

# GREAT LAKES WIND COLLABORATIVE

## A Project of the Great Lakes Commission and many Great Lakes Wind Stakeholders

With funding support from Wind Powering America (U.S. Department of Energy)

### 2009 Work Plan

**Purpose:** This document describes the operational plan for the Great Lakes Wind Collaborative (GLWC) which has been developed by the GLWC Steering Committee, which is composed of regional stakeholders and representatives of Great Lakes jurisdictions. It is to be updated on an annual basis. The GLWC was established to build consensus, and identify and address issues affecting the planning, development, and operation of wind power facilities in the Great Lakes region. The GLWC provides a forum for dialogue and an opportunity for analysis and exchange of information among key stakeholders to facilitate sustainable wind power development in the region. GLWC members include representatives from a broad spectrum of interests. Information about the GLWC is available on the GLWC website, [www.glc.org/energy/wind](http://www.glc.org/energy/wind).

**Outcomes and Milestones:** The following are the near-term (current year) and long-term (out-years) work priorities (outcomes) and projected milestones for each near-term work item. Long-term work elements may be elevated to current year or next year's near-term items by consensus of the GLWC Steering Committee.

#### 2009

##### **I. Leadership, Regional Coordination and Policy Support**

- a) Using the AWEA/DOE/NREL "20% Wind Energy by 2030" report as a guide, establish and conduct a process for sustaining dialogue to identify and address key regional wind issues.
  - i. Coordinate with the inherent strategies, goals, policy positions and options set forth in the *Midwestern Governors Association Energy Security and Climate Stewardship Platform* as they relate to Great Lakes wind energy issues.
  - ii. Where they exist, coordinate planning efforts with national and state/provincial wind energy stakeholder groups and support establishment of new wind working groups (WWG) in Great Lakes jurisdictions as appropriate.
  - iii. Extract appropriate elements from the AWEA/DOE/NREL "20% Wind Energy by 2030" report to develop a framework for a Great Lakes regional wind vision that the GLWC can use to guide its long-term work.
- b) Identify and procure funding sources for operation of the GLWC, including specific projects or activities included in the GLWC Workplan.
- c) Identify and recruit new members to the GLWC.
- d) Work with the Great Lakes Commission membership and other regional organizations (e.g., Council of Great Lakes Governors) to encourage regional leadership and advance regional priorities identified by the GLWC.
- e) As appropriate, engage GLWC members to provide feedback and input on federal, state, provincial and regional wind policy development.

## **II. Communication and Outreach**

- a) Host the second annual GLWC meeting to inform and gather input from a broad group of stakeholders on the GLWC second-year workplan tasks and its longer-term priorities, identify outstanding key issues regarding Great Lakes wind power, and share/enhance knowledge on technical and policy aspects of wind power – also see #IV-a below.
- b) Foster regular communication with national, regional, and state/provincial wind energy stakeholder groups and support establishment of new WWGs in Great Lakes jurisdictions as appropriate.
- c) Maintain an Internet-based communications infrastructure (i.e., web site, wiki and listservs) that employs internet technology to facilitate GLWC communications and activities.
- d) Publicize the GLWC’s work activities and develop information materials as appropriate.

## **III. Research and Data Management (CONTINGENT UPON SECURING SUFFICIENT FUNDING)**

- a) Continue an ongoing literature review on Great Lakes wind energy and update the annotated bibliography wiki on Great Lakes wind energy; encourage GLWC members to add additional information to the bibliography as new information is discovered or published on Great Lakes wind energy.
- b) Continue development of a Great Lakes Wind Atlas and/or other GIS wind mapping resources that includes data layers – for both land-based and offshore wind – in the Great Lakes Region that can guide project proponents and decisionmakers in wind siting issues.
- c) Conduct a gap analysis on Great Lakes wind information and identify areas that require additional research or information.
  - i. Develop a list of priority research and informational needs to address technical, environmental, and regulatory issues related to Great Lakes wind power.

## **IV. Environmental Planning, Siting and Permitting (CONTINGENT UPON SECURING SUFFICIENT FUNDING)**

- a) Working consistently with other workgroups and building off their workplans, identify and characterize key issues regarding Great Lakes wind power – siting, transmission, stakeholder impacts, technical issues, etc. as a starting point. Use the AWEA/DOE/NREL “20% Wind Energy by 2030” report as a guide. Collect and evaluate other relevant materials for applicability. Interface with other groups working on similar activities to share information and experience.
- b) Upon approval from the Advisory and Steering committees, publish information compiled by staff on federal, state and provincial policies and programs that affect the siting and permitting of wind energy facilities.
- c) Identify, document and publish information about best management practices (BMPs) for all phases – from planning to decommissioning – of wind facilities in the region, addressing such issues as wildlife and ecological resources (with focus on lake-based resources and adjacent or interacting terrestrial habitat), visual resources, noise, cultural resources, water management, construction, operation, monitoring, decommissioning, mitigation measures, etc. Consider ways to help decision makers evaluate, select and apply the most relevant and useful practices.

- Use Ohio, Pennsylvania, California, Maryland, Washington and other model standards/cooperative agreements as resources.
- Consult with the National Wind Coordinating Collaborative's Wildlife Workgroup to assist in addressing Great Lakes wind-wildlife issues.
- Identify relevant policies and practices from federal wind development programs from agencies including the Minerals Management Service, Bureau of Land Management, U.S. Forest Service, etc.
- Identify and describe relevant wind policies and practices from European nations. Indicate relevant similarities and differences.

## V. Off Shore Wind Projects in the Great Lakes

- Send out approved memo (drafted in 2008) to Great Lakes decision makers in support of a comprehensive environmental review process for siting and permitting of *off shore* wind energy facilities.
- Continue development of recommendations for siting principles and policies for off shore wind development in the Great Lakes. Send approved recommendations to Great Lakes decision makers upon completion of document.
- Develop an inventory-list of publicly available information on proposed-active Great Lakes offshore wind projects.
- Develop and finalize criteria for endorsement of offshore pilot-demonstration projects in Great Lakes waters.
- Facilitate research to study relevant topics that relate to off shore wind power siting, such as lake ice and its effects and other ideas generated by the Offshore Wind Workgroup.
- At the appropriate time, advance development of a programmatic environmental impact statement for wind development on the Great Lakes.

## VI. Transmission and Power System Integration of Wind Power

- Develop Transmission Workgroup Workplan (Tentative "starter work elements below):
- Identify who is doing what on transmission in the region and at the national level and monitor the activities of these groups and organizations
  - Gather information
    - What organization work on transmission and where are the transmission resources?
    - What processes should be closely followed and why?
    - What kind of information can be taken from different groups and what use can we make of it (with a special attention to data that could be useful to the wind atlas)
    - Keep an eye open for advocacy opportunities, especially at the federal level
- Collaborate with the Wind Atlas Workgroup to create layers relevant to transmission decision-making

- i. Review what wind atlas data layers would be most relevant to transmission planning in the Great Lakes region and identify priority data layers.
- d) Scope relevant issues for transmission *off shore* (including environmental aspects).
- e) Begin to populate a transmission bibliography.
  - i. Develop a list of transmission resource documents that would be valuable to the region/effort.
  - ii. Publish the list on the GLWC online wiki page.

**VII. Economic Development Aspects of Wind Power (CONTINGENT UPON SECURING SUFFICIENT FUNDING)**

- a) Review the AWEA/DOE/NREL “20% Wind Energy by 2030” report to review what economic development efforts can be promoted to drive wind power manufacturing and “green jobs” growth in the Great Lakes region. Coordinate with state/provincial economic development offices and other sources and create a database of wind energy-related economic stimulus ideas and approaches. Identify success stories of states and provinces in attracting the wind energy industry to the Great Lakes region.
- b) Consider the need for either web-based tools or a workshop in the region to promote the economic developments aspects of wind power manufacturing and jobs growth potential.
- c) Convene a subgroup of the Economic Development work group to scope an economic analysis for the Great Lakes region. This analysis would be conducted by NREL, with data collected by NREL for the 20% vision report, but be supplanted with region-specific data, (e.g, Michigan State University), to ensure that the analysis reflects the most comprehensive and timely information and data available. The first task of the workgroup would involve scoping the scenarios and features of an analysis and bring recommendations for various scenarios and features back to the full ED workgroup for review/approval. Then, NREL would do the work, with ED workgroup oversight, and deliver as a GLWC product.

**OUT YEARS**

**I. Leadership, Regional Coordination and Policy Support**

- a) Assist in engaging all Great Lakes states and provinces to build consensus on wind policy goals and needed guidelines, consistent with those outlined in the *Midwestern Governors Association’s Energy Security and Climate Stewardship Platform*. Additionally, the GLWC will coordinate with national, regional and state/provincial wind initiatives and activities as appropriate.
- b) Research policy options regarding wind energy deployment that have been considered and/or implemented nationally, in other regions and states, as well as those in Canada.

**II. Communication and Outreach**

As part of developing the GLWC’s communication and outreach strategy:

- a) Host an annual meeting of the GLWC to review current-year workplan tasks and identify and address key regional wind issues and future priorities.
- b) Identify and address challenges to public acceptance.
- c) Target sectors for outreach.
- d) Facilitate institutional learning among stakeholders and other interested parties.

### **III. Research and Data Management**

- a) Facilitate research and analysis and integrate and publish information for decisionmakers about environmental and economic costs and benefits of wind power, such as:
  - i. the impacts of increased wind energy and its benefits/impacts on Great Lakes water levels, use and quality (versus traditional forms of energy production).
  - ii. the land use impacts of an increased number of wind farms in the Great Lakes region (versus traditional forms of energy production).
  - iii. the impacts of wind energy on carbon emissions and other air pollutants in the Great Lakes region.
  - iv. the role of wind as part of the Great Lakes energy mix.
- b) Facilitate academic research on Great Lakes wind issues as priorities demand; communicate and integrate these efforts to the extent possible with regional research coordinating bodies including the International Association for Great Lakes Research (IAGLR) and the Great Lakes Regional Research Information Network (GLRRIN).
- c) Facilitate data collection, integration and distribution through the development of protocols for data collection, management, access and sharing.
- d) Continue an ongoing literature review on Great Lakes wind energy and update the annotated bibliography wiki on Great Lakes wind energy; encourage GLWC members to add additional information to the bibliography as new information is discovered or published on Great Lakes wind energy.
- e) Continue efforts to complete the Great Lakes Wind Atlas. Upon its completion:
  - i. Continue to identify data needs for the Wind Atlas
  - ii. Continue to inventory outside sources of relevant datasets and determine their applicability to the Wind Atlas
  - iii. Continue to compile and store datasets for the Wind Atlas

### **IV. Environmental Planning, Siting and Permitting**

- a) Building on the groundwork laid in the state/provincial policy profiles developed in 2008, consider one or more of the activities below if it is determined that regional guidance is needed to inform decisions regarding wind facility siting and permitting:
  - i. identify gaps, inconsistencies and obstacles in the regulatory framework at each level of government to achieving regional wind energy goals.
  - ii. identify considerations to developing environmentally sensitive and sustainable wind power.
  - iii. identify policy and process options for more streamlined project reviews across the region.
  - iv. work with members of the GLWC and other federal, state, local and private sector interests to facilitate the implementation of wind energy demonstration projects and/or pilot studies.

- v. identify, document and publish information about best management practices for siting of wind facilities in the region.
- vi. identify major ecological risks and potential impacts associated with wind energy development and gather and distribute information on appropriate mitigation strategies (where needed, including pilot projects).

**V. Off Shore Wind Projects in the Great Lakes**

- a) Develop siting and design standards for *off shore* wind energy systems.
- b) Compare and analyze economic and environmental benefits, costs and tradeoffs specifically for off shore wind power with other power sources.
- c) Identify potential areas for off shore wind development; conduct offshore wind viewshed studies.

**VI. Transmission and Power System Integration of Wind Power**

- a) Facilitate analyses by appropriate entities (e.g. PUCs, regional reliability councils, independent system operators, etc.) of transmission and grid interconnection issues for achieving the Great Lakes wind vision.
- b) Pursue more integrated resource planning on a regional basis; look at long-term power needs of the region tied to transmission.

**VII. Economic Development Aspects of Wind Power**

- a) Catalogue, promote and share lessons learned on economic development efforts that drive wind power manufacturing and “green jobs” growth in the Great Lakes region, in follow-up to VII-a above.
- b) Facilitate approaches and efforts to develop wind-related industry in the Great Lakes Region.
- c) Explore what has been done and/or conduct an economic impact study of wind industry job development for the Great Lakes region.
- d) Explore what has been done and/or conduct a study of the available manufacturing infrastructure in the Great Lakes region for wind energy components.
- e) Explore what has been done and/or conduct research to quantify the potential overall rural economic development impacts of wind energy deployment in the Great Lakes region.
- f) Explore what has been done and/or conduct an assessment of the impacts of wind power potential on the energy security needs of the Great Lakes region.