



U.S. Department of Energy

**Energy Efficiency
and Renewable Energy**

Bringing you a prosperous future where energy
is clean, abundant, reliable, and affordable



20% Wind Energy by 2030

Increasing Wind Energy's Contribution to
U.S. Electricity Supply

July 2008

Developing State Markets

Wind Powering America All-States Summit

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*Anne Margolis, Project Director, Clean Energy
States Alliance (CESA)*



Who is CESA?

- Multi-state coalition of clean energy programs cooperating and learning from each other, leveraging federal resources
- Members have nearly \$6 billion to invest in next 10 years
- Nonpartisan, experimental, collaborative network
- CESA provides its members with technical assistance and facilitates:
 - Information exchange & analysis
 - Partnership development
 - Joint projects: solar, wind, RPS, fuel cells, marine energy, energy storage, program evaluation, national database

How Can States Build Markets for Wind?

- Policy Tools
- Financing Tools
- Other Elements Key to Program Success



State Policies to Support On-Site Distributed Wind Generation Projects



STATE CLEAN ENERGY PROGRAM GUIDE

STATE WIND ENERGY PROGRAM GUIDE: SUPPORTING ON-SITE DISTRIBUTED WIND GENERATION PROJECTS

Charles Kubert and Mark Sinclair, Clean Energy States Alliance
May 2010

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.

- State Tax Credits
- Site Assessment and Feasibility Support
- Net Metering and Interconnection Policies
- Regulations Allowing Third-Party Ownership
- Model Onsite Wind Zoning Ordinances
- Green Communities Laws

State-Based Financing Tools to Support Distributed and Community Wind Projects



STATE CLEAN ENERGY PROGRAM GUIDE

STATE-BASED FINANCING TOOLS TO SUPPORT DISTRIBUTED AND COMMUNITY WIND PROJECTS

Charles Kubert and Mark Sinclair, Clean Energy States Alliance
May 2010

INTRODUCTION

Commercial wind-power installations in the United States continue to grow at a rapid pace, with over 35,000 megawatts (MW) of wind energy now installed. Even in 2009, during the height of the global recession and credit crunch, 10,000 MW of new wind capacity was installed in the U.S., representing a 39% increase in total capacity (AWEA, 2010). A combination of state and federal policies are driving this robust wind project growth, including state renewable portfolio standards (RPS), the federal production tax credit, and key policy changes under the American Reinvestment and Recovery Act (ARRA). Of particular note, ARRA allows wind developers/investors to claim a 30% investment tax credit or 30% cash grant in lieu of tax credit rather than the 10-year production tax credit. These ARRA provisions have made projects more financially attractive and reduced dependency on the shrinking pool of tax equity project investors. Finally, state-based clean energy fund support for wind projects continues to be an important source of financing for wind projects, especially when designed to address private finance gaps.

To complement commercial wind development, states increasingly are recognizing the importance of supporting community¹ and distributed on-site² wind energy projects. These projects can play an important role in building public support for wind energy, have shorter development timelines, and can easily be integrated into electricity distribution systems. The purpose of this program guide is to review

¹ Community wind projects generally refer to wholesale wind energy projects in which no power is used on site and the project has significant local ownership and management in the form of private landowners and investors, municipal electric utilities, or rural electric cooperatives. While there are no particular project size constraints, community wind projects would typically use megawatt-scale wind turbines.

² Distributed, on-site wind projects (sometimes referred to as "behind-the-meter") refer to projects in which most of the electricity generated is used by, although not necessarily owned by, an adjacent municipal, public, or commercial facility. Any excess power not used by the facility is sent onto the distribution grid and is "net metered" through a monthly or annual billing true-up.

- Federal Incentives: PTC, ITC, CREBs, Loan Guarantee Program, ARRA
- State Grants, Rebates/Incentives
- Feasibility Study Grants
- Predevelopment Loans
- Equipment Procurement Loans
- Construction (Bridge) Financing
- Permanent Financing
- Interest-rate Buydowns
- Loan Guarantees
- Production Incentives
- RPS Set-Asides
- Feed-in Tariffs
- Third-party Ownership

Other Tools & Strategies

- ⑥ **Policy and financing tools should be long-lived and robustly and consistently funded. Evolving to meet changing market conditions is critical, but frequent program churn is deadly.**
- ⑥ **Programs, tools, permitting, etc. should be as simple and user-friendly as possible.**
- ⑥ **Selection of finance and policy tools should be informed by market needs, local resources, and program goals.**
- ⑥ **Direct incentives may not be enough to encourage consumer uptake; also need tech/feasibility support, education, marketing.**
- ⑥ **Government acting as a first adopter can help bring projects into the pipeline and facilitate market acceptance.**
- ⑥ **Establishing specific installed capacity goals for wind will create clear market expectations, strengthen wind market confidence, and provide predictability for future budgeting and program deployment continuity.**

Notable State Program: MA Clean Energy Center

Commonwealth Wind Program

- Micro Wind
 - Hybrid capacity-based rebate coupled with performance-based payment after one year; total rebate capped at \$5.20/watt.
- Community Scale
 - Provides grants for projects between 100 kW and 2 MW developed on private, institutional, or public sites:
 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 \$85,000 for public entities with no matching funds required;
 3. Design and construction support of up to \$260,000 for non-public projects and \$400,000 for public projects.
- Commercial Scale
 - Feasibility grants up to \$55,000 and unsecured project development loans of up to \$250,000.

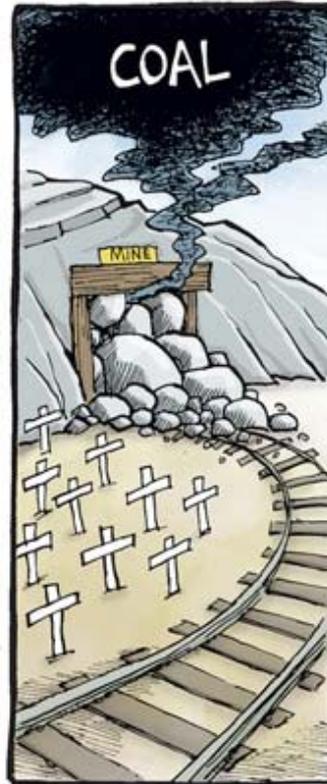
<http://masscec.com/index.cfm?cdid=11243&pid=11159-MA Wind>



Key Strategies to Increase Market Pull for Wind

- **Small-Scale (1-99 kW)**
 - Simple rebates/incentives and/or performance-based incentives
 - Standard certification and warranty conditions
 - Marketing
- **Mid-Scale (100 kW-2 MW)**
 - Feasibility study grants/recoverable grants
 - Low-interest loans and/or bank loan guarantees & technical assistance to banks
 - RPS set-asides for distributed generation
- **Large-Scale (2 MW+)**
 - Renewable Portfolio Standards (RPS)
 - REC price support (i.e. “REC insurance”)
 - Feed-in Tariffs

ARGUMENTS AGAINST-



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Thank you!

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