Advancing Wind Power in Illinois Conference 2011

John Hummer

Great Lakes Commission

Plenary Session

Friday, July 22, 2011, 10:15 AM

Great Lakes Wind Collaborative:

Best Practices for Sustainable Wind Power Development in the Great Lakes Region and Beyond

John Hummer
Great Lakes Commission
July 22, 2011

Great Lakes Wind Collaborative

Great Lakes Wind Collaborative

A multi-sector coalition of wind energy stakeholders working to facilitate the sustainable development of wind power in the bi-national Great Lakes region.

A forum for dialogue and information exchange

- ✓Advance science and knowledge to inform decision-making
- ✓Coordinate a broad array of interests
- ✓Build consensus on issues affecting wind power

www.glc.org/energy/wind

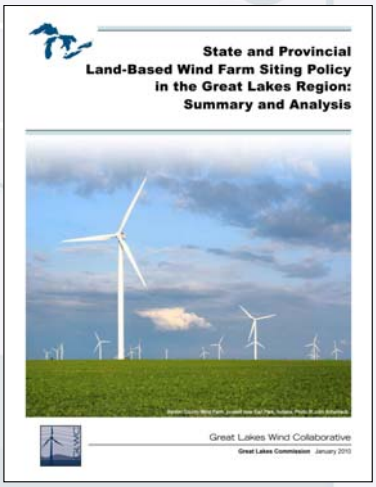
Project Goal

Overcome barriers
and
impact the market for wind energy
through the
development and
strategic dissemination
of
best practices and policy options.

Great Lakes Wind Collaborative

Methods and Tasks

Identified existing land based policies for wind development



Great Lakes Wind Collaborative

Methods

- Literature review
- Developed criteria to evaluate and rank policies and practices
  - What makes a policy or process “better” or “best”?
- Compiled candidate practices and policies
- Applied criteria
- Conducted online survey of top candidate BPs
- Conducted interviews:
  - ENGOs
  - Industry
  - Regulators
- Project Advisory Team engaged throughout

Evaluation and Ranking Criteria

- Administratively Efficient
- Cost-Effective
- Engages Public
- Environmentally and Culturally Protective
- Scientifically Sound
- Preferential to Clean Energy Sources
- Creates and/or Maintains Jobs
- Encourages Proactive Approaches
- Respectful of Landowner and Community Interests
- Adaptable
- Coordinative and Collaborative

Final Practices Selected by Workgroup Members from:

Topics Addressed

- Siting, Planning and Permitting
- Energy Policy
- Public Engagement
- Offshore Wind

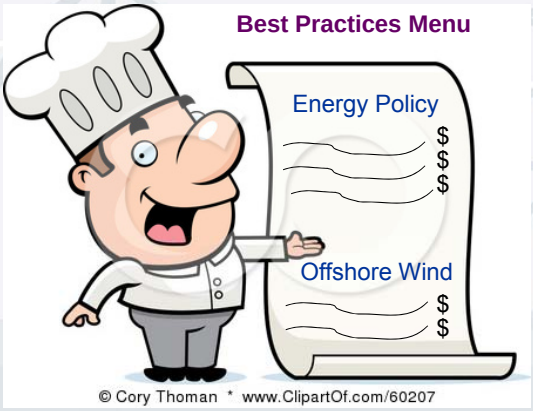
maximizing economic opportunities

sensitive to community needs and concerns

minimizing environmental impacts

Great Lakes Wind Collaborative

Each best practice is considered as part of a "menu" of preferred options from which regulators, communities and developers can choose .



Energy Policy

Balanced and Uniform Siting Policies

- **Regulators should create balanced and transparent policies that are uniform throughout a state or region to help protect communities and the environment, while enabling developers to propose wind farms that meet community approval.**
  - **Lack of planning and zoning uniformity often a major barrier to wind development.**
  - **All eight Great Lakes states are "home rule" states.**
  - **Local policies may differ substantially.**

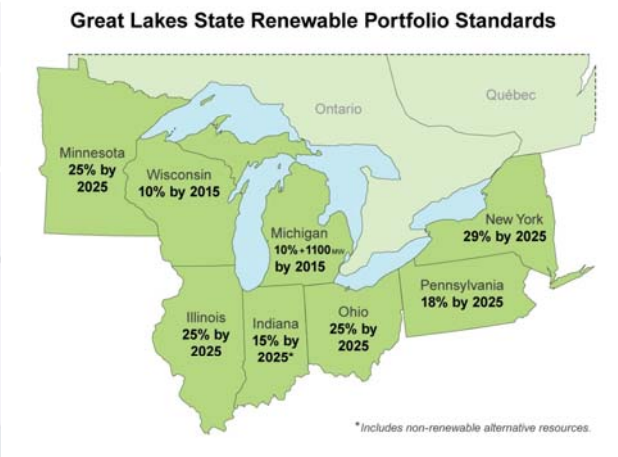
Case Example

- **Wisconsin Statewide Wind Siting Rules**
  - **PSCW published final rules in December 2010 governing the siting of wind turbines in the state. Suspended as of March, 2011.**
  - **Gives local governments jurisdiction over wind projects that are under 100 MW, but require all larger projects to be sent to the PSCW for review.**

Financing Mechanisms and Financial Incentives

- **Regulators should provide clear, consistent, and well-designed financing mechanisms or financial incentives that assure developers they will be able to recoup costs in a competitive market.**
  1. **Feed-In Tariffs (FITs)**
  2. **Tax Credits**
  3. **Loan Guarantees**
  4. **Net Metering**
  5. **Payment in Lieu of Property Taxes**
  6. **Revolving Loan Funds for Renewable Energy Projects**
  7. **Renewable Portfolio Standards (RPS)**

Renewable Portfolio Standards



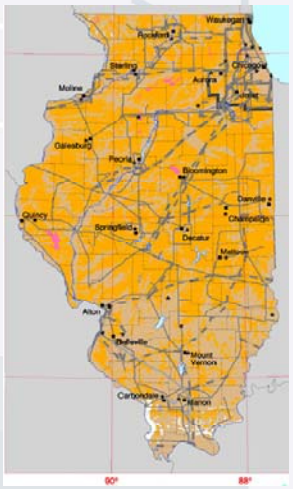
- **Jurisdictions should maintain RPS programs and increase state/provincial RPS/RES targets over time.**

Integrated Resource Planning (IRP), Transmission Planning and Advanced Grid Management

- Regulators should implement transmission policies supporting the development and implementation of Integrated Resource Planning (IRP) and advanced grid management, consistent with federal and state/provincial legislative authority.
  - Inter-jurisdictional transmission planning and siting must be strengthened to optimize future investments and ensure the grid accommodates renewables
  - Cost allocation measures can improve system adequacy to lower overall costs of integration across multiple jurisdictions

Strategic Siting for Efficient Transmission Management

- Strategically site wind developments to take advantage of existing transmission capabilities when possible and develop new electric transmission system infrastructure as needed to provide access to premier renewable energy.
  - Issues
    - Cost – Who Pays?
    - Rights of Way
    - Land Use / Landscape Values



Sitting, Planning & Permitting

Great Lakes Wind Collaborative

Comprehensive Environmental Assessments

- **Siting process should include steps to minimize both environmental and social impacts.**
  1. **Avoid areas with protected wildlife**
  2. **Consult with resource management agencies, local conservation groups and landowners to determine where there are environmental sensitivities.**
  3. **Establish or be signatories of state-industry cooperative agreements.**
     - **Use environmental studies to provide guidance and consistency for development of wind project sites.**

Great Lakes Wind Collaborative

Standard Environmental Survey Protocols

- Should be developed by fed/state resource management agencies where they do not currently exist.
- Developers should adhere to those standardized environmental survey protocols for both pre- and post-construction monitoring.
  - Assess bird and bat activity
  - Design pre-permitting and operations monitoring plans
  - Develop impact avoidance, minimization, and mitigation measures

Stormwater Pollution Prevention Plans (SWPPP)

- Steps and techniques used to reduce pollutants in stormwater runoff leaving a construction site
- Costs of an SWPPP adds to overall project costs and development timelines
  - May deter developers from doing anything above and beyond what is required by law.
  - Should incorporate handling of hazardous spills (in conjunction with Hazardous Materials Management Plan).

Construction Impact Mitigation

- Developers should ensure the construction of wind projects complies with general construction regulations and uses best management practices to minimize the construction footprint.
  1. Eliminate or reduce runoff (e.g., SWPPP)
  2. Seasonal restrictions that reflect site characteristics
  3. Minimize vegetation and soil disturbance
  4. Maintain roadways during
  5. Save excavated topsoil for reclamation later
  6. Dispose of waste properly and effectively control dust
  7. Restore the construction site as needed.
  8. Mitigation measures such as acquisition of replacement habitat
  9. Hazardous Materials Management Plan
  10. Educate workers on the consequences of unauthorized collection or sale of fossils or cultural artifacts.
  11. Implement standard safety precautions and practices

Using Brownfields for Wind Projects

- Explore as candidate sites for wind development project
- Select over undeveloped greenfields in areas where both types are available
  1. Need only be cleaned up to levels required for commercial or industrial land uses.
  2. Generally closer to load centers requiring less transmission infrastructure.
     - Could particularly be useful for small distributed generation projects where interconnection can be much easier.
  3. Innovative use of delinquent properties
  4. Community Winner

Case Example

Steel Winds Project – Lackawanna, New York

- Just south of Buffalo on a portion of the former Bethlehem Steel facility (closed in the mid-1980s leaving a 1,600-acre site blighted and contaminated.
- Circa 2000: Changes in NY State and federal environmental laws – financial and legal incentives to investigate and remediate the site.
- 2001: University of Buffalo report – stimulated interest
  - ➢ 30 acres of the site removed from RCRA list & placed under NY's Brownfield Cleanup Program
  - ➢ BCP financial assistance received; 30 acres remediated
  - Late 2000s: construction of 8 turbines
  - → Capacity to generate 20 MW; power 6,000 homes

Steel Winds Project on the Buffalo Waterfront

Offshore

Adaptive Regulatory Roadmap for Offshore Wind

- **Sets out:**
  - **which agencies must or should be consulted**
  - **Information requirements**
  - **Timing of review/approvals**

➢ **Individual federal and state agencies should develop**

➢ **Should be integrated into a single Regulatory Roadmap for offshore wind in the Great Lakes**

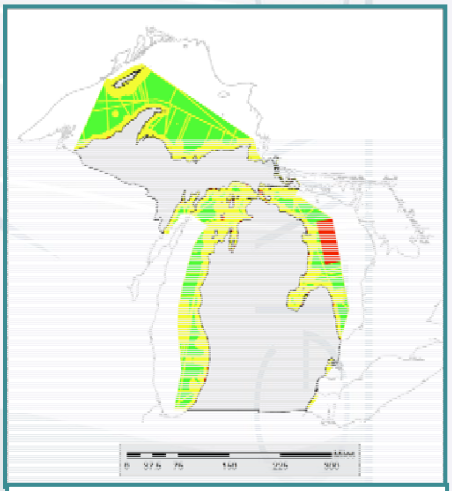
➢ **Should include mechanisms to streamline processes based on lessons learned**

Bottomlands Leasing Policy

Enact policies which provide a clear, coordinated and fair process for leasing lake bottomlands to facilitate appropriate offshore wind development.

Case Example

Michigan Legislation to Guide Leasing of Great Lakes Bottomlands



Application of mapping criteria for Michigan offshore wind siting. Red=categorically excluded; yellow=conditional; green=most favorable.
Source: Report of the Michigan Great Lakes Wind Council, Oct. 1, 2010.

Red= categorically excluded
Yellow=conditional
Green=most favorable

Decommissioning

Decommissioning and Reclamation

- Developers should create provisions for future site decommissioning and reclamation.
  - Outline the expected end of the project life.
  - Explain when and under what circumstances it should occur.
  - Include a proposed schedule
  - Describe the anticipated manner in which the project will be decommissioned
  - Plan for Minimizing environmental impacts

Decommissioning and Reclamation (cont'd)

- Decommissioning Plan should also include:
  - Decommissioning costs net of salvage value in current dollars, and how the plan will be secured (e.g., bonds, contract)
  - Site reclamation procedures – focus on restoring native vegetation to enhance wildlife habitat value.
- Decommissioning Plan shows "good faith effort" to community
  - Careful and well-planned deconstruction – site will be properly taken care of upon dismantling instead of abandoned and left in disrepair for the community to contend with or even pay for.

Public Engagement

Community Support through Public Engagement and Outreach

- Developers should maintain a high level of transparency, cultivate relationships with the surrounding communities and increase support for their projects by incorporating public involvement early in the planning process and continuing with public outreach throughout the life of a project.
  1. Gather information from local conservation groups, landowners and community residents – valued landscapes, cultural resources, etc.
  2. Educate community about
     1. proposed project
     2. related public policy issues.
  3. Engagement vs. Outreach

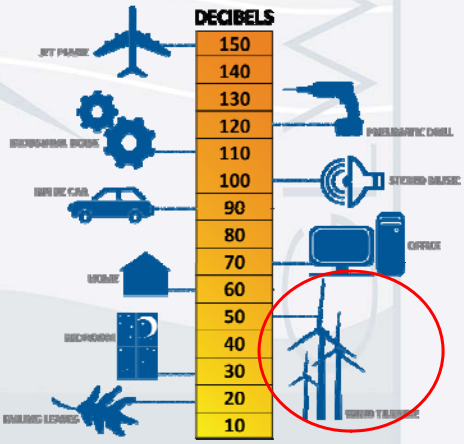
Case Example

Cuyahoga County (Lake Erie offshore pilot project)
Community Stakeholder Engagement Tactical Plan

- ***Calls for:***
  - Release of the Feasibility Study findings to the public
  - Raising awareness of economic development opportunities;
  - Building relationships with local, regional and national stakeholders and media;
  - Demonstrating a commitment to transparency and fiscal responsibility;
  - Establishing the County as an advocate for responsible wind energy development and advanced energy;
  - Highlighting success stories; and
  - Ongoing engagemement of local stakeholders

Noise Impact Assessments

- **Developers should use available noise models to assess noise impacts from wind energy projects.**
  - May be required as part of environmental review or local laws
  - Include wildlife impacts
  - Implement mitigation measures
  - Effectively communicate to the community



Case Example

Port Alma, Ontario Wind Farm Noise Impact Assessment

- Performed tests to find the ambient noise level at various monitoring sites.
- Details the classification of affected area and the sources of noise.
- Explains different parts of the proposed wind farm that will produce noise, and their cumulative effects throughout the area

Construction of Port Alma Wind Farm

Report concluded:

- Noise impact does not exceed the most restrictive nighttime noise limits
- No need for mitigation measures or further studies

Visual Impact Assesments

- As part of the public engagement process, developers should conduct a visual impact assessment.
  1. Early planning: assessment of visual resources – involve relevant agencies and the public.
  2. Prepare spatially accurate and realistic photo simulations of wind turbines in the proposed location.
  3. Assessment should include the nature and magnitude of potential visual impacts.
  4. May not be required by regulatory agencies – however, if not done, may put the project at risk of delay or cancellation.

Best Practices Toolkit

- **Compiled document**
- **Online Toolkit**
  - 18 Best Practices
    - *Action/Rationale*
    - *Challenges and Benefits*
    - *Who Should Implement This Practice?*
    - *Case Example*
    - *Timeline*
- **Available online at www.glc.org/energy/wind**

Acknowledgments

Great Lakes Wind Collaborative – Best Practices Workgroup Members

- Argonne National Laboratory
- Baker & Hostetler LLP
- Cedarburg Science, LLC
- Clean Energy States Alliance/Clean Energy Group
- DTE Energy
- Grand Valley State University
- Great Lakes Renewable Energy Association
- HDR Engineering, Inc.
- Huron County (MI) Planning, Building & Zoning Department
- Indiana Department of Natural Resources
- JFNew
- Mackinaw Power
- Marine Services Diversified, LLC
- Michigan Energy Office
- Minnesota Department of Commerce
- National Renewable Energy Laboratory
- NRG/Bluewater Wind
- Ohio Department of Natural Resources
- Public Service Commission of WI
- The Nature Conservancy
- Wisconsin Department of Natural Resources

Cooperating Partners

- Clean Energy States Alliance
- Great Lakes Legislative Caucus
- Midwestern Governors Association
- Department of Energy - EERE

Great Lakes Wind Collaborative

Great Lakes Commission des Grands Lacs

Great Lakes Wind Collaborative

Join the GLWC—become a wind stakeholder at www.glc.org/energy/wind

Great Lakes
Wind Collaborative

jhummer@glc.org

734-971-9135

Great Lakes Wind Collaborative