

# North Carolina Wind Energy Opportunities

**North Carolina has great potential for wind energy development within the state.** Advanced wind turbine technology and reduced costs have now made wind energy economically feasible throughout North Carolina.

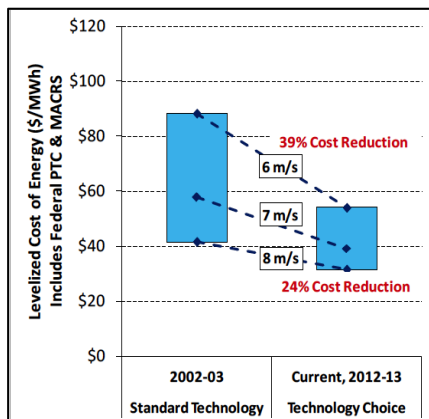
A wind project in North Carolina would provide beneficial economic development opportunities for local communities. Iberdrola Renewables is currently developing the state's first wind farm, Amazon Wind Farm. The first phase consists of 104 wind turbines that total to 208 megawatts.

## Advanced Turbine Technology

In the past five years, wind turbine technology has greatly evolved. Wind turbine towers can reach up to 459 feet (140 meters) in height. **Taller turbines and longer blades are capable of capturing more wind, thus harnessing more electricity and reducing wind energy prices.** As turbines increase in hub height, North Carolina contains a much greater area of land viable for development. With modern wind turbine technology, **over 3,500 MW of onshore wind potential may currently exist in North Carolina.**

## Reduced Costs

**Wind energy is now one of the least expensive sources of new power generation in the country.** Costs have declined by 39% over the past decade for lower wind speed areas like North Carolina (averaging 13.4 miles per hour [6 meters per second]). As technology improves, wind energy costs will continue to drop.



Source: Adapted from National Renewable Energy Lab 2013

## Economic Development Opportunities

**North Carolina is currently home to 25 wind energy-related manufacturing facilities serving the domestic and international wind industry markets.** Developing land-based wind in the state could greatly add to local economic benefits and create more wind energy-related jobs.



Credit: Dennis Schroeder / NREL

Based on the Jobs and Economic Development Index model,\* developed by the National Renewable Energy Laboratory (NREL), developing 1,000 MW worth of wind energy capacity in North Carolina could:

- Generate approximately 4,559 full-time equivalent jobs during construction periods with a total payroll of \$229 million
- Support approximately 166 ongoing operation jobs with a total annual payroll of \$8.6 million
- Produce approximately \$3 million in extra income for farmers/households or others who lease their land to developers
- Generate more than \$10.7 million in annual property taxes

Wind energy is currently an untapped resource in North Carolina. Yet, with advanced turbine technology and lower costs, **wind energy development could greatly boost North Carolina's economy and provide homegrown and affordable energy.**

\*Jobs and Economic Development Impact (JEDI) model, developed by the National Renewable Energy Laboratory (NREL). More information about the JEDI model can be found at: <http://1.usa.gov/XpVcWY>

### Sources:

American Wind Energy Association (April 10, 2014). "State Wind Energy Statistics: North Carolina." <http://bit.ly/1wrClcd>  
Joseph Owen Roberts (September 2013). Presentation, Land-Based Wind Potential Changes in the Southeastern U.S., NREL  
Iberdrola Renewables "Bringing Wind Power to North Carolina" <http://bit.ly/1W6ENDn>