

Five Thousand Solar Rooftops By 2005 for Washington

(20,000 by 2010)

Proposed by the Washington Million Roofs Collaborative

Current Participants in the Rooftops Collaborative:

The Washington State University Energy Program, The Washington State
Department of Community, Trade and Economic Development,
WesternSUN, it's member utilities and Solar Washington (successor
organization to WASEIA):

In keeping with the national commitment to One Million Rooftop Solar systems installed in the US by the year 2010, The Washington Million Roofs Collaborative proposes the following strategy as a guide to meeting Washington's fair share in this goal based on Washington's population. Given the growth rates in the industry, a goal of 5000 installed systems by the year 2005 is an appropriate milestone on the way to 20,000 systems by the year 2010. Further, given that Washington State industries are world leaders in the solar manufacturing, design, and installation, it is the intent of this effort to assure Washington maintains it's globally competitive position. This document is intended to be strategic in nature and will evolve as progress is achieved.

Goal:

Encourage communities to install 5000 PV systems in Washington State by 2005, and 20,000 by 2010

Strategies and tactics:

Getting the word out

- Media outreach
- Champion recruitment
- Training for champions

Making it easy

- Development of standard NEC qualified, industry approved packages
- Training for inspectors, installers
- Utility net metering

Getting the ball rolling

- Low interest financing and participation incentives (Credit Unions and Utilities)
- Sales tax exemption to 200 watt and larger PV systems
- Declining incentive blocks

Why Washington State

Industry Readiness
State Government Readiness
Utility Readiness
Financial Community Readiness
Public Readiness

Action plan key elements:

Getting the word out

Media outreach/ education

Seek opportunities to develop press releases, media information pieces. These efforts will include daily and weekly newspaper articles, television, radio interviews, and presentations at community groups.

Installer / inspector training

Trace Engineering already operates an internationally recognized training program for its distributors. Heart Interface operates training programs for OEMs and RV personnel. Siemens Solar conducts regular weeklong trainings at their Camarillo facility and has offered trainings at the Trace facility. WSU Energy program conducts design / installation workshops for the Department of Interior. These programs could be utilized to train building code, inspectors and utility officials.

Champion recruitment / communities project

Programs are most effective when supported by local champions. All interested communities will be encouraged and supported in efforts to develop local activities. Private and public utilities, municipalities, county governments, community groups, and industry partners are all potential supporting groups. Supporting groups that choose to participate will be expected to provide matching funding or other incentives.

Making it easy

Development of standard NEC qualified, Listed packages. -DONE!

These packages will be developed by the industry, and can be marketed by local installers, dealers, and other interested parties. The systems will be designed to meet the requirements for PV systems as outlined in the National Electric Code, section 690. They will use only equipment that is listed by recognized testing laboratories.

Net metering -DONE!

Net metering is a power exchange between the electric utility and a homeowner. Rather than install complex metering equipment, a conventional meter is used. When the PV system is producing electricity, the power produced appears as conservation to the utility. If a PV system includes battery storage, the PV system can be set to "disappear" from the utilities load during peak periods. In return for assisting the utility with peak load issues the customer gets to use the electric grid as a seasonal "battery", storing summer electricity for use in winter.

Low interest financing (Credit Unions and Utilities). Credit Unions exist throughout the state and already make low interest loans to their members. They are experienced with federal programs such as Fanny Mae, and the Energy Efficient Mortgage Program. Funding from these federal programs will be made available through the national "Million Rooftops" program.

Getting the ball rolling

Sales tax exemption -DONE!

Extension of the current utility scale renewable energy sales tax exemption to 200 watt and larger PV systems. Currently, state law exempts wind and solar energy generation systems and equipment from state sales tax. However, this exemption was written to benefit large utility companies and has a 200 kW floor. To benefit participants in the national million rooftops program, or the Washington "5000 Rooftops" effort, a language change in current law is recommended. The 200 kW limit should be lowered to 200 watts. WASEIA has introduced legislation to achieve this end.

Declining incentive blocks. This strategy needs reworked in light of emerging utility support patterns and state green rate

It is assumed that the program would be developed in incentive blocks. The incentives would decline in each block. Declining blocks are intended to encourage 1) Early participation by consumers, 2) Spread limited funds over a larger participant base as program grows. 3) Reflect the assumed declining installed PV system cost. It is assumed that the average unit size in the program is 1 kW. The federal system size requirements establish a minimum size of 500 W for residential and 2000 W for commercial systems.

Activity	Block 1	Block 2	Block 3	Block 4	Block 5	Total
Manage and Implement	(0.5fte) 50,000	(1fte) 100,000	(1.5fte) 150,000	(1.5fte) 150,000	(1fte) 100,000	
Market /Training	20,000	40,000	60,000	50,000	30,000	
Incentives	0.1MW 100 units \$3 /w 300,000	0.15MW 150 units \$2.50 /w 375,000	0.25MW 250 units \$2 /w 500,000	0.35MW 350 units \$1.50 /w 525,000	0.55MW 550 units \$1.00 /w 550,000	1.4 MW 1400 units 2,250,000
Totals	370,000	515,000	710,000	725,000	685,000	3,000,000

This project is currently envisioned as a five year-year effort funded from DOE, EPA, HUD Washington Rooftops Collaborative and other funding. At this time funding is available for 20 of the systems in block one, and at a buy down of one dollar per watt. rather than the suggested amount of three dollars a watt. The implementation plan of this buy down mechanism will be based principally on the guidelines drafted by the California Energy Commission's guidelines.

Why Washington State?

Washington State is uniquely positioned to be a leading participant in the national million rooftops program. It has the industrial base, a positive government climate, a progressive utility community, a strong environmental consciousness on the part of the public, and financial institutions ready to contribute their skills.

The solar resource in Washington state is often underestimated. Our northern position relative to the equator assures more long summer days with sun in Yakima, WA, than shines in Prescott, AZ. during the same time period. Yakima receives 7.2 peak sun hours a day in July, while Prescott Arizona receives 6.9 during the same month. Even Seattle WA, receives 6.1 peak sun hours during the month of July. Net metering allows "banking" of the sun's energy in stored river water behind the region's dams.

Industry Readiness

Washington State has an active industry association. Washington State is home to a significant portion of photovoltaic crystal growing. The Siemens plant in Vancouver grows 20% of the world supply of PV materials. Trace Engineering is the undisputed world leader in balance of systems manufacturing. Applied Power is a world class PV systems integration company. Small-scale sales, service, and installation businesses currently operate statewide.

State Government Readiness

The Washington State University energy program has been actively encouraging the growth of Washington's PV industry through PV demonstration grants, workshops, and technical assistance. WSU provided funding to help establish an international renewable energy-training program at Trace Engineering. The University has been involved in both national and international PV training / installation programs. The State legislature is considering both net metering and sales tax exemptions. -
DONE!

Utility Readiness Needs revisited in light of formation of WesternSUN and it's utility member programs.

Clark County Public Utility District is clearly ready to take the lead in utility participation in the million rooftops program. Snohomish County PUD, the largest public utility in the State has purchased power from 100 kW and smaller providers at retail rates since 1982. Okanogan Valley Electric Co-operative recently adopted a net metering policy that is a model for small public utilities. Washington utilities have been leaders in market transformation in the conservation field. The Washington Association of Rural Electric Cooperatives has actively encouraged net metering and sales tax exemptions before the state legislature.

Financial Community Readiness Needs revisited, a strategic effort is due here

The Coulee Dam Federal Credit Union, with its service territory in North Eastern Washington, has been making loans for PV systems since 1981 and finances many off grid homes. They have committed to offer interest rate buy downs in the 2-3% range and would be interested in participating on other innovative financing programs. The Coulee Dam Credit Union has been a long time leader in the Washington Credit Union Association and could help bring other credit unions to the table.

Public Readiness 58+ Net Metered Systems now in place

Washington residents have a demonstrated commitment to environmental awareness. Washington is a leader in recycling, telecommuting, air quality standards, and energy conservation. Estimated 2000 PV systems have already been installed in Washington State. These systems are found in all parts of the state, with a preponderance of them located in the San Juan Islands and North Eastern Washington.