

# WIND ENERGY IN MICHIGAN



## Michigan has been successful in attracting investment for wind energy manufacturing and large wind energy projects.

Michigan ranks 15th in the nation for installed wind capacity and has attracted significant investment into the wind energy supply chain. There are at least 26 manufacturing facilities producing components for the wind industry, including Ventower Industries, a wind tower manufacturing facility sited on a former brownfield site in Monroe. State utilities have proactively invested in wind projects to help the state reach its RPS target, with DTE Electric Company ranking 7th in the nation for utility ownership of wind power capacity.

### **BENEFITS** Jobs & Economic Benefits

An investment in wind power is an investment in jobs, including jobs in operations and maintenance, construction, manufacturing and many support sectors. In addition, wind projects produce lease payments for landowners and increase the tax base of communities.

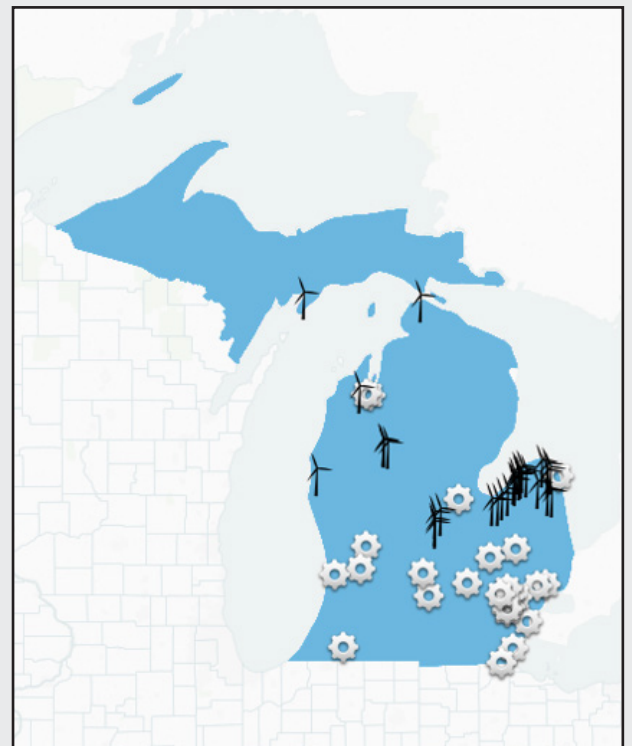
- 2017 direct and indirect jobs supported: **2,001 to 3,000**
- Total capital investment through 2017\*: **\$3.5 billion**
- Annual land lease payments\*: **\$5 - \$10 million**

\*Calculations based on national and state averages.

### Wind-Related Manufacturing

The United States has over 500 manufacturing facilities producing products for the wind industry that range from blade, tower and turbine nacelle assembly facilities to raw component suppliers, including fiberglass and steel.

- Number of active manufacturing facilities in the state: **26**



 Online Wind Project     Manufacturing Facility

## Wind Projects as of 4Q 2018

- Installed wind capacity: **1,904 MW**
  - » State rank for installed wind capacity: **15th**
- Number of wind turbines: **1,051**
  - » State rank for number of wind turbines: **14th**
- Wind projects online: **26 (Projects above 10 MW: 23)**
- Wind capacity under construction: **302 MW**
- Wind capacity in advanced development: **474 MW**

## Wind Generation

During 2017, wind energy provided **4.5%** of all in-state electricity production.

- State rank for share of electricity: **22nd**
- Equivalent number of homes powered by wind in 2017: **471,700**

## Wind Energy Potential

- Land-based technical wind potential at 80 m hub height: **81,311 MW**  
(Source: AWS Truepower, NREL)
- Offshore net technical wind potential at 100 m hub height: **57,331 MW** (Source: NREL)

## Environmental Benefits

Generating wind power creates no emissions and uses virtually no water.

- 2017 annual state water consumption savings\*: **845 million gallons**
- 2017 equivalent number of water bottles saved: **6.4 billion**
- 2017 annual state carbon dioxide (CO<sub>2</sub>) emissions avoided: **1.7 million metric tons**
- 2017 equivalent cars' worth of emissions avoided: **358,000**

\*Based on national average water consumption factors for coal and gas plants



## Renewable Portfolio Standard

Michigan first enacted a Renewable Portfolio Standard (RPS) in 2008 requiring 10% renewable energy by 2015. After achieving the target in 2015, the state expanded the standard in 2016, requiring state electricity providers to generate 15% of their sales from renewable energy sources by 2021.