Washington

Biobased Fuels, Power, and Products State Fact Sheet

Growing a Cleaner, Stronger Economy in Washington

Washington has biomass resources with excellent potential. In the agriculture industry, crops such as hay and wheat produce useful residues that can be used to generate power and products. Wood products, pulp, and paper are major industries in Washington and produce valuable biomass.

An estimated 14.4 million MWh of electricity could be generated using renewable biomass fuels in Washington. This is enough electricity to fully supply the annual needs of 1,443,000 average homes or 45 percent of the residential electricity use in the state. Currently, Washington generates approximately one percent (1.3 million MWh) of electricity from biomass sources. This includes energy generated from three landfill gas-to-energy projects. There are more than 200 E85 and E95 vehicles used in Washington.

The state of Washington offers several financial incentives to encourage development and use of biopower and bioproducts. For example, the state provides a tax exemption for high technology product manufacturers, which exempts manufacturers of alternative energy resources from the state corporate excise tax. The exemption is 100 percent with no limitations. Washington State University's Cooperative Extension Service's Renewables Program assists individuals and businesses in finding solutions to energy problems that utilize renewable energy. The program offers a renewable energy hotline to answer consumer and industry questions.

Biobased Fuels, Power, and Products in Washington

Bio-Industry	Sales ($1,000)	Employees	Capacity	Number of Facilities
Power	642,773	5,876	398 MW	35
Fuels	118,000	1,150	7.7 Mgy	2
Products	11,300	50	- -	5

N/A - no information available

- - Comparative capacity data not available among products

Partners

Harris Group, Inc.
(Seattle)

Pacific Northwest National Laboratory
(Richland)

Potlatch Corporation
(Spokane)

University of Washington
(Seattle)

Washington State University
(Pullman)

Weyerhaeuser Company
(Longview and Tacoma)

Biomass Resources

Corn:	155,000 acres planted 18,500,000 bushels produced
Wheat:	2,475,000 acres planted 164,880,000 bushels produced
CRP:	1,275,416 acres enrolled
MSW:	6,638,000 tons generated
Forest Land:	21,892,000 acres
Poultry:	4,836,000 head
Livestock:	1,240,000 head

Biomass RD&D in Washington

Select a project title for details

BioFuels

U.S. Department of Energy

- Biochemical and Molecular Regulation of Crown Architecture
- Process Engineering Studies
- Implement a State-Wide Biomass to Energy Program

BioPower

U.S. Department of Energy

- CFD Modeling, Shape Optimization, and Feasibility Testing of Advanced Black Liquor Nozzle Designs for Improved Energy Efficiency
- Control of Emissions from Wood Waste Burners and Wood Dryers
- Evaluate Mechanisms of Disease Resistance
- Host Pathogen R&D
- Laser Sensors for On-Line Monitoring of Carryover in Recovery Boilers
- Particle Formation and Deposition in Recovery Boilers
- Poplar Pathology
- Selection and Development of Refractory Structural Materials for Black Liquor Gasification
- Tree Genetic Engineering Research Cooperative

BioProducts

U.S. Department of Energy

- 1,3-Propanediol Made from Fermentation-Derived Malonic Acid
- Catalytic Upgrading of Glucose
- Exploiting Genetic Variation of Fiber Components and Morphology in Juvenile Pine
- Low-Cost Energy Products from Animal Manures
- Model-Based Diagnosis of Soil Limitations to Forest Productivity
- Molecular Physiology of Nitrogen Allocation
- New Continuous Isosorbide Production from Sorbitol
- Search for Major Genes Using Progeny Test Data to Accelerate Development of Genetically Superior Loblolly Pine
- Value Added Products from Wheat Milling By-Products

U.S. Department of Agriculture

- Altering Fermentation of Plant Fiber

Environmental Protection Agency

- Meriam Foraging and Marine Resource Utilization
- Metabolic Engineering of Methylotrophic Bacteria for Conversion of Methanol to Higher Value-Added Products

National Science Foundation

- Role of Protein-Protein Interactions in Sucrose Transport

Other Activities

U.S. Department of Agriculture

- Enhancing Competitiveness of Agricultural and Forest Products
- New Economic Theories and Econometric Methods for Agricultural Economics Analysis
- State Energy Program Award for Industrial Technologies

Data sources and the data collection methodology are available in the appendices to the "Biobased Fuels, Power, and Products State Profiles."

For additional information, please contact:

Regional Contact

Jeff James
U.S. Department of Energy
Seattle Regional Office
Phone: (206) 553-2079
Fax: (206) 553-2200
jeffrey.james@hq.doe.gov

State Contact

Dr. Jim Kerstetter
Washington State University
Phone: (360) 956-2069
Fax: (360) 956-2030
kerstetterj@energy.wsu.edu

December 2001