



## Oregon Renewable Energy Projects Fact Sheet

➤ Over **\$9.8 billion** invested in new renewables and **3,350 MW** installed.

### Cumulative Project Investment & Benefit Totals<sup>1</sup>

- Invested:<sup>2</sup> **\$9,838,429,326**
- Public Revenue:<sup>3</sup> **Over \$153.8 million**
- Installed Capacity: **3,350 MW**
- Estimated Jobs Created:<sup>4</sup> **Over 5,300**

### Wind Investments:

Total Invested:<sup>2</sup> **\$7,498,007,862**

Total Installed Capacity:<sup>5</sup> **3,153 MW**

- Total Number of Projects: **29**
- Equivalent to **12.4%** of Oregon's net electricity generation in 2014<sup>6</sup> and capable of electrifying approximately **695,000** Oregon households annually, nearly half of Oregon's total of 1,516,456 households<sup>7</sup>.
- Pounds of CO<sub>2</sub> mitigated:<sup>8</sup> Over **4.69 million metric tons** annually
  - CO<sub>2</sub> mitigated is equivalent to nearly half of Oregon's 2013 total carbon emissions from electricity generation (9.5 million metric tons).<sup>9</sup>
- Oregon currently ranks **6<sup>th</sup>** out of any state in wind power capacity installed as of the first quarter of 2015.<sup>10</sup>

Job Creation:<sup>4</sup>

Direct Construction: **2,112**

Permanent On-Site: **181**

Public Revenue:

- Total Cumulative:<sup>3</sup> **\$151,951,135**
- Estimated Annual Land Lease Payments:<sup>10</sup> **\$9.5 million**

### Solar Investments:

Total Invested:<sup>2</sup> **\$1,846,804,186**

Total Installed Capacity:<sup>5</sup> **104 MW**

- Total number of installations: **11,608**
- Total installation jobs created:<sup>4</sup> **772**

Solar Manufacturing:

- Estimated job creation:<sup>4</sup> **1671**

Public Revenue:

- Estimated Payments for Utility Scale Solar: <sup>11</sup> **\$562,500 Annually**

3Degrees  
American Wind Energy Association  
Atkins  
Bonneville Environmental Foundation  
Center for Energy Efficiency & Renewable Technologies  
Citizens' Utility Board of Oregon  
Climate Solutions  
Columbia Gorge Community College  
Community Renewable Energy Association  
DNV GL  
EDF Renewable Energy  
EDP Renewables  
Environment Oregon  
Environment Washington  
Eurus Energy America  
EverPower  
GE Energy  
Geothermal Resources Council  
Green Mountain Energy  
HDR Engineering, Inc.  
Iberdrola Renewables  
Idaho Conservation League  
Invenergy  
K&L Gates  
Kapla Law PLLC  
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 Solar Energy Industries Association  
Oregon Tech  
Orion Renewable Energy Group LLC  
OSPIRG  
Principle Power  
REC Silicon  
RES America Developments  
Solar Oregon  
Stoel Rives, LLP  
SunEdison  
SunPower Corporation  
Tonkon Torp LLP  
Vestas Americas  
Warm Springs Power & Water Enterprises  
Washington Environmental Council  
WashPIRG  
Western Resource Advocates

## Geothermal Investments:

Total Invested:<sup>2</sup> **\$270,325,745**

Total Operating Capacity:<sup>5</sup> **24 MW**

- Number of installations: **3**
- Estimated Capacity in Development:<sup>12</sup> **90-114 MW**
- Over **\$88 million** invested in development and exploration<sup>2</sup>

Public Revenue:

- Estimated Future Annual Payments:<sup>13</sup> **\$1.3 million**

Estimated Job Creation:<sup>4</sup> **320**

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## Bioenergy Investments:

Total Invested:<sup>2</sup> **\$223,291,533**

Total Installed Capacity:<sup>5</sup> **68.65 MW**

- Number of installations: **20**

Job Creation:<sup>4</sup>

Direct Construction: **210**

Permanent On-Site: **94**

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❖ All dollar values presented in inflation adjusted 2014 dollars (2014\$)

1. Cumulative totals spanning the years 1998 through the last quarter of 2014 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* ([http://www.eia.gov/forecasts/capitalcost/pdf/updated\\_capcost.pdf](http://www.eia.gov/forecasts/capitalcost/pdf/updated_capcost.pdf)) and NREL's November 2010 report *Cost and Performance Assumptions for Modeling Electricity Generation Technologies* (<http://www.nrel.gov/docs/fy11osti/48595.pdf>). 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 2014-2015 tax year, to state and local governments through property taxes, Strategic Investment Programs, 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 were estimated using *The Jobs and Economic Development Impact Model (JEDI)* developed by National Renewable Energy Laboratory (NREL). Geothermal job estimates were made for operating projects only.
5. Installation data sourced from Northwest Power and Conservation Council, county & state reports, and directly from project developers.
6. Electric generation percentage from EIA's *Oregon Electricity Profile 2013*, released July 2015 (Table 7. Electric power industry emissions estimates, 1990-2013) (<http://www.eia.gov/electricity/state/oregon/>).
7. Assuming wind turbine generation efficiency of 34% (from the 2015 PGE IRP) and typical Oregon household electricity consumption of 12 MWh annually. Electricity consumption data obtained from U.S. Energy Information Administration *Average Monthly Residential Electricity Consumption, Prices and Bills by State (2013)* ([http://www.eia.gov/electricity/sales\\_revenue\\_price/xls/table5\\_a.xls](http://www.eia.gov/electricity/sales_revenue_price/xls/table5_a.xls)). Household information obtained from U.S. Census Bureau QuickFacts, updated May 28, 2015 (<http://www.census.gov/quickfacts/table/HSD410213/41>).
8. Assuming wind turbine generation efficiency of 34% in Oregon (from the 2015 PGE IRP), 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. Assuming wind turbine generation efficiency of 34% in Oregon (from the 2015 PGE IRP). Total carbon emissions figure from EIA's *Oregon State Profile and Energy Estimates* data (<http://www.eia.gov/state/data.cfm?sid=OR#Environment>).
10. American Wind Energy Association. (July 2015), *U.S. Wind Energy State Facts – Oregon Wind Energy fact sheet*. Annual statistics updated through 2014. <http://awea.files.cms-plus.com/FileDownloads/pdfs/Oregon.pdf>
11. Estimation for existing utility scale private solar farms that are currently under Oregon's Enterprise Zones. Estimation based on total capital investment at a levy rate of 0.9%.
12. Sourced from pending applications, exploration projects, and current projects under development.
13. Estimation for new geothermal projects that have been constructed, but yet assessed. Estimation based on total capital investment at a levy rate of 0.9%.