

HAWAII STATE ENERGY OFFICE STATE OF HAWAII

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DAVID Y. IGE
GOVERNOR

SCOTT J. GLENN
CHIEF ENERGY OFFICER

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Testimony of
SCOTT J. GLENN, Chief Energy Officer

before the
HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION
Tuesday, February 4, 2020
8:30 AM
State Capitol, Conference Room 325

In consideration of
HB 2188
RELATING TO WIND ENERGY FACILITIES.

Chair Lowen, Vice Chair Wildberger, and members of the Committee. The Hawaii State Energy Office (HSEO) offers comments on HB 2188, which requires wind turbines with capacity to generate one megawatt or more to be located (set back) at least one mile from the nearest farm dwelling or residential dwelling.

HSEO's comments are guided by its mission to promote energy efficiency, renewable energy, energy resiliency, and clean transportation to help achieve a decarbonized economy. HSEO supports wind turbine setback requirements that balance human health, ecological, environmental, cultural, and economic considerations. Determining an appropriate setback requires considerable thought, information analysis, and stakeholder input. HSEO prefers a setback requirement for wind turbines that is set at a ratio of the height of the turbines (an approach taken in several other states) to more appropriately provide community protections while enabling wind energy to contribute towards Hawaii's renewable energy mandate. HSEO notes that three counties in Hawaii – the City and County of Honolulu, the County of Maui, and the County of Hawaii – require wind turbines in certain zones to be set back from the property line at least as far as the height of the turbines, or a 1:1 setback. Other ratios are used in different areas (examples of 1, 1.1, 1.5, 2.5, 3.1, and 5.5 are provided in the attachment). The HSEO does not have a specific ratio to suggest at this time.

HSEO believes that this is an important issue, and looks forward to the discussion of appropriate setback requirements. A compilation of wind energy facility siting requirements in other states, prepared by the National Conference of State Legislatures in 2016, is attached to this testimony for your information.¹

Thank you for the opportunity to testify.

¹ National Conference of State Legislatures, <https://www.ncsl.org/research/energy/state-wind-energy-siting.aspx>.

<https://www.ncsl.org/research/energy/state-wind-energy-siting.aspx>



State Legislative Approaches to Wind Energy Facility Siting

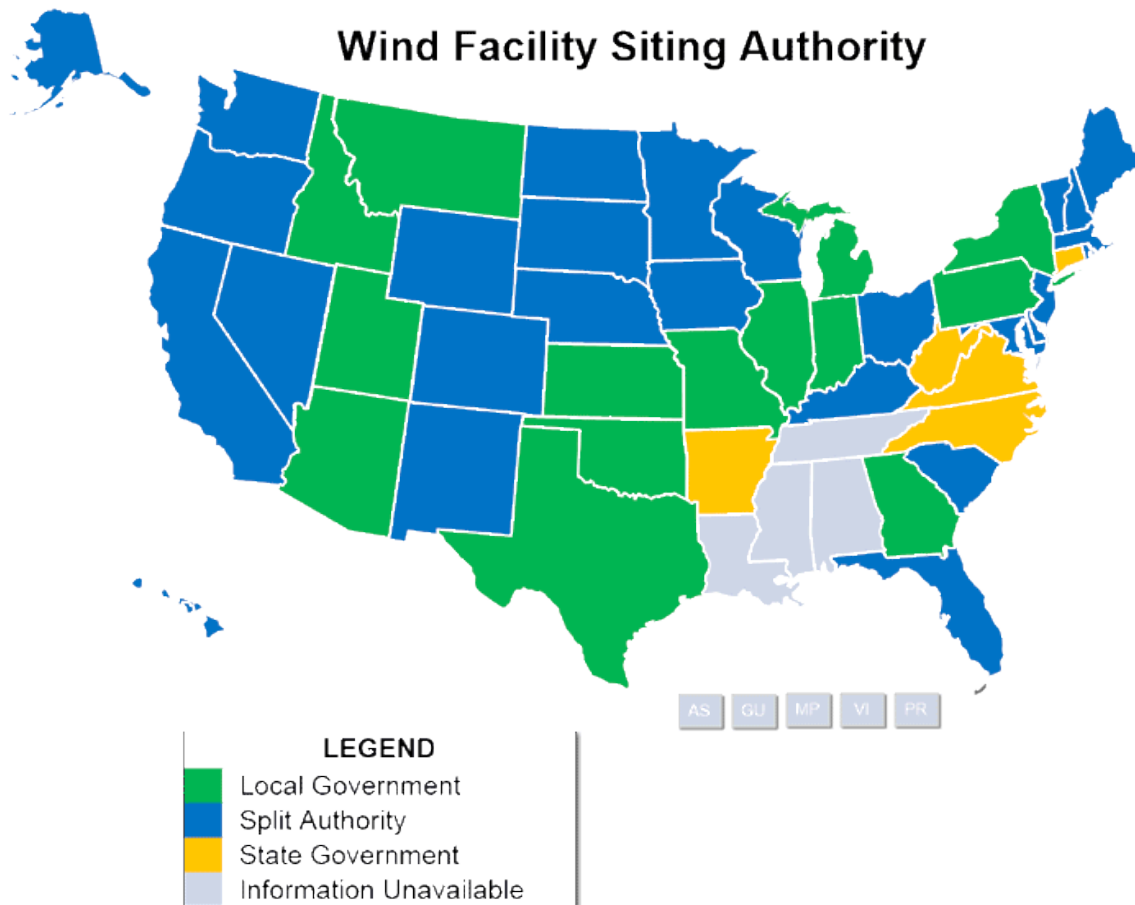
Jesse Heibel and Jocelyn Durkay 11/1/2016

States are recognizing the benefits of wind energy as a renewable energy resource that can diversify energy portfolios, meet renewable portfolio standards and reduce greenhouse gas emissions.



As wind continues to expand, wind turbines are getting closer to more property owners, leading to contentious debates in some communities. To address this situation, many states have investigated statewide wind siting requirements or guidelines to bring clarity and uniformity to the siting process, rather than leaving siting entirely in the hands of local jurisdictions. States approaches to wind facility siting vary widely but can be categorized by two general approaches.

- The first approach designates siting authority to state agencies—including public utility commissions or siting councils and boards—often in conjunction with local authorities. A majority of states that adopt this approach may limit local authority through state law, such as setting generating capacity thresholds before state regulatory involvement is authorized. In 25 states, the siting of wind facilities require approval by state or local government bodies depending on size while five states reserve the power to regulate the siting of all wind facilities, regardless of size.



- The second approach, most often found in “home rule” or “local control” states, cedes siting authority to local governments. In these states local governments have substantial autonomy to regulate the siting of most wind facilities through their traditional land use authority. Local governments in 20 states have substantial autonomy to regulate the siting of wind facilities, with 15 of those states having no process or legislation specifically addressing wind facilities.

In the absence of state legislation defining local government powers, the development of wind facility projects may be stifled due to an unintended regulatory maze created by a lack of uniform procedures and standards. Several states have addressed this issue by assigning siting responsibilities to local governments with specified content and limits to local regulation. For example, Connecticut, New Hampshire and Ohio have legislatively-directed siting boards and commissions to develop statewide regulations for wind siting that include standards for setbacks, wildlife, noise, decommissioning, ice throw and other issues.

Setback Requirements

States take several approaches to establishing a “setback” for wind turbines, which defines the minimum distance between wind turbines and neighboring structures or property lines. These differences largely depend on whether—and to what degree—state government is involved in the wind energy siting. Of the 20 states with substantial local autonomy, only two states have established a statewide setback. Additionally, 15 of those states have no statewide process or legislation specifically addressing wind facilities, and therefore have no statewide setback

requirements. Localities, however, can adopt setback requirements. Dekalb County, Alabama, for example, requires turbines to be setback at least 2,500 feet from neighboring and adjacent property lines, as well as setback 1.5 times the height of the tower from any overhead powerlines and .5 times the height of the tower for underground powerlines (Ala. Code §45-25-260.05). In contrast, four states reserve all siting authority for wind energy and an additional 24 states have both state and local siting provisions. Of these states, 12 have statewide setback requirements for wind turbines and one state clarifies that any locally-established setback cannot be an unreasonable restriction on wind energy development.

Setbacks are calculated based on the height of the tower or the turbine (which includes the height of the blade) and often measured against adjacent property lines or structures.

Another tool states have employed for local government guidance on wind siting decisions are model ordinances. Ten states have adopted some form of model ordinances which details local land use regulation, considerations in siting wind facilities and examples of other local government actions.

State	Statute	Summary
Alabama		According to the American Wind Energy Association, there is no installed capacity in Alabama. NCSL was unable to locate statutory authority for statewide wind energy siting. State legislation has been adopted for DeKalb County wind energy siting.
Alaska		The Regulatory Commission of Alaska issues a Certificate of Convenience and Necessity to any utility or independent power producer serving 10 or more people. Depending on site land ownership and environmental impacts, permits for turbine siting are handled by some cities and municipalities or the Alaska Department of Natural Resources and Division of Wildlife.
Arizona	Ariz. Rev. Stat. Ann. §9-461 et seq. ; §11-801 et seq.	No state level approval is needed for siting wind facilities. Wind facilities must obtain siting and zoning approvals at the municipal or county level.
Arkansas	Ark. Stat. Ann. §23-3-201 et seq.	Wind siting is conducted at the local level of government. Utility facilities providing a public service are authorized by the Public Service Commission
California	Cal. Government Code §65100-65107 ; §65893-65899 ; Cal. Public Resource	Land-use decisions, including wind siting, are determined by local governments. Additionally, the California Environmental Quality Act requires local governments to analyze wind generator environmental impacts. Counties are authorized to adopt an ordinance that provides for the installation of wind generators 5 megawatts (MW) or smaller, conditioned on maximum restrictions for tower high, parcel size, setbacks, public notice and noise level.

	Code §2100-21006	While localities can adopt wind siting ordinances, the state has established that minimum setbacks can be no further from the property line than the system height. Further setbacks are authorized to comply with fire setback requirements. Additionally, the state has an extensive siting process for wind turbines and nearby military facilities .
Colorado	Colo. Rev. Stat. §30-28-106 (3)(a)(VI) ; §40-5-101 ; §29-20-108 (2)	In Colorado, both the local and state government permit the siting of wind facilities. The Public Utilities Commission issues a certificate before the construction of new facilities, which requires local permits to be obtained. If local governments deny a permit for a wind facility there is an option to appeal to the PUC.
Connecticut	Conn. Gen. Stat. Ann. § 16-50j ; Connecticut Siting Council Wind Regulations	The Connecticut Siting Council has promulgated wind siting regulations that include provisions addressing tower height, distance, flicker, decommissioning, ice throw, noise and public hearings. The Siting Council also provides a certificate for all renewable electricity generating facilities 1 MW or larger. The legislatively-established Connecticut Siting Council has developed siting regulations for facilities 1 megawatt (MW) or larger. On setbacks specifically, facilities greater than 65 MW in total capacity must comply with the greater of 2.5 times the height of the turbine or the manufacturer's recommended setback from any property lines. Facilities less than 65 MW must comply with the greater of 1.5 times the height of the turbine or the manufacturer's recommended setback from any property lines. Note: facilities 65 MW in capacity are not designated in either category. Provides exceptions for this under specific circumstances.
Delaware	Del. Code Ann. tit. 29 §80-8060	The state prohibits local governments from passing restrictions that prohibit land owners from using wind systems on residential properties. Otherwise wind power generation is governed by local zoning ordinances. Establishes that setbacks are 1.0 times the height of the turbine (defined as the tower plus the length of one blade).
Florida	Fla. Stat. Ann. §403.501-.518	Florida does not have a statewide siting authority for wind facilities. Local governments have authority over most siting decisions, but the Siting Coordination Office has broad authority for certifications of power generating facilities over 75 MW.
Georgia	Ga. Code Ann. § 36-70-1 et seq.	Georgia has no specific siting authority for wind generation. Local governments have primary authority over most types of siting.
Hawaii	Hawaii Rev. Stat. §201N	In Hawaii, local government sites most wind facilities. The state authorizes renewable energy facilities, including wind,

		5 MW or larger to pursue a streamlined permitting process through state agencies.
Idaho	Idaho Code §67-6504	Idaho has no specific siting authority for wind at the state level. Local governments, through city councils or county commissioners, have siting authority.
Illinois	Ill. Rev. Stat. ch. 55 §5/5-12020 (County) ; Ill. Rev. Stat. ch. 65 §5/11-13-26 (Municipality)	Illinois has no specific siting authority for wind at the state level. A county cannot require a wind tower or other renewable energy system that is used exclusively by an end user to be setback more than 1.1 times the height of the renewable energy system from the end user's property line.
Indiana	Ind. Code §36-7-1	Indiana has no specific siting authority for wind facilities at the state level. Local governments have authority to regulate siting.
Iowa	Iowa Code Ann. §476A.1 et seq.	In Iowa, zoning and permitting for facilities greater than 25 MW is under the jurisdiction of the Iowa Utilities Board. Facilities less than 25 MW are sited on a county or municipality level.
Kansas	Kan. Stat. Ann. §12-741 et seq. ; Kansas Energy Council Handbook	In Kansas, local governments have authority to regulate wind siting through the state's planning and zoning statutes. The Kansas Energy Council has produced a handbook for local governments that includes regulations, considerations and examples.
Kentucky	Ky. Rev. Stat. §278.700 et seq.	Approval by the Kentucky State Board on Electric Generation and Siting or Public Service Commission is required for generating facilities that sell wholesale power with a generating capacity of 10 MW or greater. Facilities with lower generating capacity are sited on the local level. Requires facilities to be at least 1,000 feet from the property boundary of an adjoining property owner and 2,000 feet from any residential neighborhood, school, hospital or nursing home facility.
Louisiana	La. Rev. Stat. Ann. §33:101 et seq.	According to the American Wind Energy Association, there is no installed capacity in Louisiana. NCSL was unable to locate statutory authority for wind energy siting.
Maine	Me. Rev. Stat. Ann. tit. 38, §481-490 ; tit. 35A§3401-04 ; §3451-59 ; Maine Model	All municipalities have the power to pass ordinances to regulate wind power projects within their boundaries. The Department of Environmental Protection regulates the construction of developments with a footprint exceeding 20 acres or over 10 MW generation capacity. The Maine Wind Energy Act also provides for expedited siting. It authorizes both the Maine Department of Environmental Protection

	Wind Facility Ordinance	and Land Use Regulation Commission to be the permitting authority at the state level only when there is no local, incorporated municipal government in the area. Maine has developed a model zoning law for local governments.
Maryland	Md. Public Utility Code §7-207- 208	In Maryland, local governments have authority to regulate siting for wind facilities 70 MW or less, subject to limited interconnection approval from the Public Service Commission. Wind facilities greater than 70 MW require a Certificate of Public Convenience and Necessity from the Public Service Commission.
Massachusetts	Mass. Ge. Laws Ann. ch. 164, §69H; Massachusetts Model Bylaw	The Energy Facilities Siting Board regulates construction of power plants greater than 100 MW. Smaller energy projects are regulated by local governments. The State has developed model zoning by-laws that municipalities can enact.
Michigan	Mich. Comp. Laws §125.3101 et seq.; Model Wind Ordinance	Local governments manage land use and several have adopted ordinances regarding the siting of wind power specifically. The state has developed a model zoning law for local governments.
Minnesota	Minn. Stat. §216F; Minn. Admin. Rules §7854.0200	The Minnesota Public Utility Commission has permitting authority for wind facilities greater than 5 MW. Counties have siting authority for facilities 5 MW or less but can assume responsibility for facilities up to 25 MW subject to the PUC's specific set of requirements for siting.
Mississippi	Miss. Code Ann. §17-1-1 et seq.	According to the American Wind Energy Association, there is no installed capacity in Mississippi. NCSL was unable to locate statutory authority for wind energy siting.
Missouri	Mo. Rev. Stat. §89.010 et seq.	Local governments have authority in setting siting requirements for wind energy facilities.
Montana	Mont. Code Ann. §70-20; §76-2-201; §76-2-301	For most purposes local governments in Montana control zoning. The Department of Environmental Quality may regulate certain components of siting, such as transmission.
Nebraska	Neb. Rev. Stat. §70-1001; §66-913.	The local utility district must first approve wind power facilities in Nebraska. If the project is over 70 MW it is must also receive Power Review Board approval. Recent legislation modified this requirement for private developers to require notification, not receive approval, of projects. Local governments have authority to include considerations for the encouragement of wind energy in their zoning regulations and ordinances.

Nevada	Nev. Rev. Stat. Ann. §704.820 through 704.900 ; §278.250(2)(n) ; §278.02077	Nevada requires local governments to promote wind systems and prohibit restrictions of private property owners from utilizing wind energy. The Public Utilities Commission issues permits for the construction of electrical facilities, including renewable energy generating facilities greater than 70 MW. States that a governing body shall not adopt regulations and ordinances that unreasonably restrict the development of wind energy.
New Hampshire	N.H. Rev. Stat. Ann. §162-H ; §674:63	The New Hampshire Siting Evaluation Committee provides a certificate for energy facilities greater than 30 MW. Developers of facilities between 30 MW and 5 MW can opt-in to the SEC process to preempt local jurisdiction. All other wind facilities fall under local jurisdiction. State law also prohibits municipalities from adopting unreasonable ordinances or regulations relating to small wind generation. Prohibits localities from adopting ordinances that require setbacks more than 150 percent of the system height from property boundaries. Allows for individual project circumstances to be considered in modifying this requirement.
New Jersey	N.J. Rev. Stat. §40:55D-4 ; 55D-7 ; 55D-66.12 ; 55D-70(d) .	Wind developers can gain variances to local zoning ordinances, as wind generation is defined as having an “inherently beneficial use.” Local governments cannot adopt ordinances regulating small wind energy systems that unreasonably limit wind generation development. State laws authorize municipalities to adopt local ordinances, so long as they do not unreasonably limit or hinder small wind energy systems. Localities cannot restrict tower or system height through a generic ordinance or regulation that does not specifically address allowable tower height or system height of a small wind energy system. Localities cannot establish setbacks greater than 150 percent of the system height. This distance serves as the standard setback in absence of a local ordinance stating otherwise.
New Mexico	N.M. Stat. Ann. §62-9-3 ; §3-21-1	The New Mexico Public Regulation Commission has jurisdiction over electricity generating projects over 30 MW. Counties regulate wind power siting through zoning but can be preempted by the commission if finds it unreasonable restrictive.
New York	N.Y. Pub. Ser. Law §160 ; N.Y. Energy Law §21-106 ; Wind Energy	Local governments manage land use, including wind energy development, through zoning permits or enacting wind power specific provisions in municipal code. Siting decisions are subject to environmental review regulations required by state law. The State Public Service Commission is responsible for approval of construction of facilities over 25

North Carolina	Model Ordinance N.C. Gen. Stat. § 143-215.115	<p>MW. The state has developed a model ordinance for local governments looking to site wind generation facilities.</p> <p>North Carolina law prohibits the construction or operation of a wind energy facility without a permit from the Department of Environment and Natural Resources. Establishes that turbines be setback at least .5 miles from the boundary of an adjacent property owner. Additionally, the state has an extensive siting process for wind turbines and nearby military facilities.</p>
North Dakota	N.D. Cent. Code § 49-22-16	<p>North Dakota Public Service Commission regulates siting of wind power facilities greater than 500 kilowatts (kW) by providing a Certificate of Site Compatibility. This is the sole permit needed but cannot supersede local governments regulations or zoning.</p>
Ohio	Ohio Rev. Code Ann. § 4906.13 ; § 4906.20	<p>Ohio Power Siting Board preempts local jurisdiction and provides a certificate of environmental compatibility and public need for the construction of an “economically significant wind farm” (between 5-50 MW). Smaller facilities are subject to local jurisdiction. For “economically significant wind farms” (between 5 and 50 MW) setbacks must be at least 1.1 times the total height of the turbine, measured from the base to the tip of the highest blade, and at least 1,125 feet from a property line, measured from the turbine’s blade nearest to the adjacent property. Wind facilities 50 MW in capacity or greater are designated as “major utility facilities” and subject to broader siting regulations.</p>
Oklahoma	Okla. Stat. tit. 17 § 160.11 through § 160.19	<p>In Oklahoma, siting for wind development is determined by local governments. A notice of intent must be filed with the state Corporation Commission. Aspects such as decommissioning, royalty payments and liability insurance are governed by the state.</p> <p>The state has setback requirements for facilities located near airports.</p>
Oregon	Or. Rev. Stat. § 469.300 through § 469.560 ; Model Ordinance	<p>Siting for wind generating facilities less than 35 MW are regulated by zoning laws of local government. Oregon’s Energy Facility Siting Council has approval of site certificates for wind power plants 35 MW or greater. The state has developed a model ordinance for local governments.</p>
Pennsylvania	Pa. Cons. Stat. tit. 53 § 101 et seq. ; Model Ordinance	<p>Local government has the authority to plan and regulate land use including the siting of wind generation facilities. The state has developed a model ordinance for local governments</p>

Rhode Island	R.I. Gen Laws §42-98-1 ; §45-24-27 et seq.	Rhode Island Energy Facility Siting Board licenses energy facilities 40 MW or greater. Local governments regulate the siting of smaller facilities.
South Carolina	S.C. Code Ann. §58-33-10 et seq. ; §6-29-310	The Public Utility Commission has licensing power over utility facilities greater than 75 MW. Local governments regulate the siting of smaller facilities.
South Dakota	S.D. Codified Laws Ann. §49-41B-2 ; 41B-4 ; 41B-25 ; 41B-35(3) ; §43-13-21 through 24 ; Model Ordinance	In South Dakota, any construction of a wind facility greater than 5 MW must give notice to the Public Utility Commission of the facility’s location, size and interconnection. The PUC has siting authority of facilities greater than 100 MW. Siting for facilities less than 100 MW are outside of the Commission’s authority and instead lie with local governments. The state has developed a model ordinance for local governments. Turbines with towers smaller than 75 feet must be set back at least 1.1 times the height of the tower from any surrounding property line. All larger turbines must be set back at least 500 feet or 1.1 times the height of the tower, whichever is greater, from any surrounding property line.
Tennessee		According to the American Wind Energy Association, all installed wind capacity in Tennessee is contracted through the federally-owned Tennessee Valley Authority. NCSL was unable locate to statutory authority for wind energy siting.
Texas	Tex. Local Govt. Code Ann. §7-A-211 ; §7-B-231-A	In Texas, all zoning and siting is left to local government.
Utah	Utah Code Ann. §10-9a-501 ; §17-27a-501 ; Model Wind Ordinance	In Utah, all zoning and siting is left to local governments. The state has developed a model ordinance for local governments
Vermont	Vt. Stat. Ann. tit. 30 §248(2)(A) ; tit. 24 §4412(6)	The Vermont Public Service Board provides a certificate for all wind power facilities except where it is operated solely for on-site use. Municipalities and regional planning councils have the opportunity to engage in siting decisions with the Public Service Board. Local governments are required to regulate the height of wind turbines with blades less than 20 feet in diameter.
Virginia	Va. Code §56-265.1 to .9 ; §67.103	The Virginia State Corporation Commission provides a certificate for the siting of all new utility facilities including

		wind. State statute also establishes requirements for any local wind facility ordinances.
Washington	Wash. Rev. Code §80.50.020 ; §80.50.060	The Energy Facility Site Evaluation Council has regulatory authority over energy facilities greater than 350 MW and any sized renewable energy facilities that choose to participate in the EFSEC review process. Local governments permit smaller projects and those that choose not to go through the EFSEC review.
Washington, D.C.		NCSL was unable to locate statutory authority for wind energy siting.
West Virginia	W. Va. Code §24-2-1	The West Virginia Public Service Commission has sole authority to regulate all generation of electrical energy for service to the public. Siting wind facilities for on-site consumption would be regulated at by local governments.
Wisconsin	Wis. Stat. §193.378(4g) ; Public Service Commission Wind Siting Rules; Model Wind Ordinance	The Wisconsin Public Service Commission is tasked with promulgating rules, under the advice of the Wind Siting Council, for wind energy siting. No local government may impose any restriction on a wind system that is more restrictive than the PSC rules. The state has developed a model ordinance for local governments. Wind turbines must be located at least 3.1 times the maximum blade tip height from occupied community buildings and nonparticipating residences, and at least 1.1 times the maximum blade tip height from participating residences, nonparticipating property lines, public road right-of-way and overhead communication and electric transmission or distribution lines... Small wind energy systems (combined systems smaller than 300 kW or individual systems smaller than 100 kW) must be located at least 1.0 times the maximum blade tip height from overhead communication and electric transmission or distribution lines, occupied community buildings and nonparticipating residences and property lines...
Wyoming	Wyo. Stat. §18-5-501 through 504	Wyoming requires any wind facility of 500 kW or more to obtain a permit from the board of commissioners in the county where the facility is located. The statute also lists a number of “minimum standards” for siting determinations by county commissioners. The base of any tower must be located at least 110 percent of the maximum height of the tower from any property line adjacent to the facility or from any public road right-of-way. Any tower or other structure must be set back at least 5.5 times the maximum height of the tower (and at least 1,000 feet) from any subdivision. The base of any tower must be located at least 5.5 times the maximum height of the tower

(and at least 1,000 feet) from a residential dwelling or occupied structure. The base of any tower must be located at least .5 miles away from the limits of any city or town.

References

- Association of Fish and Wildlife Agencies, "Wind Power Siting, Incentives, and Wildlife Guidelines in the United States," (2007).
- Debora Donovan, "Wind Siting Regulations and Guidelines in Northeast, A Brief Update," Northeast Wind Resource Center (2015).
- Environmental Law Institute, "State Enabling Legislation for Commercial-Scale Wind Power Siting And The Local Government Role," (2001).
- Kevin McCarthy, "[Standards In Other States for Siting Wind Projects,](#)" (2011).
- The National Association of Regulatory Utility Commissioners, "Wind Energy & Wind Park Siting and Zoning Best Practices and Guidance for States," (2012).
- Patricia E. Salkin, "[Renewable Energy and Land Use Regulation \(Part 2\),](#)" (2011).



**Hawaiian
Electric**

**TESTIMONY BEFORE THE HOUSE COMMITTEE ON
ENERGY & ENVIRONMENTAL PROTECTION**

H.B. 2188

Relating to Wind Energy Facilities

Tuesday, February 4, 2020
8:30 a.m., Agenda Item #1
State Capitol, Conference Room 325

Rebecca Dayhuff Matsushima
Director, Renewable Acquisition Division
Hawaiian Electric Company, Inc.

Dear Chair Lowen, Vice Chair Wildberger, and Members of the Committee,

My name is Rebecca Dayhuff Matsushima and I am testifying on behalf of Hawaiian Electric Company, Inc. (Hawaiian Electric) with **comments on H.B. 2188**, Relating to Wind Energy Facilities.

H.B. 2188 proposes to amend Section 205-4.5 of the Hawaii Revised Statutes to establish a one-mile setback from the nearest existing farm dwelling or residential dwelling unit for wind energy facilities in agricultural districts.

While we understand the concerns raised by some regarding the location and proximity of renewable energy projects, Hawaiian Electric notes this bill will have a potential impact on achieving the State's renewable energy goals. We will need to rely on all viable technologies, including utility scale wind projects, to achieve the legislative mandate to reach 100% renewable energy. In order to achieve this goal, legislative policies must all be aligned in the same direction and the entire state of Hawaii must work together.

Thank you for this opportunity to comment on H.B. 2188.

LATE

HB-2188

Submitted on: 2/4/2020 3:46:35 AM

Testimony for EEP on 2/4/2020 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
chai yoshimura	Kahuku Agricultural Park Association	Support	No

Comments:

Aloha Honorable Stewards of the citizens of Hawaii,

I am Chai Yoshimura, a resident and farmer in Kahuku. Thank you for introducing this bill to establish a mile setback from nearest existing farm dwelling or residential dwelling unit for wind energy facilities in agricultural districts. I on behalf of all the farmers in Kahuku Agricultural Park is in support of this humane bill that considers farmers as living human beings who are silently working on our farms to support our families.

Us farmers here are simple folks who are busy everyday trying to produce food that are safe for the public. Most of us do not have internet and depend on the law makers' integrity to protect us and our aina. I wouldn't go into the dangers to humans and other organisms such as the Hoary bats from the turbines. We all know there ARE health effects on living things from wind energy facilities.

Thank you again for fulfilling your duties as law makers of Hawaii to protect the people and the aina.

Mahalo for recognizing us as living human beings who depend on you to make the right decisions which will effect us in our daily lives.

Respectfully yours,

Chai Yoshimura



P.O. Box 37158, Honolulu, Hawai'i 96837-0158
Phone: 927-0709 henry.lifeoftheland@gmail.com

COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

Rep. Nicole E. Lowen, Chair

Rep. Tina Wildberger, Vice Chair

DATE: Tuesday, February 4, 2020

TIME: 8:30 a.m.

PLACE: Conference Room 325

HB 2188 RELATING TO WIND ENERGY FACILITIES

STRONG SUPPORT

Aloha Chair Lowen, Vice Chair Wildberger, and Members of the Committee

Life of the Land is Hawai'i's own energy, environmental and community action group advocating for the people and `aina for 50 years. Our mission is to preserve and protect the life of the land through sound energy and land use policies and to promote open government through research, education, advocacy and, when necessary, litigation.

Life of the Land strongly supports this bill. In our drive to increase renewable energy it is of paramount importance that it is done in a way that does not pit communities against each other.

No one suggests that wind turbines should be placed on the islands where the wind is the strongest, on Oa`hu, for example, an arc 400 feet offshore, coming on shore at Haunama Bay and Black Point along the shores of Diamond Head, or on the top of the Ko`olau Mountains.

Wind installations should be fitted into the community not on top of some communities.

Please pass this bill. Mahalo

Henry Curtis
Executive Director

HB-2188

Submitted on: 1/31/2020 12:30:52 PM

Testimony for EEP on 2/4/2020 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Alexandra Kahn	Surfrider Oahu	Support	No

Comments:

HB-2188

Submitted on: 1/31/2020 11:24:29 PM

Testimony for EEP on 2/4/2020 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
maelani Lee	Individual	Oppose	No

Comments:

I oppose this Bill because it should be farther away than 1 mile from farm land and natural resources. Hawaii has small islands and wind farms or turbines should be banned from being on our lands. Please kill this bill for our future generations and our quality of life.

HB-2188

Submitted on: 2/2/2020 4:38:56 PM

Testimony for EEP on 2/4/2020 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Jessica dos Santos	Individual	Support	No

Comments:

To:

Representative Nicole E. Lowen, Chair

Representative Tinea Wildberger, Vice Chair

Subject:

Support HB 2188 RELATING TO WIND ENERGY FACILITIES

February, 2, 2020

Aloha Chair Lowen, Vice Chair Wildberger and the Energy and Environmental Protection Committee Members,

I am writing in strong support of HB 2188 Relating To Wind Energy Facilities with recommendations. Although more protections for farmers and farmer’s residences are urgently needed, we would like to ask that you please amend the bill to include urban and rural districts in the one mile setback as well.

The wind industry claims that the science on health effects related to industrial wind turbines is conclusive, but this is incorrect. Many studies and organizations, such as U.S.G.S. (2011), Ambrose, Rand and Krogh (2012), Nissenbaum, Aramini, and Hanning (2012), Barry, Sulsky, Kreiger (2018), Council of Canadian Academies (2015) and Alves-Pereira, Rapley, Bakker and Summers (2019) state that there is a need for more studies done on the link between industrial wind turbines and negative health effects possibly resulting from exposure to noise, infrasound, or shadow flicker. The World Health Organization Noise Guidelines for the European Region (2018) states that, “[m]ethodologically robust longitudinal studies with large samples investigating the quantitative relationship between noise from wind turbines and health effects are needed.”

Furthermore, many reports and studies, such as Ambrose, Rand and Krogh (2012), Bolin, Bluhm, Eriksson and Nilsson (2011), Nissenbaum, Aramini, and Hanning (2012), Jefferey (2013), Salt and Lichtenhan (2014), Salt and Hullar

(2010), Alves-Pereira and Branco (2007), Phillips (2011), and Laurie (2015), conclude that there are adverse health effects stemming from noise, infrasound, or shadow flicker from wind turbines. It would be irresponsible and negligible to continue to allow residents of this state to act as guinea pigs against their will and possibly suffer health effects such as tinnitus, headaches, migraines, loss of sleep, increase epileptic seizures, nausea, dizziness and inability to focus. Residents that live in close proximity to turbines from the U.S., Canada, European countries, Japan and Australia have been speaking out about the health effects they have been experiencing. Their testimonies serve as a warning that more needs to be done to ensure the safety of residents first, in addition to the need for more research.

Furthermore, there are safety risks, such as blade throw, stray voltage, and toxic fires that can not be extinguished that must be mitigated to secure the life and safety of our residents. The City of Lincoln Nebraska noted, “Because of widespread concerns about health and safety, many jurisdictions scattered around the United States and Canada have adopted larger setbacks in recent years” (lincoln.ne.gov, 2015).

Therefore, I ask that you pass HB 2188 Relating To Wind Energy Facilities with the aforementioned recommendations as a one mile setback is the least the state can do to move towards safe, equitable and just implementation of its energy initiatives.

Sincerely,

Jessica dos Santos

HB-2188

Submitted on: 2/2/2020 9:27:52 PM

Testimony for EEP on 2/4/2020 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Charlotte Kamauoha	Individual	Support	No

Comments:

To:

Representative Nicole E. Lowen, Chair

Representative Tina Wildberger, Vice Chair

Subject:

Support HB 2188 RELATING TO WIND ENERGY FACILITIES

February, 2, 2020

Aloha Chair Lowen, Vice Chair Wildberger and the Energy and Environmental Protection Committee Members,

I am writing in strong support of HB 2188 Relating To Wind Energy Facilities with recommendations. Although more protections for farmers and farmer's residences are urgently needed, we would like to ask that you please amend the bill to include urban and rural districts in the one mile setback as well.

Although my testimony will be citing studies that call for further research regarding the link between wind turbines and its negative impact on people's health, I don't need studies to validate what I have experienced in my own personal life. First and foremost, I am a mother of children with special needs. I have 2 children on the Autism spectrum with one having more sensory issues than the other. One child experienced sleep disturbance issues and headaches from the first set of wind turbines. I also had friends who are special needs parents as well whose son with cerebral palsy experienced sleep disturbance and other issues that were so severe that they needed to drive him to Hauula (two towns away) and sleep there in their van just so they could get some sleep. The impact the wind turbines had on their son weighed heavily on their decision to move to a neighbor island although they were long time residents of Kahuku and original homeowners in this subdivision. My parents are original homeowners in our subdivision and my children were born and raised here. Although they love and consider Kahuku as their home, I am saddened and yet relieved that they no longer live in Kahuku because they are no longer exposed to the ill effects of the wind turbines, especially the bigger and closer ones that were built by AES against the will of our Kahuku community.

The wind industry claims that the science on health effects related to industrial wind turbines is conclusive, but this is incorrect. Many studies and organizations, such as U.S.G.S. (2011), Ambrose, Rand and Krogh (2012), Nissenbaum, Aramini, and Hanning (2012), Barry, Sulsky, Kreiger (2018), Council of Canadian Academies (2015) and Alves-Pereira, Rapley, Bakker and Summers (2019) state that there is a need for more studies done on the link between industrial wind turbines and negative health effects possibly resulting from exposure to noise, infrasound, or shadow flicker. The World Health Organization Noise Guidelines for the European Region (2018) states that, “[m]ethodologically robust longitudinal studies with large samples investigating the quantitative relationship between noise from wind turbines and health effects are needed.”

Furthermore, many reports and studies, such as Ambrose, Rand and Krogh (2012), Bolin, Bluhm, Eriksson and Nilsson (2011), Nissenbaum, Aramini, and Hanning (2012), Jefferey (2013), Salt and Lichtenhan (2014), Salt and Hullar (2010), Alves-Pereira and Branco (2007), Phillips (2011), and Laurie (2015), conclude that there are adverse health effects stemming from noise, infrasound, or shadow flicker from wind turbines. It would be irresponsible and negligible to continue to allow residents of this state to act as guinea pigs against their will and possibly suffer health effects such as tinnitus, headaches, migraines, loss of sleep, increase epileptic seizures, nausea, dizziness and inability to focus. Residents that live in close proximity to turbines from the U.S., Canada, European countries, Japan and Australia have been speaking out about the health effects they have been experiencing. Their testimonies serve as a warning that more needs to be done to ensure the safety of residents first, in addition to the need for more research.

Furthermore, there are safety risks, such as blade throw, stray voltage, and toxic fires that can not be extinguished that must be mitigated to secure the life and safety of our residents. The City of Lincoln Nebraska noted, “Because of widespread concerns about health and safety, many jurisdictions scattered around the United States and Canada have adopted larger setbacks in recent years” (lincoln.ne.gov, 2015).

Therefore, I ask that you pass HB 2188 Relating To Wind Energy Facilities with the aforementioned recommendations as a one mile setback is the least the state can do to move towards safe, equitable and just implementation of its energy initiatives.

Sincerely,

Charlotte Kamauoha
56-132 Huehu Place
Kahuku, Hawaii 96731

HB-2188

Submitted on: 2/3/2020 7:07:53 AM

Testimony for EEP on 2/4/2020 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Kananiloaanuenu Ponciano	Individual	Support	No

Comments:

To:

Representative Nicole E. Lowen, Chair

Representative Tina Wildberger, Vice Chair

From:

Kananiloa'anuenue Ponciano

P.O. BOX 830

Kahuku, HI 96731

Subject: In Strong Support of HB 2188 RELATING TO WIND ENERGY FACILITIES

February 3, 2020

Aloha Chair Lowen, Vice Chair Wildberger and the Energy and Environmental Protection Committee Members,

My name is Kananiloa'anuenue Ponciano and I am writing in strong support of HB 2188 Relating To Wind Energy Facilities with recommendations. After reading HB2188 in its entirety I would like to ask that the bill be amended to include urban and rural districts in the one mile setback as well.

As a long-time resident of Kahuku where we currently house 20 Industrial Wind Turbines (IWT) total, Kahuku Wind Power has 12 smaller operating IWT and Na Pua

Makani 8 tallest on shore IWT in the U.S, currently pending operation. I am deeply concerned for the safety and well-being of our children and elderly in our small beautiful community of Kahuku. While the wind industry claims that there is no health effects related to IWT, they have clearly shown me that their claims are irrelevant based off of their studies being completely biased towards wind energy and the blatant disregard for the need of more studies. Through our community research teams we have found that there are many studies and organizations, such as U.S.G.S. (2011), Ambrose, Rand and Krogh (2012), Nissenbaum, Aramini, and Hanning (2012), Barry, Sulsky, Kreiger (2018), Council of Canadian Academies (2015) and Alves-Pereira, Rapley, Bakker and Summers (2019) state that there is a need for more studies done on the link between industrial wind turbines and negative health effects possibly resulting from exposure to noise, infrasound, or shadow flicker. The World Health Organization Noise Guidelines for the European Region (2018) states that, “[m]ethodologically robust longitudinal studies with large samples investigating the quantitative relationship between noise from wind turbines and health effects are needed.”

Furthermore, many reports and studies, such as Ambrose, Rand and Krogh (2012), Bolin, Bluhm, Eriksson and Nilsson (2011), Nissenbaum, Aramini, and Hanning (2012), Jefferey (2013), Salt and Lichtenhan (2014), Salt and Hullar (2010), Alves-Pereira and Branco (2007), Phillips (2011), and Laurie (2015), conclude that there are adverse health effects stemming from noise, infrasound, or shadow flicker from wind turbines. It would be irresponsible and negligent to continue to allow residents of this state to act as guinea pigs against their will and possibly suffer health effects such as tinnitus, headaches, migraines, loss of sleep, increase epileptic seizures, nausea, dizziness and inability to focus. Residents that live in close proximity to turbines from the U.S., Canada, European countries, Japan and Australia have been speaking out about the health effects they have been experiencing. Their testimonies serve as a warning that more needs to be done to ensure the safety of residents first, in addition to the need for more research.

Furthermore, there are safety risks, such as blade throw, stray voltage, and toxic fires that can not be extinguished that must be mitigated to secure the life and safety of our residents. The City of Lincoln Nebraska noted, “Because of widespread concerns about health and safety, many jurisdictions scattered around the United States and Canada have adopted larger setbacks in recent years” (lincoln.ne.gov, 2015).

Therefore, I ask that you pass HB 2188 Relating To Wind Energy Facilities with the aforementioned recommendations as a one mile setback is the least the state can do to move towards safe, equitable and just implementation of its energy initiatives.

Best,

Kananiloa'anuenue Ponciano

P.O. BOX 830 Kahuku, HI 96731

HB-2188

Submitted on: 2/2/2020 11:40:55 PM

Testimony for EEP on 2/4/2020 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Sunny	Individual	Support	No

Comments:

Aloha Chair Lowen, Vice Chair Wildberger, and other Committee members:

I am writing in strong support of HB 2188 Relating To Wind Energy Facilities with recommendations. HB 2188 is a step in the right direction. However, it has several flaws that should be corrected prior to final adoption. HB 2188 applies only to “Agricultural Districts” as defined by HRS 205-4.5 and would mean turbines could still be sited very close to homes, schools and other community facilities that were located outside of the “Agricultural Districts.” We request to amend the bill to include residential areas in urban districts in the one mile setback. In addition, while HB 2188 calls for a standard 1-mile setback for all large wind turbines, a ration of height to setback might be more appropriate and flexible, allowing smaller turbines to be sited closer with larger turbines being set back further. For example, fifteen feet (15’) of setback for each foot (1’) of turbine height ratio has been suggested in SB 2804.

As North Shore resident, I understand need for clean energy, but also understand that energy projects that can help Hawaii achieve its ambitious clean energy goals are not without impacts. Sometimes these impacts can be so great and poorly managed that they outweigh any benefit such a project might provide.

Na Pua Makani wind project was so poorly developed that over 200+ members of the community were arrested protesting its construction. One of the main reasons the community was so upset was the poor siting done by the developer, with three of the 568 feet turbines being sited less then 1,700 feet away from homes and schools and a less than 700 feet from existing farm dwellings.

Increasing the set back from residential homes, schools, and farm dwellings is imperative to protect community members from harm and adverse health effects from industrial scale wind turbines.

The wind industry claims that the science on health effects related to industrial wind turbines is conclusive, but this is incorrect. Many reports and studies, such as Ambrose, Rand and Krogh (2012), Bolin, Bluhm, Eriksson and Nilsson (2011), Nissenbaum, Aramini, and Hanning (2012), Jefferey (2013), Salt and Lichtenhan (2014), Salt and Hullar (2010), Alves-Pereira and Branco (2007), Phillips (2011), and Laurie (2015), conclude that there are adverse health effects stemming from noise, infrasound, or

shadow flicker from wind turbines. It would be irresponsible and negligent to continue to allow residents of this state to act as guinea pigs against their will and possibly suffer health effects such as tinnitus, headaches, migraines, loss of sleep, increase epileptic seizures, nausea, dizziness and inability to focus. Residents that live in close proximity to turbines from the U.S., Canada, European countries, Japan and Australia have been speaking out about the health effects they have been experiencing. Their testimonies serve as a warning that more needs to be done to ensure the safety of residents first, in addition to the need for more research.

Furthermore, there are safety risks, such as blade throw, stray voltage, and toxic fires that cannot be extinguished that must be mitigated to secure the life and safety of our residents. The City of Lincoln Nebraska noted, "Because of widespread concerns about health and safety, many jurisdictions scattered around the United States and Canada have adopted larger setbacks in recent years" (lincoln.ne.gov, 2015).

Therefore, I ask that you pass HB 2188 Relating To Wind Energy Facilities with the aforementioned recommendations as a one mile setback is the least the state can do to move towards safe, equitable and just implementation of its energy initiatives.

Thank you for this opportunity to testify.

HB-2188

Submitted on: 2/3/2020 8:09:35 AM

Testimony for EEP on 2/4/2020 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Herbert K L Kaniaupio	Individual	Support	No

Comments:

To:

Representative Nicole E. Lowen, Chair

Representative Tina Wildberger, Vice Chair

From:

Herbert K L Kaniaupio

Subject:

Support HB 2188 RELATING TO WIND ENERGY FACILITIES

February, 2, 2020

Aloha Chair Lowen, Vice Chair Wildberger and the Energy and Environmental Protection Committee Members,

I am writing in strong support of HB 2188 Relating To Wind Energy Facilities with recommendations. We ask to amend the bill to include urban and rural districts in the one mile setback in addition to farm dwellings on agricultural land.

Increase set back is needed to protect residents from safety risks such as blade throw, toxic fires, shadow flicker, etc. In addition, this measure will protect residents from having to live with constant and unrelenting audible noise (noise pollution) that industrial scale wind turbines create.

Sincerely,

Herbert K L Kaniaupio

Hauula, Hawaii

HB-2188

Submitted on: 2/2/2020 5:03:11 AM

Testimony for EEP on 2/4/2020 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
sally kaye	Individual	Support	No

Comments:

HB-2188

Submitted on: 2/2/2020 11:24:02 PM

Testimony for EEP on 2/4/2020 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Kari Matadobra	Individual	Support	No

Comments:

“I am writing in strong support of HB 2188 Relating To Wind Energy Facilities with recommendations. We ask to amend the bill to include urban and rural districts in the one mile setback in addition to farm dwellings on agricultural land, though I have read that the true recommendation is 3 miles at least.

Increased set back is needed to protect residents from safety risks such as blade throw, toxic fires, shadow flicker, etc. In addition, this measure will protect residents from having to live with constant and unrelenting audible noise (noise pollution) that industrial scale wind turbines create and wind turbine syndrome. People with special needs are especially affected. It is more pono for the Aloha State to spare the needless suffering of its peoples and place wind turbines back at least a mile if not more than to place it in the actual backyard of its keiki. It is more pono to consider solar as a much better and more sustainable alternative that does not involve human or animal cruelty. Aloha, thank you for reading.

HB-2188

Submitted on: 2/2/2020 11:53:29 PM

Testimony for EEP on 2/4/2020 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Leialoha Kaanaana	Individual	Support	Yes

Comments:

Aloha,

I am writing in support of HB2188 relating to Wind energy facilities with recommendations. We ask to amend the bill to include urban and rural districts in the one mile setback in addition to farm land dwellings on ag. land.

This setback needs to be considered to protect the residents of safety risk that industrial sized turbines will have on communities. The risk of toxic fires that can not be extinguished, blade throw, shadow flicker, stray voltage and noise pollution are health and safety issues that should be highly considered when these sized machines surround any community.

We are not paranoid community members but families who can already see what these machines will do once running. We can do better. Find better options and work with communities rather than bringing in big corporations to get to our renewable energy goals. Communities deserve the right to feel safe and protected in their homes , schools, work, farms and deserve the best quality of life without stressors of Wind energy corporations coming in to take over.

Please consider to amend and pass this bill.

Mahalo,

Lei Kaanaana

Celina Hontanosas

808.232.7342

mangolani@gmail.com

2.4.2020 8:30 AM

Aloha,

My name is Celina Hontanosas, and I am a resident of Kahuku, and one who is personally affected by the building of the Na Pua Makani Wind turbines. I am writing in strong support of HB 2188 Relating To Wind Energy Facilities with recommendations. I would ask that aside from farm dwellings, private, rural, and urban dwellings also be included for requiring a one mile set back. As a resident I have concern for the health and safety of other residents and those who attend Kahuku elementary and High School. The safety and health of those who live closest to the turbines should also be considered a priority, for they will be the ones who will suffer most. The existing turbines have caught fire before, and I can't help but wonder what detriments could occur to those in close proximity if the big 8 monster turbines were to do the same or malfunction. If such would happen, I worry for where the students or other residents would evacuate to. Every morning I wake up and I walk outside my house and I see a clear view of the 3 closest turbines. It is intimidating and makes literally makes me sick to look at them. When I come home from work and I see how close they are to the elementary, it makes me sad knowing that they will suffer the most and the most innocent will have to pay the price. I humbly ask you to please also consider all others who will be affected and ask to please include them in the setback for this bill.

Mahalo,

Celina Hontanosas

HB-2188

Submitted on: 2/2/2020 10:52:21 PM

Testimony for EEP on 2/4/2020 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Joshua kaina	Individual	Support	No

Comments:

I am writing in strong support of HB 2188 Relating To Wind Energy Facilities with recommendations. Although more protections for farmers and farmer’s residences are urgently needed, we would like to ask that you please amend the bill to include urban and rural districts in the one mile setback as well.

The wind industry claims that the science on health effects related to industrial wind turbines is conclusive, but this is incorrect. Many studies and organizations, such as U.S.G.S. (2011), Ambrose, Rand and Krogh (2012), Nissenbaum, Aramini, and Hanning (2012), Barry, Sulsky, Kreiger (2018), Council of Canadian Academies (2015) and Alves-Pereira, Rapley, Bakker and Summers (2019) state that there is a need for more studies done on the link between industrial wind turbines and negative health effects possibly resulting from exposure to noise, infrasound, or shadow flicker. The World Health Organization Noise Guidelines for the European Region (2018) states that, “[m]ethodologically robust longitudinal studies with large samples investigating the quantitative relationship between noise from wind turbines and health effects are needed.”

Furthermore, many reports and studies, such as Ambrose, Rand and Krogh (2012), Bolin, Bluhm, Eriksson and Nilsson (2011), Nissenbaum, Aramini, and Hanning (2012), Jefferey (2013), Salt and Lichtenhan (2014), Salt and Hullar (2010), Alves-Pereira and Branco (2007), Phillips (2011), and Laurie (2015), conclude that there are adverse health effects stemming from noise, infrasound, or shadow flicker from wind turbines. It would be irresponsible and negligent to continue to allow residents of this state to act as guinea pigs against their will and possibly suffer health effects such as tinnitus, headaches, migraines, loss of sleep, increase epileptic seizures, nausea, dizziness and inability to focus. Residents that live in close proximity to turbines from the U.S., Canada, European countries, Japan and Australia have been speaking out about the health effects they have been experiencing. Their testimonies serve as a warning that more needs to be done to ensure the safety of residents first, in addition to the need for more research.

Furthermore, there are safety risks, such as blade throw, stray voltage, and toxic fires that can not be extinguished that must be mitigated to secure the life and safety of our residents. The City of Lincoln Nebraska noted, “Because of widespread concerns about health and safety, many jurisdictions scattered around the United States and Canada have adopted larger setbacks in recent years” (lincoln.ne.gov, 2015).

Therefore, I ask that you pass HB 2188 Relating To Wind Energy Facilities with the

aforementioned recommendations as a one mile setback is the least the state can do to move towards safe, equitable and just implementation of its energy initiatives.
Sincerely, Joshua Kaina

HB-2188

Submitted on: 2/3/2020 2:52:58 AM

Testimony for EEP on 2/4/2020 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Jennifer Azuma Chrupalyk	Individual	Support	No

Comments:

We have enough sun to rely upon solar power. Making the parking lot solar panels works wonders in the internal temperatures of cars, and the infrastructure does not present any issues with parking. This is sufficient for most places in Hawai'i. We don't need the wind power for 99% of Hawai'i.

HB-2188

Submitted on: 2/2/2020 7:05:45 PM

Testimony for EEP on 2/4/2020 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Rhonda	Individual	Oppose	No

Comments:

HB-2188

Submitted on: 2/1/2020 4:34:50 PM

Testimony for EEP on 2/4/2020 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
cheryl	Individual	Oppose	No

Comments:

Have you been to Kahuku lately? Are you serious, one mile? Let's discuss the windmill power, solar power and what are islands can actually sustain before we make distance decisions.

HB-2188

Submitted on: 2/1/2020 11:22:55 AM

Testimony for EEP on 2/4/2020 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Rebecca J. Carlson	Individual	Support	No

Comments:

Industrial wind turbines erected too close to residential housing in the Kahuku area. Please pass this bill so that it will not happen again!

Mahalo!

Rebecca J. Carlson
Laie, Hawaii

HB-2188

Submitted on: 2/3/2020 7:15:16 AM

Testimony for EEP on 2/4/2020 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Alexander Ponciano	Individual	Support	No

Comments:

To:

Representative Nicole E. Lowen, Chair

Representative Tina Wildberger, Vice Chair

From:

Alexander N. Ponciano

P.O. BOX 830 KAHUKU, HI 96731

Subject:

In **STRONG SUPPORT** of HB 2188 RELATING TO WIND ENERGY FACILITIES

February, 3, 2020

Aloha Chair Lowen, Vice Chair Wildberger and the Energy and Environmental Protection Committee Members,

I am writing in strong support of HB 2188 Relating To Wind Energy Facilities with recommendations. I ask that you amend the bill to include urban and rural districts in the one mile setback in addition to farm dwellings on agricultural land.

Increase set back is needed to protect residents from safety risks such as blade throw, toxic fires, shadow flicker, etc. In addition, this measure will protect residents from having to live with constant and unrelenting audible noise (noise pollution) that industrial scale wind turbines create.

Mahalo,

Alexander N. Ponciano

HB-2188

Submitted on: 2/3/2020 8:01:39 AM

Testimony for EEP on 2/4/2020 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Rachel Tachibana	Individual	Support	No

Comments:

To:

Representative Nicole E. Lowen, Chair

Representative Tina Wildberger, Vice Chair

From:

Rachel Tachibana

Subject:

Support HB 2188 RELATING TO WIND ENERGY FACILITIES

February, 2, 2020

Aloha Chair Lowen, Vice Chair Wildberger and the Energy and Environmental Protection Committee Members,

I am writing in strong support of HB 2188 Relating To Wind Energy Facilities with recommendations. Although more protections for farmers and farmer's residences are urgently needed, we would like to ask that you please amend the bill to include urban and rural districts in the one mile setback as well.

The wind industry claims that the science on health effects related to industrial wind turbines is conclusive, but this is incorrect. Many studies and organizations, such as U.S.G.S. (2011), Ambrose, Rand and Krogh (2012), Nissenbaum, Aramini, and Hanning (2012), Barry, Sulsky, Kreiger (2018), Council of Canadian Academies (2015) and Alves-Pereira, Rapley, Bakker and Summers (2019) state that there is a need for more

studies done on the link between industrial wind turbines and negative health effects possibly resulting from exposure to noise, infrasound, or shadow flicker. The World Health Organization Noise Guidelines for the European Region (2018) states that, “[m]ethodologically robust longitudinal studies with large samples investigating the quantitative relationship between noise from wind turbines and health effects are needed.”

Furthermore, many reports and studies, such as Ambrose, Rand and Krogh (2012), Bolin, Bluhm, Eriksson and Nilsson (2011), Nissenbaum, Aramini, and Hanning (2012), Jefferey (2013), Salt and Lichtenhan (2014), Salt and Hullar (2010), Alves-Pereira and Branco (2007), Phillips (2011), and Laurie (2015), conclude that there are adverse health effects stemming from noise, infrasound, or shadow flicker from wind turbines. It would be irresponsible and negligent to continue to allow residents of this state to act as guinea pigs against their will and possibly suffer health effects such as tinnitus, headaches, migraines, loss of sleep, increase epileptic seizures, nausea, dizziness and inability to focus. Residents that live in close proximity to turbines from the U.S., Canada, European countries, Japan and Australia have been speaking out about the health effects they have been experiencing. Their testimonies serve as a warning that more needs to be done to ensure the safety of residents first, in addition to the need for more research.

Furthermore, there are safety risks, such as blade throw, stray voltage, and toxic fires that can not be extinguished that must be mitigated to secure the life and safety of our residents. The City of Lincoln Nebraska noted, “Because of widespread concerns about health and safety, many jurisdictions scattered around the United States and Canada have adopted larger setbacks in recent years” (lincoln.ne.gov, 2015).

Therefore, I ask that you pass HB 2188 Relating To Wind Energy Facilities with the aforementioned recommendations as a one mile setback is the least the state can do to move towards safe, equitable and just implementation of its energy initiatives.

Sincerely,

Rachel Tachibana

HB-2188

Submitted on: 2/1/2020 10:25:09 AM

Testimony for EEP on 2/4/2020 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
cheryl corbiell	Individual	Support	No

Comments:

I support this bill because wind turbines are mini industrial factories; noisy, sun flicker, and with proven human health effects because of the subsonic vibrations of the turbines. Although wind is an antiquated form of renewal energy, if used, it needs to be a safe distance away from humans.

HB-2188

Submitted on: 2/1/2020 12:17:39 PM

Testimony for EEP on 2/4/2020 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Jonah Cummings	Individual	Oppose	No

Comments:

HB-2188

Submitted on: 2/3/2020 8:59:14 AM

Testimony for EEP on 2/4/2020 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Barbara Phillip	Individual	Support	No

Comments:

Please accept this testimony is strong support of HB 2188 (Relating to Wind Energy Facilities). A one mile setback is necessary as there are too many risks that come along with these wind turbines. My concerns are fires, blade throw, noise and shadow flicker. There are health risks and concerns that still need to be addressed and studied that are very worrisome.

I ask not only for agricultural land and dwellings, but ask that the one mile setback include urban and rural areas.

Respectfully,

Barbara Phillip

HB-2188

Submitted on: 2/3/2020 9:03:55 AM

Testimony for EEP on 2/4/2020 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Christina Marsh	Individual	Support	Yes

Comments:

Christina Marsh

808-266-0409

54-126 Imua place Hauula Hi 96717

For Establishing the one mile setback from the nearest existing farm dwelling or residential.

HB2188

My name is Christina Marsh I am a substance abuse counselor for adolescents, a parent of a student who attends Kahuku High school and I am part of the Kooalua community residing in Hauula. I am testify in favor of this bill in establishing the one mile setback from the nearest existing residential or farm dwelling. The reason why I am in favor is due to the recent events that have taken place in our community and hearing the impact on the residents closes to the windmill. Having to walk out their door and have a constant reminder of the negative impact on the environment, potential risk to their health and experienced medical conditions that they feel they have no control over. In other words, they are faced with their perpetrator every day without justice. The mental health impact, I cannot even imagine the number of community members feeling anxious and sense of hopelessness. Your home should be a place of peace and safety, however, the community is experiencing unrest, worry, anxiety, and feelings of uncertainty. Studies show how our environment can impact our overall mental health and when that environment changes you will see a rise in MH crises that need attention. Even for myself, driving home every day as I reach the Kaaawa bend I can see the wind mills and I am saddened and reminded of the impact, obviously something went wrong when they approved these structures. The community is using this plat form to establish their voice and ensure that regulations are in place to prevent the events that have taken place in Kahuku to happen again. I highly recommend this committee to take a drive out to Kahuku and ask yourself would you buy a home or send your kids to school that close to the structures that have been built in Kahuku. In closing, I ask for you to pass this bill and have a great day!

HB-2188

Submitted on: 2/3/2020 9:45:27 AM

Testimony for EEP on 2/4/2020 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Kalaniakea Wilson	Individual	Oppose	No

Comments:

Wind turbines break so they will put families in danger if allowed to build.

HB-2188

Submitted on: 2/3/2020 1:45:54 PM

Testimony for EEP on 2/4/2020 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Hailey Mozo	Individual	Support	No

Comments:

My name is Hailey Mozo. I am a resident of Hauula. I have been a resident of Hawaii for over 17 years working as a teacher. The turbines next to Kahuku Elem. and High School are an artosity. They are too close to the schools and houses. I can't even imagine having to go to work next to the turbines. I can't imagine having to send my own children to a school where the beautiful mountain views have been violated by HUGE turbines. I think a mile set back isn't far enough for these non green energy machines.

Thanks,

Hailey Mozo, resident of Hauula.

HB-2188

Submitted on: 2/3/2020 4:53:16 PM

Testimony for EEP on 2/4/2020 8:30:00 AM

LATE

Submitted By	Organization	Testifier Position	Present at Hearing
Lani Minihan	Individual	Oppose	No

Comments:

Even one mile away from communities is not enough. Hawaii residents are not benefitting from these projects! It's not making an impact on our energy bills.

There are numerous issues surrounding wind turbines including infrasound, sleep disturbance, flicker, stray voltage, as well as property devaluation and residents' energy rights that could be discussed at great length. I will focus my testimony on the recommendation of setbacks and the consideration that these setbacks suggest in regard to the health issues.

In my research of wind turbines, the overwhelming discussion is succinctly summed up by Roy D. Jeffery, MD. It is not whether turbines affect human health, but how much.¹ For these reasons, setbacks MUST be set through law, because rural communities are rarely the power player when corporations such as AES choose their targets.

No studies have been done to ensure that decibel noise levels of the recently installed (or even previously installed) turbines in Kahuku will not exceed WHO recommendations for avoiding the disturbance of night time sleep in relation to nearby local residents. Absolutely none. WHO recommendations are set specifically because the negative effect of sleep disturbance on human health is widely accepted as fact. Governments in Europe often have specific requirements regarding decibel levels but this is not regulated in the state of Hawaii for wind turbines, only required as a promise in application of a turbine. Because these are currently the biggest turbines in the U.S. and closest to residents, it is likely that they simply do not know. Our Kahuku community is now a science experiment.

Study done by the National Research Council (NRC) states, "Low-frequency vibration and its effects on humans are frequency vibration and its effects on humans are not well understood. Sensitivity to such vibration is not well understood. Sensitivity to such vibration resulting from wind-turbine noise is highly variable among humans.... studies on human sensitivity to very low frequencies are recommended."² Noise disturbance from wind turbines in a dozen studies is shown to be more annoying to humans than aircraft carriers or road traffic at the same decibel levels. These effects are generally mitigated by setbacks.

Unfortunately, Hawaii has missed the boat on recognizing setback requirements until recent eruptions in our community. Every state has the responsibility to create their own setback rules, and these should be considered in a logical and researched manner. Multiple U.S. state and local governments are finding themselves subject to lawsuits because they have not considered this research previous to permitting corporations' turbine projects. A simple google search will tell you that community protest over turbines near their homes is too prevalent to be dismissed. Robert Bryce of the Manhattan Institute discovered in his research that "Rural communities, acting through more than 100 government entities, have resisted expansion of renewable-energy capacity by moving to reject or restrict wind projects in about two dozen states since January 2015". This study was published in October of 2016. Residents have received monetary compensation, relocation assistance, and authorities have had to shut down installed turbines, leading to material waste and lost finances.

There is precedent for setbacks in Europe where turbines have a longer history. This is simply because conclusive evidence indicates that humans and animals are disturbed by the presence of turbines. Beyond anecdotal evidence, scientific studies of the phenomenon of turbine effects usually end with a warning that

¹ Adverse Health Effects of Industrial Wind Turbines Roy D. Jeffery MD FCFP, Carmen Krogh Brett Horner CMA, 2014

² Environmental Impacts of Wind Energy Projects done by the National Research Council (NRC) in Washington DC, 2007

more research is needed, because there is sufficient evidence that noise disturbance is harming humans, and some more than others, even inaudible or low level noise³.

Extensive synthesis of published studies regarding the effects of wind turbines on sleep and human health has been done by Dr. Christopher Hanning of Leicester, a sleep specialist with numerous degrees and certifications to his name. Out of 17 studies done in the U.S. and Europe regarding the effects of turbines on humans, researchers from 11 studies concluded that setback recommendations should be set at 2km or more, which is at least 1.24 miles.⁴ All but one suggested a setback of at least 1.5km, and Kamperman, a U.S. acoustician, increased that to 2km in 2008. It is important to note that these studies were done up through 2010, and newer turbines are bigger and faster than ever before.

Perhaps a subpoena of the current safety manual for the installed wind turbines in Kahuku would shed more light on what the manufacturers consider unsafe for their own product. A manual for an earlier model of the same Vesta-manufactured turbines in Kahuku, states: "Do not stay within a radius of 400m (1300ft) from the turbine unless it is necessary."⁵ They also state, in the case of runaway operation, "evacuate by running upwind ...access to the surrounding area in a radius of at least 500 meters [1640 ft.] must be restricted." If those who are operating these turbines must take great care within these distances, it is to be logically assumed that living close to a turbine would add to a human's health risk. It is also worth noting that this restriction was referring to a turbine model that is 400 feet tall, and the current Kahuku turbines are 568 feet tall. Our farmers live within 760 feet and students learn approximately 1700 feet from the turbines.

It is shameful that our state's leadership is late to recognize the harm done to the community of 2,200 residents and around 2000 students. The setback requirement of 1 mile is literally the least that should be done. The current turbines in place are in violation of this setback. It is the duty of those who should be protecting the health of these communities (no matter how small) to acknowledge this mistake and make it right by deeming these turbines to be too big, and too close to Kahuku.

LATE

³ James, Richard R. Wind Turbine Infra and Low-Frequency Sound published in the Bulletin of Science Technology & Society 2011.

⁴ WIND TURBINE NOISE, SLEEP AND HEALTH Dr Christopher Hanning. BSc, MB, BS, MRCS, LRCP, FRCA, MD November 2010

⁵ Safety regulations for operators and technicians from Mechanical Operating and Maintenance Manual: V90-3.0 MW, VCRS 60 Hz"

LATE

HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

February 4, 2020, 8:30 A.M. Room 325 (Testimony is 1 page long)

TESTIMONY IN SUPPORT OF HB 2188

Aloha Chair Lowen, Vice Chair Wildberger, and other Committee members:

As an attorney, environmentalist and the former Wind and Solar Energy Specialist for the State Energy Office, I understand need for clean energy, but also understand that energy projects that can help Hawaii achieve its ambitious clean energy goals are not without impacts. Sometimes these impacts can be so great and poorly managed that they outweigh any benefit such a project might provide.

With the State's three largest wind farms and largest solar farm all sited in North Shore communities, we are far too aware of the impacts associated with large scale renewable energy projects. The latest project, the Na Pua Makani wind farm was so poorly developed that over 200+ members of the community were arrested protesting its construction. One of the main reasons the community was so upset was the developer refusing to listen to community concerns and sitting three of the 550+ foot turbines less than 1,700 feet away from homes and schools.

While it has recently come to light that the City and County of Honolulu likely violated the law when approving a waiver for minimum setbacks, it is clear that more regulation relating to the siting of wind turbines is needed. HB 2188 is a step in the right direction. However, HB 2188 has several flaws that should be corrected prior to final adoption.

First, HB 2188 applies only to "Agricultural Districts" as defined by HRS 205-4.5 and would mean turbines could still be sited very close to homes, schools and other community facilities that were located outside of the "Agricultural Districts." Next, while HB 2188 calls for a standard 1-mile setback for all large wind turbines, a ratio of height to setback distance might be more appropriate and flexible, allowing smaller turbines to be sited closer with larger turbines being set back further. For example, fifteen feet (15') of setback for each foot (1') of turbine height ratio has been suggested in SB 2804.

Hawaii's commitment to being 100% renewable energy powered by 2045 means that conflicts between utility scale energy projects and our unique and sensitive communities will only continue to grow in number. If these conflicts are to be prevented, decision makers must be open-minded and provide the framework and laws that prevent poor projects such as the Na Pua Makani wind project from being developed.

Thank you for this opportunity to testify.

LATE

HB-2188

Submitted on: 2/3/2020 8:36:58 PM

Testimony for EEP on 2/4/2020 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Kailana Moa-Eli	Individual	Oppose	No

Comments:

Too Big and Too close to the Community.

LATE

HB-2188

Submitted on: 2/3/2020 11:18:17 PM

Testimony for EEP on 2/4/2020 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Clint Mariteragi	Individual	Support	No

Comments:

The current AES Windfarm in Kahuku is so ridiculously close to homes, farms, and Kahuku High and Elementary schools. The health risks are just not fully understood.

The threat of a blade fall during high winds is disturbing. We just don't know what could happen and therefore establishing setbacks can ensure our people are safe.

LATE

HB-2188

Submitted on: 2/4/2020 12:03:13 AM

Testimony for EEP on 2/4/2020 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Saleia Tuia	Individual	Support	No

Comments:

Talofa,

My name is Saleia Tuia. I am born and raised in Kahuku. I want to first say I am not against green energy. I am against "greed" energy. I am against harmful energy. I am against energy that endangers my community,our elders,and our children. I know and understand the importance of renewable energy and the states goal of being completely independent from fossil fuel but what I don't understand is why are these gigantic monster turbines being built so close to thousands of people. Why is the government putting our childrens lives in harm's way? Why are our lives being totally disregarded? Why do we not matter in the eyes of the government? Are we not proactive members of society? We read and watch online of all the potential dangers of living near a wind farm and I'm genuinely scared for my life and my families lives. There is better approach to this initiative. One that is safe and will not negatively impact the land,the families,and especially our children.

LATE

HB-2188

Submitted on: 2/4/2020 6:54:12 AM

Testimony for EEP on 2/4/2020 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Regina	Individual	Support	No

Comments:

I support this bill. The wind turbines should be removed completely! The people DO NOT WANT IT!!! For it to be that close to the community is not acceptable. 1 mile is not enough, It should be at a minimum, 5 miles away.