

Renewable Energy in Washington: State Policy and Regulations

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Washington State





Washington State

- Population = 6.7 million
- Area = 184,665 square km (71,300 square miles)
- Annual Precipitation = 970 mm/year, but ranges from 76 mm in driest areas to 5080 mm the rainforests

Seattle is the largest metropolitan area in the state, with a population of 3,344,813





Renewable Resource Development, Western United States

Capacity and Generation of Renewables (excluding hydropower)



	Total Nameplate Capacity (MW)				Total Generation
	Biomass	Geothermal	Wind	Solar	(Million kWh)
2003	798	283	1,178	8	5,742
2004	799	272	1,244	8	6,842
2005	847	307	1,759	9	8,198
2006	850	322	2,511	9	10,088
2007	885	378	4,135	97	12,241
2008	920	399	5,122	174	17,788
2009	991	485	7,491	230	19,931



Renewable Energy in Washington State

 Washington has one of the highest percentages of load met through renewable resources of any state in the U.S.A.



Washington State Fuel Mix

Electricity Sales to Washington Customers by Fuel Source (2009)

Coal 17%

Megawatt Hour Totals



Natural Gas 13%



- Washington Greenhouse Gas Emissions Performance Standard
 - All baseload electric generation for which electric utilities enter into long-term financial commitments must be lower than 1100 pounds of greenhouse gases per megawatt-hour



- Consideration of costs of carbon in long range planning and resource acquisition
 - Carbon dioxide mitigation plans required by Washington statute for facilities with generating capacities of 25,000 kW or larger
- Cap and Trade legislation proposed in Washington
- Cap and Trade program enacted in California
- Carbon Tax enacted in British Columbia



- Washington State Renewable Portfolio Standard
 - Utilities serving more than 25,000 customers must use renewable resources or renewable energy credits (RECs) to meet the following targets:
 - 3% of load by January 1, 2012
 - 9% of load by January 1, 2016
 - 15% of load by January 1, 2020 and each year thereafter



- Limits to additional development of hydroelectric facilities
 - Impacts on anadromous fish (especially salmon) and other habitats – complex, potentially very costly siting and permitting requirements
 - Few sites still available for development





Policies to Promote Renewable Energy

- Federal level:
 - Loan guarantee program
- At state level:
 - Mandate use through RPSs
- State and Federal levels:
 - Provide siting or permitting authority
 - Provide tax credits, subsidies, or incentives
 - Mandate greenhouse gas emissions requirements
 - Fund research and development



Federal Policies for Renewable Energy

- Production Tax Credit (PTC)
 - 2.2 cents per kilowatt-hour for the first 10 years of facility operation
 - Wind, solar, geothermal, and some bioenergy projects are eligible
 - Available through 2012



Federal Policies for Renewable Energy

- Transmission and siting support
 - The U.S. Department of Energy and the Federal Energy Regulatory Commission working with states to overcome siting challenges;
 - Allocation of costs for transmission
 - Local opposition to infrastructure development
 - "Not In My Back Yard (NIMBY)"
 - "Build Absolutely Nothing Anywhere Near Anything (BANANA)"



Federal Policies for Renewable Energy

- Funding for Research and Development
 - Direct funding to universities and national laboratories
 - \$2.36 billion to fund U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy
 - 53 percent increase for wind energy research and promotion
 - 22 percent increase for solar
 - 25 percent increase for geothermal



State Financial Incentives for Renewables

- Renewable Energy Production Incentives up to \$5,000 for solar projects up to 75 kW
- Tax Abatement for Solar Manufacturers 43% reduction of state Business & Occupation tax
- Renewable Energy Sales and Use Tax Exemption 100% exemption from sales tax for systems larger than 1 kW
- Net Metering up to 0.25% of a utility's peak capacity available for distributed generation projects (will increase to 0.5% in 2014)



QUESTIONS?