuel too heavily for both power and heating needs. <http://www.cnbc.com/id/101362341>

REV's perspective of the regulatory system is that it is very laborious, thorough and, quite frankly, expensive for all involved – renewable energy developers included. However, it is also our perspective that the level of thoroughness leads to projects that have been extensively reviewed and modified so that the final project is a better end result.

We have many concerns with S. 292, 201 and 191 and cannot support them. From our perspective, they add ambiguity to the current process, which ultimately will increase the length of time it takes to permit new, clean energy projects, ultimately driving costs up. A few highlighted examples include:

- S. 191, perhaps inadvertently, makes it harder to site a solar plant than a coal fired plant by changing the jurisdiction over generation siting for solar only.
- S. 201, through limiting discovery, reduces the ability to improve projects based on regulator feedback.
- S. 201, though prohibiting post-Certificate of Public Good review, this reduces the leverage of the PSD and PSB to require additional mitigation in the event that an accepted and approved plan is found to be insufficient to mitigate a project's actual impacts.
- S. 292, through requiring compliance with Act 250, appears to duplicate work –as the PSB currently does review Act 250 criteria, and then goes beyond that criteria when ANR requests project information and mitigation regarding natural resource issues that are not currently defined in Act 250.

As these bills have been discussed in Committee, several topics have been raised for which I would like to provide information.

Property Values and Wind Energy

Regarding property values and wind energy – there have been three, independent, neutral, scientific studies that were peer reviewed by Lawrence Berkeley Laboratory that show no correlation between wind farms and property value depreciation. The most recent, released this month, analyzed more than 122,000 home sales near 26 wind facilities (with over 1,500 within a mile of operating

turbines) in densely populated Massachusetts, and was unable to uncover any impacts to nearby home property values. This is the third of three major studies Lawrence Berkeley National Laboratory has conducted on this topic [the first was published in 2009, and the second last August], and in all studies [using three different datasets] no statistical evidence was found that operating wind turbines have had any measureable impact on home sales prices.”

2014 study: http://emp.lbl.gov/sites/all/files/lbnl-6371e_0.pdf

2013 study: <http://emp.lbl.gov/sites/all/files/lbnl-6362e.pdf>

2009 study: <http://emp.lbl.gov/sites/all/files/REPORT%20lbnl-2829e.pdf>

Lifecycle Green House Gas Emissions:

There have been repeated requests from Committee members to show the full energy put into a wind farm – from mining to construction to spinning clean, stably-priced energy. The table below shows how wind compares to other generating resources. This table is the work of Benjamin Sovacool, who has taught at Vermont Law School. More information regarding this study is available here:

http://www.nirs.org/climate/background/sovacool_nuclear_ghg.pdf

Table 8
Lifecycle estimates for electricity generators*

Technology	Capacity/configuration/fuel	Estimate (gCO ₂ e/kWh)
Wind	2.5 MW, offshore	9
Hydroelectric	3.1 MW, reservoir	10
Wind	1.5 MW, onshore	10
Biogas	Anaerobic digestion	11
Hydroelectric	300 kW, run-of-river	13
Solar thermal	80MW, parabolic trough	13
Biomass	Forest wood Co-combustion with hard coal	14
Biomass	Forest wood steam turbine	22
Biomass	Short rotation forestry Co-combustion with hard coal	23
Biomass	FOREST WOOD reciprocating engine	27
Biomass	Waste wood steam turbine	31
Solar PV	Polycrystalline silicone	32
Biomass	Short rotation forestry steam turbine	35
Geothermal	80MW, hot dry rock	38
Biomass	Short rotation forestry reciprocating engine	41
Nuclear	Various reactor types	66
Natural gas	Various combined cycle turbines	443
Fuel cell	Hydrogen from gas reforming	664
Diesel	Various generator and turbine types	778
Heavy oil	Various generator and turbine types	778
Coal	Various generator types with scrubbing	960
Coal	Various generator types without scrubbing	1050

Another reference is a January 2014 study by the National Renewable Energy Laboratory available here: <http://www.nrel.gov/docs/fy13osti/57187.pdf> The takeaway from this study is that Renewable energy technologies, particularly wind, offers the lowest lifecycle GHG impact, by far, of all energy sources.

In closing, I ask that, rather than making significant changes to the siting generation laws, support the energy choices that you resonate with. Help Vermonters weatherize their homes and move to renewable heating sources. Find permanent funding for the Clean Energy Development Fund, which supports community and small scale renewable energy. Let's work towards the solutions we can all agree with. Thank you.