STATE CLEAN ENERGY PROGRAM GUIDE

SUPPORTING ON-SITE DISTRIBUTED WIND GENERATION PROJECTS

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INTRODUCTION

Commercial wind power installations in the U.S. continue to grow at a rapid pace, with over 35,000 MW of wind energy now installed. Even in 2009, during the height of the global recession and credit crunch, new installed wind capacity increased by 39% – or 10,000 megawatts – in the U.S. (AWEA 2010). However, this growth should not be viewed as an indication that there is widespread community acceptance of wind development. These projects still often go through extensive pre-development work only to be ultimately turned down by local officials or stymied by community opposition. In some areas of the country (e.g., the Northeast), large-scale wind development simply is not practical because of the lack of available open space, the presence of environmentally or visually sensitive areas (e.g., ridgelines), and high population density. Many communities may be supportive of wind energy in general but desire projects that are appropriately scaled and directly benefit the community.

Reflecting this reality, states, communities, institutions and private businesses increasingly are interested in advancing on-site, distributed wind generation projects. These are wind energy projects owned by or sited at municipal, other governmental, commercial, or industrial sites that are designed and sized to match the electricity needs of the host facility. There are several factors that make these projects attractive:

- **Builds community support for wind energy**: In a community where commercial wind development is occurring, or has the potential to occur, distributed wind energy projects allow residents to "kick the tires" of a wind turbine, and become more invested in wind energy in their community.

- **Demonstrates a commitment to renewable energy**: By installing an on-site wind turbine, municipalities, other public institutions and private businesses have a tangible and visible commitment to renewable energy
- **Offsets electric loads**: Projects can provide a source of long-term, fixed-price power to offset rising retail electric prices. Distributed wind projects can be incrementally sized to meet local loads, from smaller, 50 kW turbines for elementary schools and small businesses to megawatt-scale turbines for wastewater treatment plants or industrial facilities.
- **Shorter lead time:** Distributed wind projects can proceed through site assessment, development, and construction in a fraction of the time it takes for commercial-scale projects to happen.
- **Grid integration**: Their small size allows distributed wind projects to easily integrate into local electric distribution systems.

The purpose of this state program guide is to identify those program elements and policies that states may wish to consider in encouraging these on-site wind projects. In some cases, these programs and policies are the same as those that states have developed for larger wind projects. However, more often, the programs are tailored specifically to these smaller projects. The guide reviews the following state-based programs and policies:

1) Financial Incentives and Financing Assistance
2) Site Assessment and Feasibility Support
3) Net Metering and Interconnection Policies
4) Regulations Allowing Third-Party Ownership
5) Model Onsite Wind Zoning Ordinances
6) Green Communities Laws

A word about scope: Although “community wind” is often used to refer to multi-megawatt projects with local ownership selling wholesale power, this guide is limited in scope to projects that generate electricity to be used on-site at public, institutional, and commercial facilities. It also does not cover farm and residential-scale (under 50 kW) wind projects.

FINANCIAL INCENTIVES AND FINANCING TOOLS

On-site wind projects represent a significant capital outlay; on a per-kW basis, these projects can be more than twice as expensive as utility-scale projects, depending on the size of the project and turbines used. Recognizing this, a number of state clean energy funds (CA, CT, MA, NJ, NY, OH, OR, VT and WI) provide rebates and grants for distributed wind projects. These grants are designed to reduce the upfront capital cost hurdles of these projects while at the same time ensuring that better-performing projects receive more financial support and that public dollars are well spent. The most effective programs go beyond providing just financial assistance by providing educational and technical support. The following case studies briefly

describe some of the incentive programs offered by leading state funds. A more detailed description of these programs and the role of states in distributed wind energy financing can be found in a related CESA briefing paper, *State Clean Energy Program Guide: State-based Financing Tools to Support Distributed Wind and Community Wind Projects,* at http://www.cleanenergystates.org/Publications/CESA_Emerging_State_Finance_Tools-Solar_032210_Final.pdf

Massachusetts

The Commonwealth of Massachusetts has an ambitious wind energy development target of 2,000 MW of in-state development by 2020, including 500 MW of land-based wind. Although the state's small size and dense population make land-based wind energy development difficult, the state's clean energy program is focused on providing support to overcome the development challenges associated with wind deployment. The Massachusetts Clean Energy Center's community-scale wind program provides grants for projects between 100 kW and 2 MW developed on private, institutional, or public sites and is specifically targeted at on-site applications. The program provides three types of support:

1. grants for site assessment at public sites only;
2. feasibility studies for detailed technical and economic analysis of up to $55,000 for non-public entities and $80,000 for public entities with no matching funds required;
3. design and construction support of up to $380,000 for non-public projects and $570,000 for public projects.

For more information on the Massachusetts program, see www.masscec.com/index.cfm?pid=11044.

Wisconsin

Recognizing that the amount of energy produced is as important as the capacity installed, the Wisconsin Focus on Energy small wind incentive program provides differential support for projects based on the rated output of the turbine selected. The newly revised program provides grants of up to 25% of a project's cost – up to $35,000 for projects under 20 kW and up to $100,000 for projects up to 100 kW. Nonprofits and government entities are eligible for up to a 35% cost share, but grants are capped at the same maximum dollar amounts. To encourage good projects, the program supports up to 100% of site assessment costs for non-residential projects. The program has also developed a series of wind maps to provide basic wind resource data for potential projects and has other site evaluation tools. For more information on Wisconsin's program, see www.focusonenergy.com/Renewable/Wind/.

Oregon

The Energy Trust of Oregon has recently revised its small on-site wind incentive program. The standard incentive is the lesser of $4,000/rated kW or $3,750/meter of rotor diameter for commercial projects, and the lesser of $4,500/rated kW or $4,500/meter of rotor diameter for residential projects. To qualify for an incentive, the project must meet all program requirements which include: a minimum 10 mph annual average wind speed at hub height for the proposed site, the use of a turbine on the Energy Trust list of qualified turbines, a minimum tower height of 60', minimum one acre property size, a hub height 30' above any obstacles within 300', system installation by a contractor who is part of the Energy Trust Trade Ally network, and the system must be net-metered with one of two investor-owned utilities in the state. The project also has to be pre-approved by the Energy Trust before the system is installed. The incentives are paid at project completion after the system has passed an Energy Trust inspection.

The program is budgeted at $2.8 million for the current year with funds committed to 29 projects. Although the largest project approved is 20 kW, larger turbines up to 100 kW are approved and eligible for the program.

Some of the lessons learned from these programs include:

- **Pre-qualifying turbines**: State programs should screen and approve turbine manufacturers and models that are eligible for incentives in order to protect both public and project owner dollars. This is particularly valuable in the distributed wind market where few turbine manufacturers have extensive sales and operating experience in the United States.
- **Performance-based Incentives**: Even if incentives are not fully performance-based, they should be based in part on expected system performance tied to a site's wind speed and the rated performance of the installed turbine to ensure good siting and operation of publicly funded projects.

Differential support for public and private projects: Programs should offer differing degrees of financial support to projects to reflect the tax status of the project owner and ability to utilize state and federal tax credits, with public projects receiving more support

- **Education and Outreach**: Most on-site wind projects are not initiated by professional project developers. Therefore, for these scale projects, states can play an important role in educating businesses and municipalities in order to share technical knowledge, explain the project development process and establish realistic energy production and economic expectations.
- **Treat Wind and Solar PV Equitably**: Most states have far more experience with incentives for solar photovoltaics than those for distributed wind. To the extent that distributed solar electric generation and distributed wind energy generation provide similar environmental, energy and economic benefits, states may wish to structure incentives so that the support levels per kWh are similar for both technologies.

- **Establish Specific Installed Capacity Goals for Distributed Wind**: Doing so will create clear market expectations, strengthen wind market confidence, and provide predictability for future budgeting and program deployment continuity.
- **Create Consistent, Stable, Long-term State Program Support**: Sustained programs enable more significant wind cost reductions. States should commit and release wind support funding in a way that ensures continuity of the program – for periods of 5 t0 10 years. This is critical to allow for a local market infrastructure to develop and stabilize.
- **Develop a Marketing Strategy**: For state wind programs to be effective, they must be marketed to the public to establish the program's availability and the value proposition of onsite wind.

Federal Support for Community and Distributed Wind Projects

Several federal incentive programs for wind energy play an important role in leveraging available state resources for on-site wind energy projects. Some of these federal incentives are targeted toward privately-owned projects, while others are better suited for municipal and public-ownership projects.

FEDERAL TAX INCENTIVES: The federal production tax credit (PTC) for wind energy has never been suitable for on-site projects since they are not selling electricity to an unrelated third party. However, these projects have been and continue to be eligible for a 30% investment tax credit (ITC). The American Recovery and Reinvestment Act (ARRA) extended this 30% tax credit to all wind projects and also included a provision that allowed project owners to request a cash grant equivalent to (and in lieu of) the tax credit for projects begun by the end of 2010. This was done to reflect the limited tax liability of many project equity investors at present.

REAP: The USDA Renewable Energy for America Program (REAP) was established as part of the 2002 Farm Bill and reauthorized in the 2008 Farm Bill. REAP offers feasibility study grants of up to $50,000 or capital grants of $500,000 and loan guarantees of up to $20 million on qualified renewable energy and energy efficiency projects (located in rural areas and owned by private rural entities or cooperatives). REAP has been the single largest source of federal funding for community-scale and small wind energy projects. Since inception, the REAP program has supported 282 community wind projects and 142 small wind turbines.

REAP is aimed at privately-owned, non-residential projects on farms in rural areas. To this extent, REAP does not assist projects owned by municipalities or other public entities other than rural electric cooperatives, projects in areas not designated as rural, or projects owned by third-party investors who are not themselves "rural small businesses."

CLEAN RENEWABLE ENERGY BONDS: CREBs were initially authorized in the Energy Policy Act of 2005 and extended in 2006, 2008, and again in the American Recovery and Reinvestment Act of 2009. The CREBs program allows eligible entities (local government, municipal utilities, electric

cooperatives, and tribes) to apply for authorization from the Internal Revenue Service to issue tax-credit bonds for qualified renewable energy projects. Under these tax credit bonds, the issuing entity pays no interest. Instead, the bond purchaser receives a tax credit, which is based on an underlying federal interest rate. Since program inception, the IRS has granted authorization to issue $1.2 billion of CREBs and $2.2 billion of "new CREBs" (new CREBs lower the eligible tax credit since principal need not be paid until bond maturity).

QUALIFIED ENERGY CONSERVATION BONDS: Qualified Energy Conservation Bonds (QECBs) were established in ARRA as similar to but less restrictive than CREBs. Under the QECB program, $3.2 billion in bonding authority was automatically allocated to the states, which were then required to re-allocate a portion to their largest cities. Individual governmental entities did not need to apply for a project-specific allocation from the Treasury Department. QECBs can be used to finance a broad range of projects and activities, including energy efficiency and renewable energy projects on both public and private buildings.

HIRE ACT OF 2010: Passed on March 18, 2010 (HR 2847), the Hire Act made an important change to both CREBs and QECBs. Recognizing the reduced appetite for tax credit bonds, a provision of the bill now allows public entities issuing these bonds the option to receive a direct payment from the Department of Treasury equivalent to the amount of the non-refundable tax credit described above, which would otherwise accrue to the bondholder. This option was formerly limited to Build America Bonds.

ENERGY EFFICIENCY AND CONSERVATION BLOCK GRANTS: The EECBG program was authorized as part of the Energy Independence and Security Act of 2007 but first received funding through ARRA – $770 million in formula grants to states (with 60% sub-granted to municipalities), $1.9 billion to the largest cities and counties, and $500 million in competitive grants. Grants can be used for a wide range of energy efficiency and conservation initiatives *including the installation of renewable energy on government buildings*. These grants can be used directly to support distributed wind projects. However, projects would be subject to Davis-Bacon prevailing wage, Buy American, and other provisions of ARRA.

STATE TAX CREDITS

Establishment of state-authorized credits against state income tax liability can be particularly valuable for those states which offer no direct financial incentives for renewable energy development. Thirteen states offer some form of corporate income tax credit for renewable energy generation including wind energy. These tax credits support multiple project sizes and technologies, although in some states are wind-energy specific. Most state tax credits are investment tax credits (ITC) based on total project costs although three states offer tax credits

tied to energy production (PTC). The table below summarizes current state tax credits applicable to on-site wind projects.

Table 1. Summary of State Renewable Energy Tax Credits

State	*Tax Credit*	*Comments*
Hawaii	20% ITC	
Iowa	$0.01 PTC	Projects > 750kW but < 2.5MW; tradable credit
Kentucky	30% ITC	
Maryland	$0.0055 PTC	
Montana	35% ITC	
New Mexico	$0.01/kWh	Projects > 1MW
North Carolina	35% ITC	
North Dakota	15% ITC	
Oklahoma	$.0025-.0075/kWh PTC	Projects >1MW
Oregon	50% ITC	Program sunsets in 2012; tradable credit
Texas	10% ITC	
Utah	ITC and $0.035 PTC	ITC (up to $50,000 for projects < 600 kW; PTC for projects > 600kW

SOURCE: DSIRE, 2010

Excludes any states in which wind energy is not eligible for renewable energy tax credits.

Since many on-site wind projects are being developed by public entities, a best practice for states which offer tax credits is to make the credit transferable from non-taxpaying to taxpaying entities. In addition, while both investment and production tax credits have benefits, production tax credits, by rewarding actual energy generation, may better align the interests of project owners with the state's objective to ensure public support rewards performance.

SITE ASSESSMENT AND FEASIBILITY SUPPORT

States can play a role in assisting public entities and project developers to determine whether a given site is really suitable for on-site wind generation. A useful first step is for, a state to sponsor a high-quality map identifying wind resources at different heights (e.g., 50 meter and 75 meter) and "ground-truthing" those maps against virtual anemometry products. A number of states have also established anemometer loan programs. These anemometers capture actual wind speed data close to the height of the proposed wind turbine and provide the information needed to calculate the expected electricity output of the project. While actual on-site data is always better, particularly for larger projects, states can also establish a contract with one of the wind modeling services (e.g., FirstTier), which would allow individual projects to model estimated wind speed.

Beyond supporting the collection of wind speed data, states can provide feasibility study grants that support the cost of engineering consulting services to identify an optimal physical site for

the turbine(s), taking into account site-specific features and issues such as soil, drainage, setbacks, wildlife, and distance to the electric distribution system. This support is particularly valuable since these soft costs are difficult to finance, non-recoverable if a project does not advance beyond the feasibility stage, and are important both in supporting good projects and in filtering out marginal ones.

NET METERING AND INTERCONNECTION

Historically, there have been significant barriers for distributed generation (both renewable and non-renewable) to connect to utility distribution lines. System owners often have had to wait long periods of time and pay high upfront fees in order to interconnect their systems to the grid. In recent years, state legislatures and public utility commissions have intervened and passed interconnection rules that both standardize and simplify the process of interconnection for distributed generation. Thirty-seven states now have some form of statewide interconnection standards. These are outlined in the Interstate Renewable Energy Council's (IREC) "Model Interconnection Standards and Procedures for Small Generator Facilities" (Interstate Renewable Energy Council 2009, irecusa.org/wp-content/uploads/2010/01/IREC-Interconnection-Procedures-2010final.pdf) and the annual "Freeing the Grid" report (New Energy Choices 2009, www.newenergychoices.com/uploads/FreeingTheGrid2009.pdf). Uniform and equitable interconnection standards are critical to the success of RE programs. States should review existing interconnection policies to identify gaps and shortcomings against best-practice policies. Best practices as cited in the "Freeing the Grid" report include:

- Set fair fees that are proportional to a project's size. Cover all generators in order to close any state-federal jurisdictional gaps in standards
- Screen applications by degree of complexity and adopt plug-and-play rules for residential-scale systems and expedited procedures for other systems
- Ensure that policies are transparent, uniform, detailed, and public
- Process applications quickly; a determination should occur within a few days
- Standardize and simplify forms

NET METERING

Net metering policies – the regulations governing how a utility will compensate the owner of a behind-the-meter distributed generation system for surplus electricity that is added to the distribution grid – help to enhance project financial viability. Forty-two states had some form of net metering policy at the end of 2009. Model state policies require utilities to credit system owners at the applicable retail rate (e.g., residential, commercial, industrial) for all surplus generation (total generation less total consumption) and to carry these credits forward in future billing periods for at least the calendar year. While distributed generation wind systems should be sized properly for the load that they are serving, net metering policies provide an invaluable

mechanism to compensate system owners during periods when the wind turbines (or other distributed generation) are producing more electricity than the facility requires. Many states now are increasing project size limits for net metering eligibility. IREC has developed a set of model net metering rules that can be used to benchmark existing state rules or to develop rules where none exist (IREC, Net Metering Model Rules, 2009, http://irecusa.org/fileadmin/user_upload/ConnectDocs/IREC_NM_Model_October_2009-1.pdf)

Best practices for net metering as cited in "Freeing the Grid" include:

- Allow net metering system size limits to cover large commercial, industrial, and municipal loads (up to 2 MW or more)
- Do not arbitrarily limit net metering as a percent of a utility's peak demand
- Allow monthly carryover of excess electricity at the utility's full retail rate
- Specify that customer-sited generators retain all renewable energy credits for energy that they produce
- Allow all renewable technologies and customer classes to net meter
- Apply net metering standards to all utilities in the state

COMMUNITY (OR "GROUP") NET METERING

Because larger turbines produce more electricity at a lower cost per kWh, states may want to encourage installation of these larger units by passage of what is broadly known as "community net metering." Community net metering allows a municipality, other entity, or a "community of interest" with multiple electric meters to consolidate those meters in determining any excess generation from on-site distributed renewable generation. For example, a community might wish to install a 1 MW wind turbine on town-owned land. Although no town facilities are located at this site, the wind turbine could be used to offset load from multiple municipal sites such as the police/fire station, municipal offices, and library.

There are four approaches to community net metering:

- **Neighborhood net energy metering**: Allows a physical neighborhood or a "community of interest" (for example, multiple municipal facilities) to net meter against a collective load (this is currently allowed in MA, VT, ME; a stakeholder process is under way in NJ). Massachusetts' Green Communities Act allows for neighborhood net metering for projects of up to 2 MW (see Section 78 of the Massachusetts Green Communities Act, www.mass.gov/legis/laws/seslaw08/sl080169.htm).
- **Virtual Net Energy Metering**: Under virtual net metering, a utility distributes credits from gross energy produced proportionately against individual tenants of a building. This has been approved in California for use in conjunction with solar photovoltaic incentives offered through the California Solar Initiative's Multi-Family Affordable Housing Program (see, www.pge.com/tariffs/tm2/pdf/ELEC_SCHEDS_NEMVNMA.pdf).

- **Meter Aggregation**: Allows energy credits to be applied against all meters located on a customer's property or within a certain distance of the generation facility (currently approved in OR, WA, PA, and RI). Meter aggregation also is useful for municipal facilities. Pennsylvania's net metering laws allow meter aggregation for all related meters within two miles of the generation facility (see Pennsylvania Code Sections 75.11-14, www.pacode.com/secure/data/052/chapter75/subchapBtoc.html).
- **Utility Shared Ownership**: Utility shared ownership allows individual customers to essentially purchase a share of a larger distributed renewable energy facility and net meter against the system output to the extent of their proportionate ownership share. To date, this is available only in select municipal utility systems (SMUD, LADWP, and St. George, UT).

SUPPORTING THIRD-PARTY OWNERSHIP

State wind programs should support third-party ownership models for distributed wind generation projects. Under third-party ownership, a private renewable energy developer builds, operates, and owns a renewable energy project at a host site and sells the electricity produced by the system directly to the host facility under a long-term Power Purchase Agreement (PPA). Commonly used for commercial solar photovoltaic systems and utility-scale wind projects, this arrangement is now crossing over to on-site wind energy systems as well.

There are several advantages to this approach from the perspective of both a host facility and the state. First, third-party owners have significant experience in the development, construction, and maintenance of these systems and their long-term business success depends on successful installations. Because they are financially vested in the long-term performance of the systems, they will not build on sites or with equipment which do not support favorable project economics and tap good wind resources.

Second, third-party owners provide the upfront capital, which both public and private sector hosts may lack or may be unwilling to raise or invest. This allows these hosts to overcome the upfront cost hurdles that often stop these projects from advancing.

Third, the host facilities are able to showcase visible symbols of their commitment to renewable energy even if they do not actually own the turbine while, at the same time, locking in electricity prices against often volatile and rising retail rates.

Finally, for on-site generation at municipal or other government or nonprofit facilities, third-party owners, as tax-paying entities, are able to capture all available state and federal tax incentives. This allows a state to provide less direct financial support to these projects than would be necessary if they were under public ownership.

However, despite the attractiveness of the third-party PPA model, in some states it may conflict with legacy state utility legislation and regulation that was implemented long before these models began to evolve. Many of these regulations were written when there were either sole

electric providers (vertically integrated monopoly utilities) or, since deregulation, competitive retail electric suppliers, and before the notion of a "non-utility" generator selling power directly to a customer existed. In certain states, these third-party owners may be treated as utilities, subject to regulation and not able to net meter. Further, in markets served by municipal electric or cooperatives, which still serve their territories as a monopoly, third-party owners may undermine their service territory by introducing competitive choice.

Recognizing this problem, a number of state legislatures or utility regulatory commissions have recently addressed the issue with clarifying rulings. For example, California amended its utility code to clarify that a "non-conventional" generator serving two or fewer customers at a site is not considered a load-serving entity. Colorado passed a bill that establishes that third-party-owned systems that do not generate more than 120% of the average annual consumption of electricity by the host customer are not subject to utility regulation (the Colorado bill refers only to solar PV systems). A complete review of this issue and possible legislative and regulatory fixes can be found in a recent report by the National Renewable Energy Laboratory (www.nrel.gov/docs/fy10osti/46723.pdf). Therefore, it is important that any state wishing to boost on-site renewable generation by supporting third-party ownership review its public utility laws to ensure that they are compatible with third-party ownership or to make necessary amendments to allow this mechanism to be used.

MODEL ON-SITE WIND ZONING ORDINANCES

As commercial wind projects have proliferated, a number of states have addressed the challenges presented by local zoning laws that were not designed with wind development in mind. Many states have developed model wind siting and zoning ordinances that counties and municipalities can adopt, or have granted jurisdiction to oversee and approve larger wind projects to state regulatory agencies that are experienced in energy project siting review.

States are beginning to recognize that smaller on-site distributed renewable energy projects need not be subject to the same set of siting conditions and review standards as larger scale projects, because of the smaller physical foot print involved. Some states have drafted model zoning ordinances for municipalities to use in managing and approving these smaller clean energy projects. These model ordinances assist local governments in developing their own reasonable zoning laws. Most of the ordinances define "small wind" as limited by either tower height (for example, under 80') or turbine size (less than or equal to 100kW).

Among the states that have developed model ordinances for small wind, Michigan's wind zoning ordinance differentiates between on-site and utility grid systems (www.michigan.gov/documents/dleg/WindEnergySampleZoning_236105_7.pdf). Similarly, the Massachusetts Department of Energy Resources has drafted a model wind ordinance that addresses both on-site and utility-scale projects (www.mass.gov/Eoca/docs/doer/renew/model-

allow-wind-by-permit.pdf) and a separate model ordinance for small wind systems under 60 kW (www.mass.gov/envir/smart_growth_toolkit/bylaws/wind-small.pdf).

To date, no state has developed a model ordinance that is applicable to mid-scale wind projects from 100 kW up to utility-scale, to address the distinctions in physical impact between 100 kW turbines on 120' towers and the much more dramatic scale of 1.5 MW turbines on 270' towers. As larger on-site generation projects evolve, it would be beneficial for states to establish ordinances that are more "friendly" towards these types of community-scale wind applications. Although these mid-sized turbines need to be sited in a manner that complies with environmental, aviation, and setback requirements, these projects need not have the same stringent siting guidelines nor require the same level of review as commercial wind projects.

GREEN COMMUNITIES LAWS

Green Communities Laws go beyond model ordinances to create approved renewable energy development "zones" within a community and provide for "As-of-Right Siting," – the concept that designated wind energy development of certain project sizes may occur without the need for a special permit, variance, amendment, waiver, or other discretionary approval. As-of-right development may be subject to non-discretionary site plan review to determine conformance with local zoning bylaws as well as state and federal laws. However, as-of-right development projects which are consistent with zoning bylaws and with state and federal laws cannot be prohibited by a municipality. Green Communities Laws also encourage expedited permitting of wind projects. While these Green Community Laws are, like zoning, a matter of local jurisdiction, states can draft model language for consideration by municipalities. They can further link passage of these local ordinances to the availability of state funding for various energy efficiency and renewable energy initiatives, as Massachusetts did recently. For an example of a local Green Communities Act ordinance for Kingston, Massachusetts, see www.kingstonmass.org/filestorage/40/924/proposed_Green_Communities_Wind_Turbine_Zoning_By-Law_3-9-10_clean_copy.pdf.

CONCLUSIONS

If states are to achieve widespread public support and deployment of wind projects, an important sector to advance is on-site distributed wind applications. Today, any states have recognized the economic and environmental benefits of large-scale commercial wind energy development and have developed a set of policies, including renewable portfolio standards, tax incentives, and model siting guidelines, to encourage their development. However, very few states have fully recognized the benefits of supporting on-site distributed wind energy. While the economic and environmental benefits of these projects are much smaller than for larger scale, commercial projects, they have a number of merits, including building local support for all

forms of wind energy, their suitability for municipal siting and municipal loads, and their accelerated development timeline.

To tap this market, states should consider establishing the full set of programs and policies presented in this guide – financial incentives and other forms of financing support, feasibility assistance, interconnection and net metering policies, model zoning ordinances and Green Communities Laws – to encourage the development of these projects.

For further assistance, please contact Charles Kubert at Clean Energy States Alliance, 802-272-1135 or ckubert@cleanegroup.org.

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ABOUT CLEAN ENERGY STATES ALLIANCE

Clean Energy Clean Energy States Alliance (CESA) is a national nonprofit coalition of state clean energy funds and programs working together to develop and promote clean energy technologies and markets. CESA provides information sharing, technical assistance services and a collaborative network for its members by coordinating multi-state efforts, leveraging funding for projects and research, and assisting members with program development and evaluation.

Many states across the U.S. have established public benefit funds to support the deployment and commercialization of clean energy technologies. Eighteen states make up the core base of CESA membership. Though these clean energy funds, states are investing hundreds of millions of public dollars each year to stimulate the technology innovation process, moving wind, solar, biomass, and hydrogen technologies out of the laboratory and toward wider use and application in business, residential, agricultural, community and industrial settings. State clean energy funds are pioneering new investment models and demonstrating leadership to create practical clean energy solutions for the 21st century.

Founded in 2003, CESA, managed by Clean Energy Group, is headquartered in Montpelier, Vermont, with staff based in Washington, D.C. and Chicago.

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