
ENERGY INDUSTRY HAS INVESTED OVER \$7 BILLION IN WASHINGTON SINCE 2001



**Renewable
Northwest
Project**

Resource	Capital Investment
Wind	\$5,500,000,000 +
Solar PV Manufacturing	\$1,600,000,000 +
Solar PV Development	\$55,000,000 +
Geothermal	\$5,900,000 +
TOTAL	\$7,160,000,000

Recent analysis performed by Renewable Northwest Project indicates that renewable energy development and manufacturing in Washington state have generated over \$7.1 billion of new capital investment in the last decade. The development of wind, geothermal, and solar resources has created an estimated 6,167 construction jobs and more than 900 operation and maintenance jobs. In addition, these clean energy projects have contributed more than \$74 million in tax revenue, directly benefitting rural and urban communities throughout the state.ⁱ

WIND ENERGY

Wind energy leads the state's renewable industry with 2,974.9 MW of capacity installed or under construction. Development of Washington's 17+ wind farms has resulted in substantial economic benefits including:

- More than \$5.5 billion of capital investment.ⁱⁱ
- \$40 million in property tax revenue that supports local communities through public schools, fire services, rural hospitals, road maintenance, and more.ⁱⁱⁱ
- 3,215 construction phase jobs.
- 193 permanent jobs, many of which are located in natural resource dependent, rural communities, where jobs are scarce.

Wind energy development provides millions of dollars of additional local benefits in Washington through tourism, mitigation and habitat conservation, and lease payments to landowners.

SOLAR PV MANUFACTURING

REC Silicon, Washington's largest manufacturer of renewable energy materials, operates a solar grade polysilicon plant in Moses Lake. This company alone has brought the following benefits to Washington's economy:^{iv}

- \$1.6 billion of capital investment over the last 5 years.
- An average of 700 permanent, on-site jobs.
- 1,500 peak jobs during facility upgrades and expansions.
- The largest single tax payer in Grant County- \$20 million in 2011.
- \$1.3 million annually in state business and operations taxes.

SOLAR PV DEVELOPMENT

More than 8,000 kW of solar PV capacity has been installed in Washington.^v At least \$55 million have been invested since 2002, including at least \$6 million in commercial and community solar installations.^{vi} As of 2008, the PV installation industry employed 389 people in Washington.^{vii}

GEOHERMAL ENERGY

Geothermal research and development has created \$5.9 million of investment in three federally funded technology research projects.^{viii}



Wind Development

County	Capacity (MW)	Capital Investment (\$ millions)	Construction Jobs	Operating Jobs	Property Tax Revenue (in \$2009 millions)
Benton	95.9	161.8	81	12	0.3
Columbia	367.2	514.0	480	18	7.9
Garfield	342.7	727.0	250	25	(under construction)
Kittitas	463.4	895.0	750	42	4.5
Klickitat	1522.8	3015.3	1519	82	14.1
Pacific & Grays Harbor	6	15.5	35	0	(no tax liability)
Walla Walla	176.9	174.0	100	14	13.0
Total	2974.9	5502.6	3215	193	39.9

Community and Commercial Solar Development Projects
(not a comprehensive list)

Project	County	Capacity (kW)	Capital Investment
Capitol Solar Energy Demonstration Project	Thurston	20	\$154,000*
Ellensburg Community Solar Project-Phase 1	Kittitas	36	\$284,760
Ellensburg Community Solar Project-Phase 2	Kittitas	21.6	\$152,496
Orcas Solar	San Juan	97.5	\$738,563*
Puget Sound Electrical JATC	King	16.7	\$138,610*
White Bluffs Solar Station	Benton	38.7	\$230,000
Wild Horse Solar I	Kittitas	450	\$ 4,500,000
Wild Horse Solar II	Kittitas	50	
Total		1230.5	\$6,198,428

* Estimate based on national average capacity weighted installed cost of solar PV.^{ix}

ⁱ This figure represents \$40 million of total historical wind farm property tax payments plus REC Silicon's reported 2010 and 2011 payments of \$20 million and \$16 million respectively.

ⁱⁱ When calculating capital investment and job creation, developer interview data was used first (44%). When developer information was unavailable, media reports were used (33%). When media data was unavailable, conservative \$/kW estimates were used (22%), based on: Wisner, Ryan and Bolinger, Mark. Lawrence Berkeley National Laboratory (LBNL). *2009 Wind Technologies Report*. August, 2010. <http://eetd.lbl.gov/ea/emp/reports/lbnl-3716e.pdf>

ⁱⁱⁱ Property tax data was obtained from County Assessors and Treasurers. The data includes the PUD Privilege Tax paid by Energy Northwest for the Nine Canyons wind facility in Benton County. The total value of the payments is adjusted for inflation to \$2010 using the Consumer Price Index (CPI).

^{iv} Figures provided by Lon Topaz, Senior Global Commodity Manager-Energy for REC Silicon.

^v Phil Lou. Solar Washington. Washington State University Extension Energy Program. January 24, 2011.

^{vi} Due to a lack of data for solar PV costs and installed capacity, a conservative estimate of \$7/Watt was applied to the estimated 8,008 kW of Washington installed capacity as of January 2011.

^{vii} Cindi L. Holmstrom. Report to the Legislature: Analysis of Renewable Energy Systems Program. Washington Department of Revenue. December 2009.

^{viii} US Department of Energy (ODOE), Energy Efficiency and Renewable Energy (EERE). Geothermal Technologies Program. [http://www4.eere.energy.gov/geothermal/projects?filter\[field_state\]\[0\]=%22101%22](http://www4.eere.energy.gov/geothermal/projects?filter[field_state][0]=%22101%22)

^{ix} Wisner, Ryan and Bolinger, Mark. Lawrence Berkeley National Laboratory (LBNL). *Tracking the Sun III: The Installed Cost of Photovoltaics in the U.S. from 1998-2009*. December, 2010. <http://eetd.lbl.gov/ea/emp/reports/lbnl-4121e.pdf>