

February 17, 2015

Representative Jessica Vega Pederson
Chair, House Committee on Energy and Environment
900 Court St. NE, H-285
Salem, Oregon 97301

RE: Testimony on HB 2632

HB 2632: Proposal for Larger Scale Solar Projects

Concept: The state of Oregon, its citizens, its electric utilities, and their customers would all benefit from having greater experience in the state with larger scale, lower cost solar. Oregon has only one solar project of 5 MW_{AC} capacity or larger—the Outback project in Central Oregon. The costs of generating electricity from solar energy through photovoltaic panels have declined considerably in the last few years. Oregon can drive the cost of solar down even more by building more projects and following consistent policies that would allow a pipeline of projects to develop.

Objectives: (a.) Continue to drive down the cost of solar by encouraging more plants to be built in Oregon. (b.) Utilize a low-cost production based incentive and transfer the Renewable Energy Credits to the State during the incentive period to help the State reach its renewable energy goals. (c.) Reduce the incentive over time; seven year program sunset.

Explanation: A production based incentive avoids the problem of dollars out before results are assured. The incentive would be a fraction of the cost of previous incentive programs. Solar plants using this incentive would not be eligible for incentives under the Energy Trust of Oregon programs.

1. Why was this legislation proposed?

Larger scale solar facilities can now be built in larger scale in the sunny part of the state at “renewable energy avoided costs” recently incorporated into the PURPA rate schedules for PGE and PacifiCorp. (Idaho Power was excused from the requirement to establish renewable energy avoided costs.) Unfortunately for these projects, the PUC also approved the utility requests to delay the date when they pay renewable energy avoided costs for 7-8 years.

That created a trough when power rates are 4-5 cents rather than 8-9 cents per kilowatt-hour. However, during that trough, the utilities do not get the environmental green tags (the Renewable Energy Credits or “RECs”) because they are not paying renewable energy prices.

So we came up with idea of replacing state subsidies with a sale of the RECs to the state. The state can use the RECs to meet its own renewable energy goals. For example, the state could

use them to “green-up” a portion of its energy use from coal or gas. Or the state could make the RECs available by resale to help companies meet other carbon obligations.

2. How was the pricing reached? Is it fair to the state?

The price for the RECs is the minimum necessary to get these projects built. It is not a complete offset of the price differential until renewable energy avoided costs kick in, but it helps backfill the gap.

Based on a federal study¹ and a Report by the Minnesota Public Utility Commission,² the environmental cost of the CO₂ produced by burning natural gas is about 2.7 cents per kwh levelized over 25 years and the environmental cost of burning coal is about 5 cents per kwh levelized over 25 years. So 2-3 cents for a kWh green tag is a fair value for the environmental benefits.

Finally, solar costs are coming down and will continue to come down. Chinese manufacturing is only part of the reason; there are many other factors contributing to lower cost solar. So the proposed legislation includes lower pricing for larger projects, and a 10 percent per annum step down in pricing for all projects that come on line after the second year. The program sunsets for new projects after 7 years.

3. Why the pricing differential?

The starting prices are two cents in the sunny part of the state and three cents in the less sunny part of the state. That is the maximum cost to the state for the RECs. Projects over 20 megawatts of capacity will scale down with the largest eligible projects set at 45 megawatts (the largest size our land use rules permit without special hearings and approvals). Projects built after the second year will see all these rates decline 10 percent per annum. The reason for the difference is that more sun makes the projects more efficient and requires less assistance, and larger projects get an economies of scale that requires less incentive.

4. What are the alternatives?

A utility mandate to purchase the RECs from these projects was also considered. A sale of RECs to the state was preferred for three reasons. **First**, many thoughtful lawmakers and advocates have concerns about utility mandates. We wanted to come up with a program that utilities and ratepayer advocates could support. **Second**, the state has a tradition of supporting the development of renewable energy, and this program will cost a fraction of earlier programs and will result in a significant amount of solar being built. Oregon has a legitimate interest in returning to its earlier position as a leading solar state. **Third**, the program was designed to include all the many customer owned utilities in the state, not just

¹ Federal: <http://www.whitehouse.gov/sites/default/files/omb/assets/infogov/technical-update-social-cost-of-carbon-for-regulator-impact-analysis.pdf>, see Appendix A

² Minnesota: Minnesota Value of Solar: Methodology; Minnesota Department of Commerce, Division of Energy Resources, April 1, 2014

the investor owned utilities. There will be several solar projects built by (or for) customer owned utilities as a result of this legislation.

5. What is the expected cost to the state from acquiring these RECs?

Of course, that depends on how successful the program is and how many projects get built. Oregon has about 85 MW of solar constructed to date. Costs have been estimated assuming that this program results in 500 MW of solar constructed! That number assumes 100 MW built each year for 5 years. That may be faster than possible, due to transmission and interconnection constraints.

The total costs of the program over its life (11 years) if built out to 500 MW is estimated at \$83 million, or \$7.5 million per year. The program ramps up for five years. The estimated costs for the first two years (the 2015-17 biennium) is \$8.1 million (\$4 million per year). At its maximum three years, 2019-2022, the annual cost is estimated to be \$11.8 million per year.

6. How does this compare to other support programs used by larger solar projects?

This program would take about \$.20-.25 in financial support over 7 years, in the aggregate. By comparison:

- a. BETC: 50% of project cost; \$2 per watt of capacity
- b. ETO: Up to \$1 per watt of installed capacity on large projects
- c. Feed in Tariff: 5 – 20 cents per kWh over avoided cost on larger projects, over 15 years. (\$1 to \$4 per watt of capacity in the aggregate)

Comments submitted by:

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