1	H.677

2	Introduced by Representatives Potter of Clarendon, Browning of Arlington,
3	Courcelle of Rutland City, French of Shrewsbury, Howrigan of
4	Fairfield, Kilmartin of Newport City, Lewis of Derby, Malcolm
5	of Pawlet, Marcotte of Coventry, McNeil of Rutland Town,
6	Peaslee of Guildhall, Rodgers of Glover, Smith of Mendon and
7	Wheeler of Derby
8	Referred to Committee on
9	Date:
10	Subject: Energy; permitting; public service board; Act 250; local land use
11	bylaws; wind energy plant siting
12	Statement of purpose: This bill proposes to require standard setbacks, noise
13	limits, and other requirements for wind energy plants that exceed 0.49
14	megawatts, to allow nearby property owners to waive these requirements, and
15	to require that the Act 250 district commissions and appropriate municipal
16	panels be the permit review authorities for wind energy plants not owned by
17	Vermont electric utilities.

An act relating to wind energy plants

18

units are dBC.

1	It is hereby enacted by the General Assembly of the State of Vermont:
2	* * * Standard Requirements * * *
3	Sec. 1. 30 V.S.A. § 8008 is added to read:
4	§ 8008. WIND TOWER SITING REQUIREMENTS; ENFORCEMENT
5	(a) Applicability. This section applies to a plant that generates electricity
6	using wind energy as a fuel source and has a plant capacity in excess of 0.49
7	megawatts (MW). The requirements of this section shall apply to any
8	proceeding for approval of such a plant under chapter 151 of Title 10, chapter
9	117 of Title 24, or section 248 of this title, in addition to all other applicable
10	criteria.
11	(b) Definitions. As used in this section:
12	(1) "dBA" means a decibel measure of overall sound level under
13	American National Standards Institute (ANSI) S1.4 that is designed to reflect
14	the response of the human ear. Lower frequency sounds are given less weight
15	than those in the mid-range of human perception. The resulting measure is
16	said to be A-weighted, and the units are dBA.
17	(2) "dBC" means a decibel measure of overall sound level under ANSI
18	S1.4 that is similar to dBA but does not de-emphasize low frequencies to the
19	extent that dBA does. The resulting measure is said to be C-weighted, and the

1	(3) "Height" means the total distance measured from the grade of a
2	property as it exists prior to the construction of a wind turbine or related
3	facility at the base to the highest point of a wind turbine or related facility. In
4	the case of a wind turbine, this includes the length of the blade at its highest
5	possible point.
6	(4) "Kamperman-James Guidelines" means the proposed wind turbine
7	siting sound limits contained on page 10 of George W. Kamperman, INCE,
8	Bd. Cert. Emeritus, and Richard R. James, INCE, "Simple guidelines for siting
9	wind turbines to prevent health risks" (July 27, 2008) (Rev 1.0).
10	(5) "L ₉₀ " means background sound, defined over a continuous
11	ten-minute period to be the average sound level during the quietest one
12	continuous minute of the ten minutes. The term refers to sound that is
13	normally present at least 90 percent of the time, and excludes any sound
14	generated by a plant subject to this section. L ₉₀ may be measured relative to
15	A-weighting or C-weighting, in which case it is denoted L _{A90} or L _{C90} .
16	(6) "L _{eq} " means frequency-weighted equivalent sound level. The term is
17	defined to be the steady sound level that contains the same amount of
18	acoustical energy as the corresponding time-varying sound. L_{eq} may be
19	measured relative to A-weighting or C-weighting, in which case it is denoted
20	$\underline{L}_{\mathrm{Aeq}}$ or $\underline{L}_{\mathrm{Ceq}}$.

1	(7) "Occupied building" means any structure that is or is likely to be
2	occupied by persons or animals and includes dwellings, commercial buildings,
3	other business structures, hospitals, places of worship, schools, stables, and
4	barns. This term shall include a structure on which construction has
5	commenced at the time a complete application for a plant subject to this
6	section is filed, if the structure otherwise meets the provisions of this
7	subdivision (8).
8	(8) "Rotor" means an element of a wind turbine that acts as a
9	multibladed airfoil assembly extracting, through rotation, kinetic energy
10	directly from the wind.
11	(9) "Shadow flicker" means alternating changes in light intensity caused
12	by the moving blade of a wind turbine casting shadows on the ground and
13	stationary objects, such as a window at a dwelling.
14	(10) "Wind turbine" means a mechanical device that captures the energy
15	of the wind and converts it into electricity. The primary components of a wind
16	turbine are the rotor or other component that extracts energy from the wind, the
17	electrical generator, and the tower. This term does not include wiring to
18	connect the wind turbine to the grid.
19	(c) Setbacks. At a minimum, a wind turbine shall be set back horizontally:

<u>or</u>

1	(1) One and one-quarter miles from an occupied building, if the
2	elevation change between the wind turbine and the occupied building is equal
3	to or less than 500 feet.
4	(2) Two miles from an occupied building, if the elevation change
5	between the wind turbine and the occupied building exceeds 500 feet.
6	(3) One-half mile from the closest boundary of the parcel on which the
7	wind turbine will be located.
8	(4) One-third of a mile from any public highway or right-of-way and
9	from any above-ground utility line or facility. However, this subdivision shall
10	not apply to an electric line that directly connects a wind turbine to a substation
11	or other utility facility.
12	(d) Sound limits. At a minimum, a plant subject to this section shall
13	comply with each of the following:
14	(1) Audible sound limit. No plant shall be located so as to generate
15	postconstruction sound levels that exceed preconstruction background sound
16	levels by more then 5 dBA.
17	(2) Low frequency sound limit. The L _{Ceq} and L _{C90} sound levels from a
18	wind turbine at the receiving property shall not exceed the lower of either:
19	(A) An L _{Ceq} -L _{A90} greater than 20 dB outside any occupied building;

1	(B) A sound level of 50 dBC (L_{C90}) from a wind turbine, without
2	other ambient sounds, for a parcel the closest boundary of which is located one
3	mile or more from a state highway or Class 1 or 2 town highway, or of 55 dBC
4	(L _{C90}) for a parcel with a boundary closer than one mile to such a highway.
5	(3) General sound limit. Sound from a plant subject to this section shall
6	not exceed 35 dBA within 30 meters of any occupied building.
7	(4) Demonstrating compliance with sound limits. Use of the
8	Kamperman-James Guidelines shall be required in demonstrating compliance
9	with the sound limits of this subsection.
10	(e) Other requirements.
11	(1) A plant subject to this section shall comply with the interconnection
12	requirements of the Independent System Operator of New England, Inc. or the
13	interconnection rules of the board, as applicable.
14	(2) The applicant shall perform and submit with the application an
15	analysis of shadow flicker effect for each wind turbine and proposed measures
16	to mitigate or eliminate such effect.
17	(3) Roads and power lines associated with the plant shall be the
18	minimum feasible length as determined by the permitting authority.
19	Rights-of-way for such roads and lines shall be the minimum feasible width as
20	determined by the permitting authority.

1	(4) A wind turbine shall have no lighting except those lights necessary
2	to meet the requirements of the Federal Aviation Administration.
3	(5) The application shall include the depreciation schedule that the
4	applicant will use for each wind turbine and other component of a plant.
5	(6) The application shall include a plan for replacement or removal of
6	each wind turbine in the event of the turbine's failure, including a failure due
7	to natural disaster.
8	(7) The application shall include a decommissioning and site restoration
9	plan containing the following information and meeting the following
10	requirements:
11	(A) The plan shall provide for the removal from the project parcels
12	and lawful disposal or disposition of all wind turbines and other structures,
13	hazardous materials, electrical facilities, and all foundations. The plan shall
14	provide for the removal or appropriate supervision and control of all access
15	roads. The plan shall provide for the restoration of the project parcels to a
16	condition as close as reasonably possible to that which existed before
17	construction of the plant.
18	(B) The plan shall provide for the decommissioning of the site on the
19	expiration or revocation of the permit or abandonment of the plant. The plant
20	shall be deemed abandoned if its operation has ceased for 12 consecutive
21	months.

1	(C) The plan shall include provision for the posting of a third party
2	bond to assure completion of decommissioning and site restoration, in the
3	amount of the full estimated costs of decommissioning and site restoration
4	adjusted for inflation and in accordance with the plan as approved by the
5	permitting authority.
6	(D) The plan shall include written authorization from the applicant
7	and all owners of all project parcels for each municipality in which the plant is
8	located, the permitting authority, or a designee of such municipality or
9	authority to access the project parcels and implement the decommissioning and
10	site restoration plan, in the event that the permittee fails to implement the plan.
11	The written authorization shall be in a form approved by the permitting
12	authority and recorded in the land records of each municipality in which the
13	plant is located.
14	(f) Waiver. A property owner may waive one or more of the requirements
15	of subsections (c) and (d) of this section by signing a written waiver of rights.
16	At a minimum, any such waiver shall:
17	(1) Itemize for the property owner each specific requirement for which
18	waiver is sought.
19	(2) Include full disclosure of the potential impact on the property owner
20	of waiving each such requirement.

1	(3) Describe the plant that will benefit from the waiver and state that, for
2	such plant, consent is granted to waive each itemized requirement.
3	(4) Be recorded prior to operation of the plant in the land records of the
4	municipality in which the burdened property is located. For the purpose of this
5	subsection, "burdened property" is the real property of the person signing the
6	written waiver. The recorded documents shall describe the properties
7	benefited and burdened and advise all subsequent purchasers of the burdened
8	property that the waiver shall run with the land.
9	(g) Enforcement. With respect to a plant described in subsection (a) of this
10	section, any appropriate action may be instituted in the superior court of the
11	county in which the plant is located to prevent, restrain, correct, or abate any
12	violation of this section, of the statutes identified in subsection (a) of this
13	section, or of the conditions of any permit or approval issued under those
14	statutes. The following may institute such an action: a municipality in which a
15	plant subject to this section is located; any person aggrieved by a plant's
16	violation of this section, of the statutes identified in subsection (a) of this
17	section, or of a permit issued under one of those statutes; and the attorney
18	general on his or her own motion or at the request of the department of public
19	service, of the land use panel of the natural resources board, or of a
20	municipality in which a plant subject to this section is located. This authority
21	shall be in addition to any other enforcement statute applicable to the plant.

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1	* * * Governance * * *
2	Sec. 2. 30 V.S.A. § 248 is amended to read:
3	§ 248. NEW GAS AND ELECTRIC PURCHASES, INVESTMENTS, AND
4	FACILITIES; CERTIFICATE OF PUBLIC GOOD
5	(a)(1) No company, as defined in section 201 of this title, may:
6	(A) in any way purchase electric capacity or energy from outside the
7	state, for a period exceeding five years, that represents more than one percent
8	of its historic peak demand; or
9	(B) invest in an electric generation or transmission facility located
10	outside this state unless the public service board first finds that the same will
11	promote the general good of the state and issues a certificate to that effect.
12	(2) Except for the replacement of existing facilities with equivalent
13	facilities in the usual course of business, and except for electric generation
14	facilities that are operated solely for on site electricity consumption by the
15	owner of those facilities:
16	(A) no No company, as defined in section 201 of this title, and no
17	person, as defined in subdivision 6001(14) of Title 10, may begin site
18	preparation for or construction of an electric generation facility or electric

transmission facility within the state which is designed for immediate or

eventual operation at any voltage; and

(B) no No such company may exercise the right of eminent domain
in connection with site preparation for or construction of any such transmission
or generation facility, unless the public service board first finds that the same
will promote the general good of the state and issues a certificate to that effect.
(C) This subdivision (2) shall not apply to each of the following:
(i) The replacement of an existing facility with an equivalent
facility in the usual course of business.
(ii) An electric generation facility that is operated solely for
on-site electricity consumption by the owner of the facility.
(iii) An electric generation plant that uses wind as a fuel source,
exceeds 0.49 megawatts (MW) in plant capacity, and does not have majority
ownership or control by a Vermont retail electricity provider. For the purpose
of this subdivision (iii):
(I) "Plant," "plant capacity," and "retail electricity provider"
have the same meaning as under section 8002 of this title.
(II) If more than one Vermont retail electricity provider has
ownership or control of a facility, all such providers shall be treated together as
one provider for the purpose of determining majority ownership or control.

* * *

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1	Sec. 3. 10 V.S.A. § 6001 is amended to read:
2	§ 6001. DEFINITIONS
3	When used in this chapter:
4	* * *
5	(3)(A) "Development" means:
6	(i) The construction of improvements on a tract or tracts of land,
7	owned or controlled by a person, involving more than 10 acres of land within a
8	radius of five miles of any point on any involved land, for commercial or
9	industrial purposes in a municipality that has adopted permanent zoning and
10	subdivision bylaws.
11	(ii) The construction of improvements for commercial or
12	industrial purposes on more than one acre of land within a municipality that
13	has not adopted permanent zoning and subdivision bylaws.
14	(iii) The construction of improvements for commercial or
15	industrial purposes on a tract or tracts of land, owned or controlled by a person
16	involving more than one acre of land within a municipality that has adopted
17	permanent zoning and subdivision bylaws, if the municipality in which the
18	proposed project is located has elected by ordinance, adopted under chapter 59
19	of Title 24, to have this jurisdiction apply.

(iv) The construction of housing projects such as cooperatives,

condominiums, or dwellings, or construction or maintenance of mobile homes

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1	or trailer parks, with 10 or more units, constructed or maintained on a tract or
2	tracts of land, owned or controlled by a person, within a radius of five miles of
3	any point on any involved land, and within any continuous period of five years.
4	(v) The construction of improvements on a tract of land involving
5	more than 10 acres that is to be used for municipal, county or state purposes.
6	In computing the amount of land involved, land shall be included that is
7	incident to the use such as lawns, parking areas, roadways, leaching fields, and
8	accessory buildings.
9	(vi) The construction of improvements for commercial, industrial,
10	or residential use above the elevation of 2,500 feet.
11	(vii) Exploration for fissionable source materials beyond the
12	reconnaissance phase or the extraction or processing of fissionable source
13	material.
14	(viii) The drilling of an oil and gas well.
15	(ix) The construction, at any elevation, of improvements for an
16	electric generation plant that uses wind as a fuel source, exceeds 0.49
17	megawatts (MW) in plant capacity, and does not have majority ownership or
18	control by a Vermont retail electricity provider. For the purpose of this
19	subdivision (ix):

(I) "Plant," "plant capacity," and "retail electricity provider"

have the same meaning as under section 8002 of Title 30.

1	(II) If more than one Vermont retail electricity provider has
2	ownership or control of a facility, all such providers shall be treated together as
3	one provider for the purpose of determining majority ownership or control.
4	* * *
5	Sec. 4. 24 V.S.A. § 4414 is amended to read:
6	§ 4414. ZONING; PERMISSIBLE TYPES OF REGULATIONS
7	Any of the following types of regulations may be adopted by a municipality
8	in its bylaws in conformance with the plan and for the purposes established in
9	section 4302 of this title.
10	* * *
11	(3) Conditional uses.
12	(A) In any district, certain uses may be allowed only by approval of
13	the appropriate municipal panel, if general and specific standards to which
14	each allowed use must conform are prescribed in the appropriate bylaws and if
15	the appropriate municipal panel, under the procedures in subchapter 10 of this
16	chapter, determines that the proposed use will conform to those standards.
17	These general standards shall require that the proposed conditional use shall
18	not result in an undue adverse effect on any of the following:
19	(i) The capacity of existing or planned community facilities.

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1	(ii) The character of the area affected, as defined by the purpose or
2	purposes of the zoning district within which the project is located, and
3	specifically stated policies and standards of the municipal plan.
4	(iii) Traffic on roads and highways in the vicinity.
5	(iv) Bylaws and ordinances then in effect.
6	(v) Utilization of renewable energy resources.
7	(B) The general standards set forth in subdivision (3)(A) of this
8	section may be supplemented by more specific criteria, including requirements
9	with respect to any of the following:
10	(i) Minimum lot size.
11	(ii) Distance from adjacent or nearby uses.
12	(iii) Performance standards, as under subdivision (5) of this
13	section.
14	(iv) Criteria adopted relating to site plan review pursuant to
15	section 4416 of this title.
16	(v) Any other standards and factors that the bylaws may include.
17	(C) One or more of the review criteria found in 10 V.S.A. § 6086
18	may be adopted as standards for use in conditional use review.
19	***
20	(6) Access to renewable energy resources. Any municipality may adopt
21	zoning and subdivision bylaws to encourage energy conservation and to

protect and provide access to, among others, the collection or conversion of direct sunlight, wind, running water, organically derived fuels, including wood and agricultural sources, waste heat, and geothermal sources, including those recommendations contained in the adopted municipal plan, regional plan, or both. The bylaw shall establish a standard of review in conformance with the municipal plan provisions required pursuant to subdivision 4382(a)(9) of this title.

* * *

(14) Green development incentives. A municipality may encourage the use of low-embodied energy in construction materials, planned neighborhood developments that allow for reduced use of fuel for transportation, and increased use of renewable technology by providing for regulatory incentives, including increased densities and expedited review.

(15) Merchant wind generation. A municipality may adopt bylaws to regulate, as a conditional use under subdivision (3) of this section, an electric generation facility that uses wind as a fuel source, exceeds 0.49 megawatts (MW) in plant capacity, and does not have majority ownership or control by a Vermont retail electricity provider.

(A) For the purpose of this subdivision (15):

(i) "Plant," "plant capacity" and "retail electricity provider" have the same meaning as under 30 V.S.A. § 8002.

1	(ii) If more than one Vermont retail electricity provider has
2	ownership or control of a facility, all such providers shall be treated together as
3	one provider for the purpose of determining majority ownership or control.
4	(B) In addition to the criteria of subdivision (3)(A) of this section,
5	such bylaws shall include as criteria compliance with the requirements of
6	30 V.S.A. § 8008 and may include additional relevant criteria that are more
7	stringent than state statute.
8	* * * Funding Municipal Review of Wind Plants * * *
9	Sec. 5. 24 V.S.A. § 4440 is amended to read:
10	§ 4440. ADMINISTRATION; FINANCE
11	* * *
12	(d)(1) The legislative body may establish procedures and standards for
13	requiring an applicant to pay for reasonable costs of an independent technical
14	review of the application.
15	(2) Notwithstanding whether the legislative body has established such
16	standards and procedures, a municipality may allocate to an applicant the
17	municipality's reasonable costs of review or participation or both in a
18	proceeding if:
19	(A) The application is for a facility described in subdivision 4414(15)
20	of this title.

appeals.

(B) The application is for approval under chapter 151 of Title 10,
30 V.S.A. § 248, or chapter 117 of this title.
(C) The costs relate to the municipality's review of the application or
participation in a proceeding under the provisions identified in subdivision (2)
of this subsection or an appeal from such a proceeding.
(3) When a municipality decides to allocate costs under subdivision (2)
of this subsection, the municipality shall notify the applicant of the costs to be
allocated and their purpose. Upon petition of an applicant to the body
conducting the proceeding, that body shall review and determine, after
opportunity for hearing, having due regard for the size and complexity of the
proposed plant at issue, the necessity and reasonableness of such allocation,
which it may amend or revise. From time to time during the progress of the
work, the municipality shall render to the applicant detailed statements
showing the amount of money expended or contracted for in the work, which
statements shall be paid by the applicant to the municipality at such time and in
such manner as the municipality may reasonably direct. A municipality may
require an applicant to pay an estimated cost in advance of the work being
performed, provided that any unused portion of such payment is returned to the
applicant within 30 days of final disposition of the proceeding, including any

1	* * * Health Department Role * * *
2	Sec. 6. 18 V.S.A. § 12 is added to read:
3	§ 12. SOUND LIMITS; WIND PLANTS; PERIODIC REVIEW
4	Every second December 31, the commissioner of health shall report to the
5	house and senate committees on natural resources and energy on whether the
6	sound limits contained in 30 V.S.A. § 8008(d) are appropriate to protect public
7	health and whether those limits should be amended. The basis of the report
8	shall include developing science and actual, on-the-ground experience with
9	respect to wind plants of the type that are subject to 30 V.S.A. § 8008 and their
10	impacts on persons and animals. The report shall include recommended
11	statutory language for any amended limits and state the reasons for any
12	proposed amendments.
13	Sec. 7. HEALTH; SOUND LIMIT REPORT; INITIAL DATE
14	With respect to the report required by Sec. 6 of this act, the commissioner
15	of health shall submit the initial report by December 31, 2010.
16	Sec. 8. EFFECTIVE DATE
17	This act shall take effect on passage.