



Washington Renewable Energy Projects Fact Sheet

➤ Over **\$8.1 billion** invested in new renewables and more than **2,970 MW** installed.

Cumulative Project Investment & Benefit Totals¹

- Invested:² **\$8,135,945,343**
- Public Revenue:³ **Over \$145,589,996**
- Installed Capacity: **2,979.4 MW**
- Estimated Jobs Created:⁴ **Over 3,800**

Wind Investments:

Total Investment:² **\$5,837,937,343**

Total Installed Capacity:⁵ **2809.5 MW**

- Total Number of Projects: **22**
- Equivalent to **8%** of Washington's net electricity generation in 2010⁶ and capable of electrifying approximately **634,000** Washington households annually, equating to nearly a quarter of Washington's 2.6 million total households⁷.
- Pounds of CO₂ mitigated:⁸ Over **4.18 million metric tons** annually
 - CO₂ mitigated is equivalent to a reduction of nearly 30% of Washington's 2010 total carbon emissions from electricity generation of just under 14 million metric tons.⁶
- Washington currently ranks **8th** out of any state in wind power capacity installed as of the fourth quarter of 2012.⁹

Estimated Job Creation:⁴

Direct Construction: **Over 2015**

- Est. Cumulative Total Wages: **\$96,877,000**

Permanent On-Site: **180**

- Estimated Annual Wages: **\$8,115,000**

Public Revenue:

- Total Cumulative:³ **\$79,589,996**
- Estimated land lease payments:¹⁰ Over **\$7.7 million annually**

Solar Investments¹¹

Total Investment:² **\$1,863,008,000**

Total Installed Capacity:⁵ **Over 17.9 MW**

- Total Number of Installations: **3487**
- Estimated Cumulative Installation Jobs Created:⁴ **160**
- Estimated Total Cumulative Wages: **\$7,692,480**

Solar Manufacturing:

- Estimated Job Creation:⁴ **830**
- Estimated Annual Wages: **\$29,050,000**

Public Revenue:³

- Estimated Total Cumulative: **Over \$66,000,000**

- 3Degrees
- American Wind Energy Assoc.
- Atkins
- Blattner Energy
- Bonneville Environmental Foundation
- BP Wind Energy
- Calpine
- Center for Energy Efficiency & Renewable Technologies
- Christenson Electric
- Citizens' Utility Board
- Climate Solutions
- Columbia Gorge Community College
- Community Renewable Energy Association
- E.ON Climate & Renewables
- EDF Renewable Energy
- EDP Renewables
- Element Power
- Environment Oregon
- Environment Washington
- Eurus Energy America
- FirstWind
- Gaelectric
- Gamesa Energy USA
- GE Energy
- Geothermal Resources Council
- GL Garrad Hassan
- Green Mountain Energy
- HDR Engineering, Inc.
- Iberdrola Renewables
- Jones Stevedoring
- K&L Gates
- Kapla Law PLLC
- Lane Powell PC
- MAP
- Montana Environmental Information Center
- MontPIRG
- Natural Capital Partners
- Natural Resources Defense Council
- NextEra Energy Resources
- Northwest Environmental Business Council
- Northwest SEED
- NW Energy Coalition
- OneEnergy Renewables
- Oregon Tech
- Oregon Solar Energy Industries Association
- OSPIRG
- Portland Energy Conservation, Inc.
- REC Silicon
- REpower USA
- RES America Developments
- Solar Oregon
- SolarCity
- Stoel Rives, LLP
- SunPower Corporation
- SWCA Environmental Consultants
- Tonkon Torp LLP
- Vestas Americas
- Warm Springs Power & Water Enterprises
- Washington Environmental Council
- WashPIRG
- Western Resource Advocates

Bioenergy Investments:

Total Invested:² **Over \$435,000,000**

Total Installed Capacity:⁵ **Over 152 MW**

- Total Number of Installations: 17

Estimated Job Creation:⁴

Direct Construction: **390**

- Est. Cumulative Total Wages: **\$18,750,420**

Permanent On-Site: **295**

- Estimated Annual Wages: **\$13,275,000**
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- ❖ All dollar values presented in inflation adjusted 2012 dollars (2012\$)
- 1. Cumulative totals spanning the years 1998 through the first quarter of 2013 for currently operating renewable energy systems.
- 2. Investment data for currently operating renewables was either sourced directly from project reports and news feeds, or based on estimates from the U.S. Energy Information Administration's April 2013 report, *Updated Capital Cost Estimates for Utility Scale Electricity Generating Plants* and NREL's November 2010 report *Cost and Performance Assumptions for Modeling Electricity Generation Technologies*. Estimations are as follows: Biomass \$2.8 mil/MW, Geothermal \$3.2 mil/MW, Wind \$2.0 mil/MW, Solar PV \$3.8 mil/MW.
- 3. Cumulative revenue paid from all renewables, as of the 2012-2013 tax year, to state and local governments through property taxes, PUD generation taxes, etc. Data obtained directly from state/county assessors & treasurers.
- 4. Job creation was determined for both direct construction and permanent operations & maintenance positions only. Data was gathered either by directly sourcing information from project reports and news feeds, or estimated using *The Jobs and Economic Development Impact Model (JEDI)*, developed by National Renewable Energy Laboratory (NREL). Wages estimated based on industry averages obtained from the U.S. Bureau of Labor Statistics (<http://www.bls.gov/green/greencareers.htm#greendata>).
- 5. Installation data sourced from Northwest Power and Conservation Council, county & state reports, and project reports.
- 6. Assuming wind turbine generation efficiency of 33%. Generation data source from EIA's *State Electricity Profiles* (2012) <http://www.eia.gov/electricity/state>
- 7. Assuming wind turbine generation efficiency of 33% and typical Washington household electricity consumption of 12.8 MWh annually. Household information obtained from *American Community Survey* (2013) (U.S. Census Bureau)
- 8. Assuming wind turbine generation efficiency of 33% and the typical emissions rate from U.S. natural gas-fired electricity generation (1,135 lbs/MWh). U.S. Environmental Protection Agency. *Clean Energy* (<http://www.epa.gov/cleanenergy/energy-and-you/affect/air-emissions.html>).
- 9. American Wind Energy Association. (January 2013). *U.S. Wind Industry Fourth Quarter 2012 Market Report*
- 10. American Wind Energy Association. (October 2012), *State Fact Sheets Updated Through 3rd Quarter of 2012*. http://www.awea.org/learnabout/publications/factsheets/factsheets_state.cfm
- 11. Data obtained from Washington's Cost Recovery Program, Washington State University Energy Program, and news feeds.