

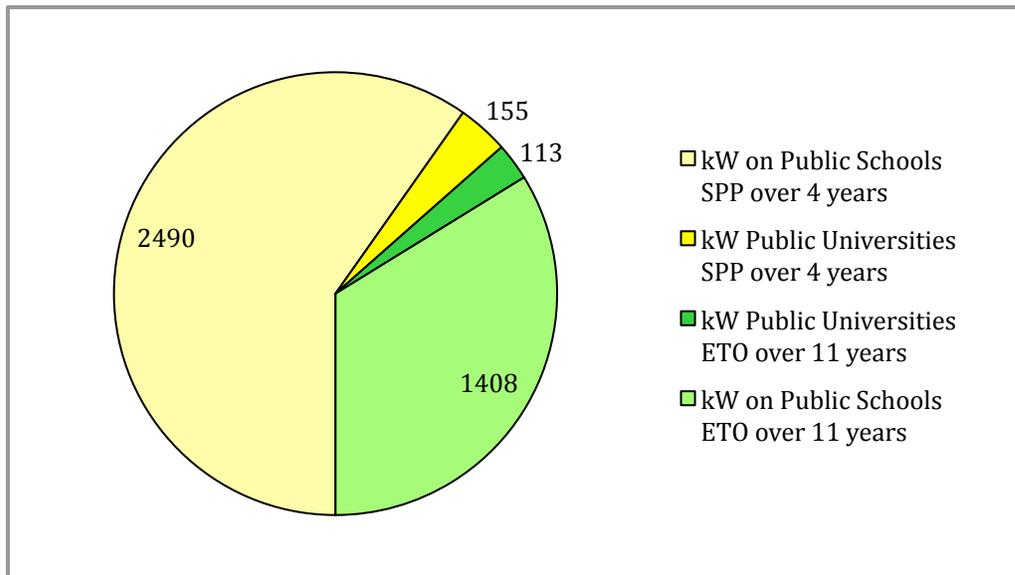
January 2015

## The Solar Pilot Program has been a Big Success for Oregon

### Community Projects:

The production based payments of the Solar Pilot Program have shown themselves to be well adapted to installation of systems on community buildings, far exceeding installations under previous programs:

- 11.5% of the Program capacity has been installed on public schools and universities
- 2/3 of the solar installed on public schools and universities in Oregon since 2002 has been installed under the 4-year Solar Pilot Program.
- Solar Pilot Program systems were larger:
  - 63% larger for public schools
  - 100% larger for universities.



Data provided by Oregon Public Utility Commission

Solar arrays on schools are bringing immediate and long term energy savings and in many cases have won schools additional grants for ancillary educational programs based on the school's renewable energy production.

The Solar Pilot Program facilitated installations on public and private institutions. Medium- and large-scale systems, suitable for schools and churches, were financially viable projects for solar installers and investors. Numerous organizations throughout Oregon have benefited from partnerships with development companies to install solar for their buildings. In many cases, the developer owns and operates the system for a period, but the institution receives annual financial compensation for leasing their roofs or grounds.

Here are a few examples of how this program has enabled solar to flourish for Oregonians:

**Beaverton and Gladstone School Districts** both installed **100kW** on each of **three** schools at no cost to the districts, developed by Kenyon Energy. A locked-in energy rate enables the Beaverton School District to save \$18,000 annually in energy costs. According to Richard Steinbrugge, Executive Administrator for Facilities, “It was critical for us to take advantage of the FIT or not be able to do this type of solar projects. No upfront costs, no maintenance costs, no risk. All of those concerns are on the investor. Solar does not pencil out for schools without government assistance.”



Springville School in Beaverton, Oregon.



Elmonica School in Beaverton, Oregon.



Installing panels on Gladstone High School in Gladstone, Oregon.

The Solar Pilot Program allowed an individual in **Roseburg** to use his retirement funds to install a solar system on the **Phoenix Charter School**. The school, which had been aspiring to acquire solar for years, now has a **33kW** system. “The Solar Pilot Program benefited this project because it made the investment potentially profitable, therefore attractive and feasible.”



Phoenix High School in Roseburg, Oregon.

The **Albany School District** has installed solar on **15 buildings**. According to the district’s business manager, Russ Allen, “This opportunity came up during the economic downturn” and is earning the school district \$35,000 a year, which is “half a teacher’s salary, so we saw this as a win-win for us

**Mt Angel Middle School** installed a **450kW** ground mounted array under the Program.



**Mount Angel Middle School**



**The First Congregation Church, Salem, Oregon**

**The First Congregation Church, Salem,** was not in position to invest in solar as it was recovering financially from flood damage to the building. The congregation had wanted for a long time to put up a solar array to offset their energy consumption and to proclaim their dedication to Creation Care. With the Solar Pilot Program, members were able to loan their long term savings to the church with the assurance that they would get their money back with a small (~4%) return on their investment over the 15 years. The church is now known throughout the community because of its very visible 10kW solar array complementing its beautiful building.



**Musicians Union Hall, Portland, Oregon**

The Solar Pilot Program enabled the 9.9 kW installation on the **Musicians Union in** Portland, Oregon. The project was on pencil for both the union and the investor, providing less than a payback. “Participating in Solar Pilot Program was the only way that they could move forward with solar.”



**Unitarian Universalist Fellowship, Corvallis Oregon**

The **Unitarian Universalist Fellowship in** Corvallis, Oregon, used its endowment funds to finance a solar system on the church building. They installed a 10kW system on their rental property in 2014. A contractor did the work at cost, resulting in a 10% ROI for the endowment.

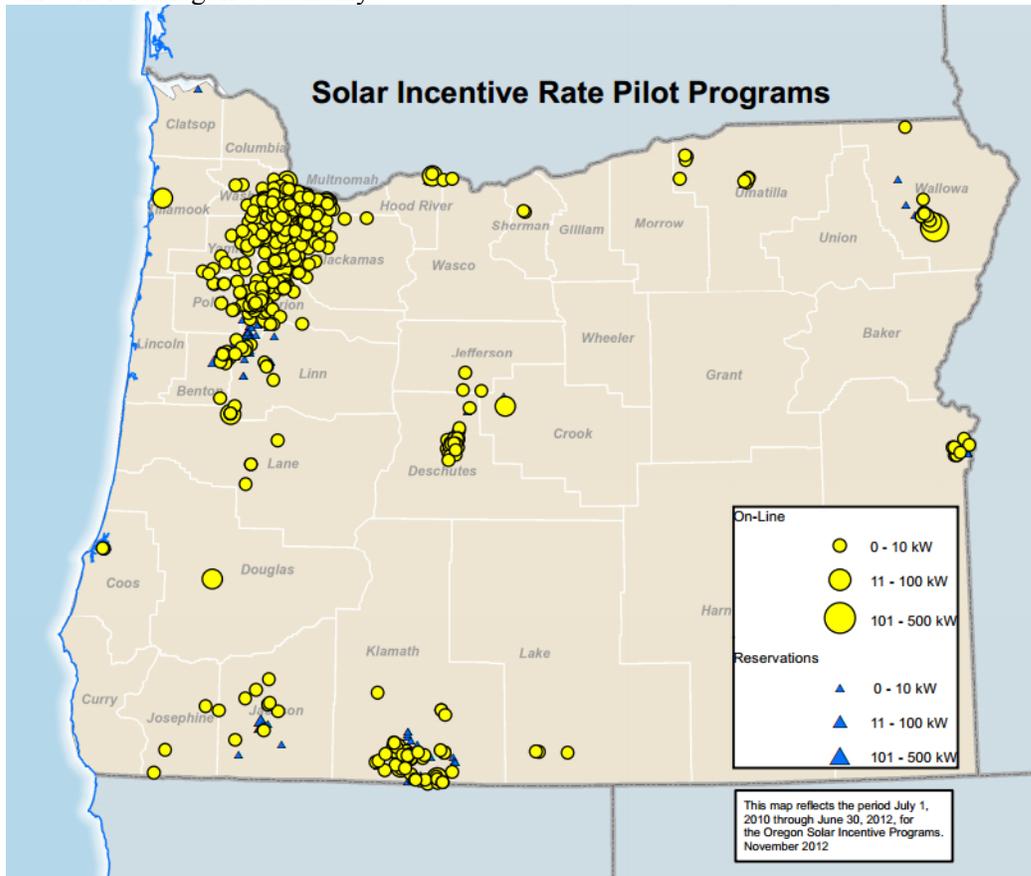
This is just a sampling of projects on community sites developed under the Solar Pilot Program. Each of the projects demonstrates near term financial benefits for the hosting organization as well as the investor, and long term gains for the host. The short term benefits to the host can go beyond the financial. For example, the Beaverton School District was awarded a \$45,000 donation in equipment to monitor the system in classes, online, provide teaching tools, training for teachers, and so forth.

Host-developer partnerships include a termination date, at which point the host will either assume ownership of the solar system at no cost or be able to purchase it for a nominal fee. For organizations that could not otherwise finance solar, this is a tremendous long term gain with free energy supporting the institution’s programs for years to come.

That most of the projects described above were financed by single third-party entities is not a result of the way the Solar Pilot Program is designed, but rather a result of other hurdles. Until the passage of **SB 1520, the Renewable Energy Cooperative Bill**, in the spring of 2014, there were substantial barriers to shared-ownership of renewables in this state. The success of the Salem church installation is the exception that, with the passage of SB 1520, is now available to members of organizations throughout the state. An extension of the Solar Pilot Program will make it possible for ordinary Oregonians without their own roofs, or those with savings that are available now but needed for retirement, to invest in cooperatively owned systems just like the projects described above.

**Economic Benefits to Oregon:**

The SPP has brought a rush of private investment into solar energy development throughout the state, creating jobs, tax revenue, and recirculation of that money locally. Most of the projects installed under the Solar Pilot Program have also allowed federal dollars to be brought back to the state in the form of 30% federal tax incentives. Moreover, every kWh produced with Oregon sunshine is a kWh of energy we do not have to purchase from out-of-state fossil fuel generation, thus keeping some of Oregon’s \$12 billion energy dollars here at home. The SPP has been a win-win-win for Oregon’s economy!



Solar Pilot Program arrays have been installed in IOU territory throughout the state. Systems installed as of June 30, 2012.



Illustrative photo not from Oregon

Many rural 10kW systems were installed to power irrigation systems. A great number of these systems were installed by union labor with ongoing contracts for operations and maintenance.

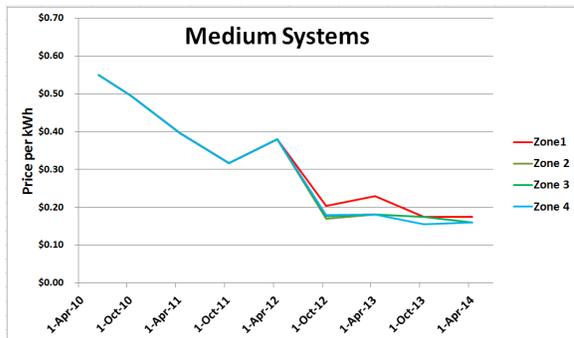
The Solar Works for Oregon Coalition is compiling data on union-installed systems and has to date identified 2.14MW in southern Oregon alone.

## Solar Costs Driven Down by Market Development

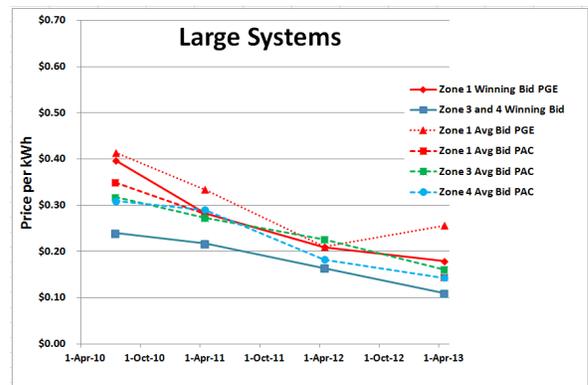
The state's Solar Pilot Program (SPP) has effectively and successfully created a very small but competitive marketplace that has been instrumental in driving down the cost of larger solar projects. For example, for a 500kW system in Pacific Power's territory, the winning bid price in 2010 was 24¢; by 2013 the winning bid was 11¢ - a drop of 54% in three years! Much of that gain was in soft costs.

How? The increase in solar installations has smoothed the process for new projects. For example, Obsidian Solar's budget for legal fees has dropped more than 90%. The total cost and fees charged by developers has dropped about 75%. These soft cost savings are properly credited to Oregon's solar programs, not to falling panel prices.

The program tariff rates have also benefited from rapid global reduction in the price of solar photovoltaics. Further reduction in these hard costs coupled with market development reductions in soft costs will continue to drive down the tariff payments needed for projects to pencil out.



Prices for medium-scale systems driven down over time by alternative set prices and competitive bids.



Prices for large-scale systems driven down over time by competitive bid.

## Value of Electricity Produced

Note that the value of the electricity produced is included in the tariff rate paid by the utilities for electricity fed into the grid. In the pilot, the entire payment rate was given the misnomer, Volumetric Incentive Rate (VIR) and will be renamed as "Volumetric Production Rate" in the proposed extension. The actual incentive is the amount paid in excess of the value of the electricity.

"The utility estimates of the resource value of solar (ie the value to the utility) range from 5.5 to 6.7 cents per kWh. The Commission will be conducting a comprehensive study of this subject in the future." (PUC Jan 2015 Report). The above rates are expected to be conservative, based on a previous 2012 docket investigating the resource value of solar.

The incentive portion of Volumetric Production Rates going forward is expected to start at about 7 to 9 cents per kWh. The incentive portion in the small scale portion of the original Solar Pilot started at about 59 cents per kWh. The mature, larger-scale-oriented program as proposed in LC



2515 will be commensurately more cost effective for Oregonians.

## **Solar Pilot Program Details for Medium- and Large-Scale Systems**



### **Excerpts from PUC Jan 2015 report:**

“The Commission has allocated the 27.5 MW total program capacity to the three electric companies based on retail sales in Oregon: PGE 16.3 MW; PacifiCorp 10.8 MW, and Idaho Power 0.45 MW.”

**“Rates for all medium-scale systems dropped from a high of \$.55 per kWh in July 2010 to just \$.16 per kWh in April 2014. “**

“The Commission has used competitive bidding to set the rates for large-scale systems. **The highest winning bid for PGE dropped from nearly \$0.40 per kWh in the first enrollment window to just over \$0.17 per kWh in the 2013.**”

**“The Commission found no fundamental difference in system cost trends between programs, with one exception: the reverse auction mechanism for large systems under the VIR pilot has consistently provided the lowest energy and installation costs among the programs.”**

The process of alternately setting and bidding on rates in the medium scale was phenomenally successful at driving down the rates from 55 to 16cents/kWh while offering set price contracts in the alternate window to enable convenience of applications for community projects.

“As of July 2014, the pilot program had resulted in over 23 MW of installed solar capacity in Oregon. Participants installed 13.5 MW of solar capacity in PGE’s service territory; 9.2 MW in PacifiCorp’s service territory; and 0.4 MW in Idaho Power’s service territory. The pilot program is on target to achieve the goal of 27.5 MW by the end of 2015.”

**“The estimated rate impact is highest in the early years of the pilot due to start-up costs in establishing the program processes and procedures.** Rate impact declines over time, resulting in an average of about 0.25 percent of revenue requirements. The estimated average annual rate impact from the entire 15-year pilot program is 0.28 percent of revenue requirement for PGE customers; 0.22 percent of revenue requirement for PacifiCorp customers; and 1.3 percent of revenue requirement for Idaho Power customers.”

Idaho Power’s rate impact was very high because all the start up costs were spread over very little capacity. We now have the opportunity to capitalize on the existence of a mature, streamlined program for which the administration is well established.

Moreover, the above-value rates needed now are less than one fifth what they were at the start of the program and expected to continue to decline. We now have an opportunity to get a huge bang for the buck we have already invested in this successful program.