Wind Business Development

Wind Business Development

In addition to solar zoning, communities may wish to also foster the formation, growth, diversification and attraction of urban and rural wind energy-related business ventures as a combined community/economic reinvention strategy. A Wind Energy-related economic development strategy is one that focuses business incentives and business support services to accelerate the creation, retention, diversification and/or attraction of entrepreneurial wind energy-related businesses that combine innovation with intent and capacity to grow. Such firms typically focus on the robust research, development and commercialization of breakthrough technology innovations that provide them with a compelling competitive advantage in their growth-oriented marketplace. (See: Growing Industries)

2010 Wind Technologies Market Report

Authored by Ryan Wiser and Mark Bolinger of Lawrence Berkeley National Laboratory and published by the U.S. Department of Energy (DOE), the 2010 Wind Technologies Market Report describes the status of the U.S. wind energy industry market in 2010: its trends, performance, market drivers, and future outlook.

The Impacts of the Wind Energy Sector in Ontario 2011-2018

Published in 2011, the Canadian Wind Energy Association (CanWEA) commissioned a study to quantify the projected jobs and economic benefits associated with the rapidly growing wind energy industry in Ontario Wind energy developments in Ontario. The report is one of the most comprehensive studies ever conducted on the impacts of wind development and estimates that more than 80,000 person years of employment and more than $16 billion in private sector investments will occur in Ontario in the next eight years.

Projected Impacts of Renewable Portfolio Standards on Wind Industry Development in Michigan

The Michigan State University, Land Policy Institute has published a White Paper titled "Projected Impacts of Renewable Portfolio Standards on Wind Industry Development in Michigan." The study predicts that wind energy in Michigan will have a significant economic impact. The study estimated that, with the passage RPS in Michigan, wind energy development will produce:

- 1,100 construction jobs per year for the next two decades
- 218 permanent jobs related to the management and maintenance of wind installations by 2010
- 3,010 permanent, continuing jobs related to the management of wind installations by 2010
- 3,010 permanent, continuing jobs related to the management and maintenance of wind installations by 2029
- $1.25 billion per year in construction-related new investments and spending over the next two decades
- $464 million in continuous annual spending in maintenance and management by 2010 and $4.4 billion by 2029
- $21 million per year in new construction wages for the next two decades
- $7.6 million in permanent annual wages by 2010 and $96 million by 2029
- $4.8 million in lease payments to landowners per year by 2010 and $47 million per year by 2029

The full report is available here.

Michigan Wind Working Group

In Fall 2002, a group of organizations interested in wind energy in Michigan began meeting. The group includes wind developers, utilities, Michigan Bureau of Energy Systems, Michigan Public Service Commission, U.S. Department of Energy, National Renewable Energy Laboratory, Michigan State University, Great Lakes Renewable Energy Association, Michigan Environmental Council, Michigan Independent Power Producers Association, and other interested parties. Currently operated by the Great Lakes Renewable Energy Association, the Michigan WWG works closely with the Wind Powering America program of the U.S. Department of Energy. The Wind Working Group (WWG) is open to any interested party. The WWG is promoting the development of wind energy by:

Providing a forum for the exchange of information
Creating the opportunity for members to discuss and develop joint project
Helping to increase consumer awareness about wind energy potential
Identifying barriers and opportunities related to the development of wind energy

If you would like to receive WWG announcements and updates on wind energy, sign up for the MREP listserv (row 8).

Wind-Related Industry Associations

Industry associations, networks and consortia exist for most industries and bring together industry-related businesses and support-service providers to address common interests. Many of these groups provide valuable technical resources that support industry-wide standards and best practices. Some of these groups also have models and examples of public policies, financing tools and business support incentives that local governments can consider as a way to encourage the formation and growth of wind-related businesses in their communities. The following are examples of several Wind-Related groups have formed which can support the formation, growth and diversification of local wind-related businesses.

American Wind Energy Association (AWEA) - Formed in Detroit, the American Wind Energy Association (AWEA) is a national trade association representing over 2,500 wind power project developers, equipment suppliers, services providers, parts manufacturers, utilities, researchers, and others involved in the wind industry - one of the world's fastest growing energy industries. In addition, AWEA represents hundreds of wind energy advocates from around the world, promoting wind energy as a clean source of electricity for consumers around the world.

Bay County, Michigan, Wind Energy - Bay County works closely with Saginaw Valley State University, Center for Business and Economic Development and the Great Lakes Bay Area Manufacturers Association to help area businesses diversify into the wind-related markets.

Great Lakes Renewable Energy Association (GLREA) - The Great Lakes Renewable Energy Association is a non-profit organization that educates, advocates, promotes, and publicly demonstrates renewable energy technologies. The Mission of GLREA is to increase the mainstream use of renewable energy technologies and sustainable energy practices. The GLREA has a dedicated County Wind Energy Planning program to help local communities plan wind-related projects.

Michigan Chamber of Commerce, Great Lakes Wind Energy - The Michigan Chamber of Commerce supports an energy plan for Michigan that provides a diverse mix of fuel sources including nuclear, coal, natural gas, and renewable energy. The Chamber supports specific policies related to Energy Efficiency/Renewable Energy.

Michigan Economic Development Corporation, Wind Energy - With over 200 businesses involved in the wind-energy industry, Michigan has alternative energy resources, infrastructure and supply chain in place that makes Michigan one of the best places in the world for the wind energy manufacturing industry to locate and create jobs. MEDC provides a host of resources to support wind-related urban and rural business formation, growth and diversification.

The Right Place, Wind Manufacturers Network - Launched in January 2009 for the purpose of creating and expanding supply chain opportunities within the wind energy industry. There are currently 79 members from 47 West Michigan companies collaborating in this Network, and there is no cost to participate. Monthly meetings are held on the second Thursday of each month, and are hosted by a participating company.

Women of Wind Energy - While the rapid growth of the wind industry holds great promise for the world's energy future and green careers of today and tomorrow, historically, women have been under-represented in the wind industry. Women of Wind Energy, or WoWE (pronounced WOW-ee) was founded in 2005 to ensure that women can play a full, productive role in the development of wind power.

Wind Financing Tools

Financing for wind projects is a major factor in the decision-making process for distributed and community-based wind systems. Distributed projects (sometimes referred to as "behind the meter" projects) are generally those in which most of the electricity generated is sold to, or used on-site or by, a third-party (e.g., adjacent municipal, public or commercial facility(s). Unused electricity is often net metered. Community-based wind systems refer those where no power is used on-site and the project has multiple owners (i.e., local ownership, investors, developers, etc.).

In general, the most significant cash inflows for wind farms are those for power sales. Without a long-term power purchase agreement (PPA), wind farms are unlikely to obtain financing. At a high-level, there are two methods with which to finance wind projects once a PPA is secured. The first is corporate finance or on-balance sheet financing. In this case, the project developer uses its own cash and/or debt secured against the assets of the company as a whole. The second method is to use project finance. Here, the developer typically establishes a stand-alone entity and secures financing based solely on the cash flows of the project. There are trade-offs with both methods.

Debt raised with balance sheet financing is cheaper as the overall risk of the company is less than that of the specific offshore project. Balance sheet financing involves fewer parties, thus saving time, and allows the developer to maintain greater control over the project. The major drawbacks include the capital intensiveness and the exposure of the company to the full risk of the project.

Project finance reduces the amount of capital needed from the project sponsor and insulates the sponsor from the project's failure, but is typically more expensive and difficult to arrange given the number of parties involved and the amount of due diligence required.

Generally, it's cheaper for utilities to develop wind power facilities than it is for private investors, because utilities can tap into favorable financing structures that reduce costs. To lure potential

investors for wind energy projects, wind farm developers often rely on federal tax credits. Many states support distributed and community wind projects through direct project assistance (e.g., rebates, grants, etc.) as well a technical assistance. For more information on financing wind energy projects please see:

Charles Kubert and Mark Sinclair, Clean Energy States Alliance, State-Based Financing Tools to Support Distributed and Community Wind Projects, May 2010

U.S. Department of Energy, Database of State Incentives/Policies for Renewables and Efficiency, MICHIGAN Incentives/Policies for Renewables & Efficiency

National Renewable Energy Laboratory (NREL), Wind Energy Finance (on-line levelized cost of energy calculator for wind energy projects)

Michigan Business Development and Michigan Community Revitalization Programs

The Michigan Business Development and Michigan Community Revitalization Programs replace the state's previous MEGA, Brownfield and Historic tax credit programs that were features of the Michigan Business tax that will be eliminated under business tax restructuring legislation approved and signed into law by Governor Rick Snyder in May. The Michigan Business Development Program will provide grants, loans or other economic assistance of up to $10 milion to businesses that are creating qualified new jobs and making new investment in Michigan.

The Michigan Strategic Fund (MSF) will consider a number of factors in making these awards, including: out-of-state competition, private investment in the project, business diversification opportunities, near-term job creation, wage and benefit levels of the new jobs, and net-positive return to the state. Business retention and retail projects are not eligible for consideration of these incentives. The Michigan Community Revitalization Program will provide grants, loans, or other economic assistance of up to $10 million to projects that will revitalize regional urban areas, act as a catalyst for additional investment in a community, reuse vacant or historic buildings and promote mixed use and sustainable development. The program will take effect on October 1, 2011.

Michigan Energy Office, EE/RE Small Business Research Program (SBIR)

A recent survey of Economic Development Leaders in 48 states conducted by the International Economic Development Council found that, "Investment in Research and Development is seen as a critical area for attention for state economic development leaders who are looking to stimulate renewable energy sectors." See: Powering Up: State Assets & Barriers to Renewable Energy Growth, 2011. Within this context, the federal Small Business Research Program (SBIR) and Small Business Technology Transfer Program (STTR) provide multi-millions in federal research grants to small businesses to fund commercially-viable projects. Several of the SBIR/STTR funding department and agencies fund R&D grants that are directly related to wind energy applications:

Environmental Protection Agency

National Science Foundation

U.S. Department of Agriculture

U.S. Department of Defense

U.S. Department of Energy

Commercially Viable SBIR Projects

The Government Accounting Office and the National Science Foundation SBIR/STTR have found that research projects that have scientific, technical and commercial merit have the greatest potential for innovation. A recent report on the NSF SBIR/STTR success rates found that successful NSF SBIR/STTR projects have the following Characteristics:

Close collaboration with a market leader

Strong focus on a narrow technology and market

Strong patent position

Long term dedicated technologists

Key company officer is long term project champion

Commercialization of sound science is used as a smart business strategy

Grant proposals with strong collaborations and financial backing from industry leaders r eceive more credit in the review process

NSF Commercialization Match Funding Program

The National Science Foundation has two funding supplements for companies seriously interested in SBIR/STTR commercial merit that pursue Phase IB and IIB grants. These supplements provide additional funding for companies that demonstrate their commercial merit by securing Third Party Cash Match to their Phase I and/or II SBIR/STR grants. For more information please see: http://www.nsf.gov/eng/iip/spir/supplement/index.jsp

Within this context, the following types of Michigan organizations could benefit greatly form participatin in Wind Energy-related SBIR/STTR collaboration:

Small Business Entrepreneurs

Small Businesses (500 employees or less) – Senior Technical staff from durable goods-related OEM's Total Styem, Sub Sytem, Componet and Raw Material Suppliers and/or startups seeking research and develop funding for proprietary Energy Efficiency/Renewable Energy-related innovations, products and processes that have high commercial potential.

Free Lance PhD's in Hard Science interested in partnering with the SBIR/STTR Applications (i.e., being written into the SBIR/STTR Grants as the Principal Investigator).

Intrapreneurs

Large & Medium-Sized Businesses and/or Third-Party Investors seeking to partner with the small SBIR/STTR business to commercialize their successful R&D results.

Social Entre/Intrapreneurs

University/Institute Faculty and Staff seeking consulting opportunities with the small business on their SBIR/STTR grants.

Community and Economic Developers interested in fostering the creation, retention, expansion and attraction of innovative entrepreneurs as part of a viable Solar Energy-related Economic Development and/or Green Communities strategy and program.

Non-Profit Organizations interested in developing ventures that use SBIR/STTR innovations to produce positive social change.

Business Support Service Providers

Patent Attorney's and Accountants with expertise in Government Data Rights and Federal Acquisition Regulations

Marketing and business development specialists with expertise in cutting-edge venture formation and growth.

For technical information on SBIR/STTR and related R&D grants for commercially-viable Energy Efficiency/Renewable Energy innovations please contact:

Mark H. Clevey, MPA, Manager
Consumer Education & Renewable Energy Programs
MEDC, Michigan Energy Office
Office: 517-241-6280, email: cleveym@michigan.gov

For SBIR/STTR grant writing training and assistance please contact the Michigan Small Business and Technology Development Center at (616) 331-7480, sbtdchq@svsu.edu

Michigan Energy Office Industrial Programs

The Michigan Energy Office is the point of reference for the U.S. Department of Energy's Industrial Technologies Program (ITP). The industrial Technologies Program partners with U.S. industry to improve industrial energy efficiency and environmental performance.

Program Areas: ITP areas work together to reduce the energy requirements of manufacturing while stimulating economic productivity and growth. These include: Industrial of the Future, Best Practices, Crosscutting Technologies, Industrial Assessment Centers (IACs) and Industrial Energy Systems. (See MEDC MEO Industrial Program)

Michigan Economic Development Corporation – Wind Energy Program

Steve Bakkal leads MEDC's Wind Development efforts. Michigan is quickly becoming the international hub of the clean energy economy, and our advanced manufacturing and enginerring expertise is a perfect fit for the needs of the growing wind industry in Michigan. Whether it's harnessing the wind energy to generate domestic energy, or wind turbines manufacturing and their component parts, Michigan has the alternative energy resoures, infrastructure and supply chain in place that makes Michigan the best place in the world for the wind energy manufacturing industry to locate and create jobs. Currenly, Michigan houses over 200 businesses that are involved with wind technology development and/or commercialization.