
Introduction

Wind energy offers the opportunity to generate electricity in a way that has environmental and economic advantages over conventional power generation sources. These include providing local and regional jobs and revenue, increased energy independence, price stability, potential cost savings, as well as significant water use savings and reductions in air pollution emissions. The opportunity to reap these benefits in the Great Lakes region is particularly good due to the region's outstanding wind resources, both on land and over the Great Lakes. For these reasons, wind is also likely to continue to play a leading role in achieving state and provincial renewable energy goals.

However, wind energy, like all energy development, has impacts. The challenge is to understand those impacts and make decisions with the best information available to maximize the positive impacts while minimizing the negative ones. The best practices described in this document are intended to give policymakers, regulators, developers and community leaders useful tools and critical information they need to make well-informed decisions about wind energy development.

When it comes to wind energy development, there is no single best practice or policy. This document offers a menu of 18 different, yet complementary, preferred practices and policies. The best practices cover all phases of the wind energy development process – from the policies that allow for wind development, to the sustainable operation of a wind project, to the best practices for decommissioning a spent turbine – including applications for offshore wind. The best practices described here will not necessarily apply in the same way for every jurisdiction or project. Some policies and best practices are already being implemented by states, local governments or wind developers and should be considered for regionwide application or as standard operating practices industry-wide. At the same time, applying just one best practice or policy to a project does not guarantee high-quality and sustainable wind development; just as neglecting a single best practice may not prevent it. Optimally, a suite of best practices would be applied in an appropriate combination to fit the conditions of a particular wind project or a set of wind projects within a given locality or region.

Making best practices easily accessible enables industry, regulators and community leaders to benefit from the lessons learned from existing wind projects and from policies that have already been tested. These include practices that have been previously tested and shown to be effective, as well as new practices that were identified by experts as needed for future wind developments. Each best practice describes the opportunities and challenges (pros and cons), and offers a case example that illustrates how that best practice is being utilized by a particular jurisdiction or wind project. To better explain the significance of the different best practices, each includes a Wind Energy Development Timeline that illustrates the sequence of that practice within the life of a wind project – whether it is an over-arching policy or addresses a specific construction guideline.

The practices described in this publication were selected by a diverse group of interests from the Great Lakes Wind Collaborative that included environmental groups, industry, academia, and federal, state and local government regulators. The practices were identified through a year-long process that included a literature review, online survey and interviews with individuals from the public, private and non-profit sectors.

These best practices are framed as guidance for wind energy decisionmakers across the binational Great Lakes region. Regulators, communities and developers should choose the mix of policies and practices that best advances the development of responsible and clean Great Lakes wind energy, while also protecting natural resources and respecting the needs of communities.