

ITEM NO. 1

PUBLIC UTILITY COMMISSION OF OREGON
STAFF REPORT
PUBLIC MEETING DATE: June 10, 2014

REGULAR CONSENT _____ EFFECTIVE DATE June 10, 2014

DATE: June 6, 2014

TO: Public Utility Commission

FROM: Adam Bless *AB*

THROUGH: Jason Eisdorfer, Maury Galbraith, and Aster Adams
ME *ME* *aa*

SUBJECT: OREGON PUBLIC UTILITY COMMISSION STAFF:
(Docket No. UM 1673) Commission Report to the Legislative Assembly on Investigation into the Effectiveness of Solar Programs in Oregon, pursuant to 2013 House Bill 2893.

STAFF RECOMMENDATION:

Staff recommends the Commission finalize the House Bill 2893 report and submit it to the Legislative Assembly by July 1, 2014.

DISCUSSION:

The 2013 Oregon Legislature passed House Bill 2893 directing the Oregon Public Utility Commission to study the effectiveness of the state's solar energy incentive programs and report to the Legislature on its findings. Section 4 of the bill states:

(1) The Public Utility Commission shall study the effectiveness of programs that provide incentives for the use of solar photovoltaic energy systems. As part of the study, the commission shall:

- a) Investigate the resource value of solar energy;
- b) Investigate the costs and benefits of the programs for retail electricity consumers and how those costs and benefits are distributed among retail electricity consumers;
- c) Forecast the costs associated with solar photovoltaic energy systems located in Oregon;
- d) Identify barriers within the programs to providing incentives for the development of solar photovoltaic energy systems; and

- e) Make recommendations for modifying the programs or establishing new programs for the purpose of providing incentives for the development of solar photovoltaic energy systems in a manner that is cost effective and protects ratepayers, including ratepayers that do not participate in the program.

(2) The commission shall consult with the State Department of Energy in conducting the study described in subsection (1) of this section.

(3) On or before July 1, 2014, the commission shall report on the results of the study, and may include recommendations for legislation, to the interim committees of the Legislative Assembly related to energy.

On September 23, 2013, the Commission opened Docket No. UM 1673 to gather information and public comment for the report required by section (3). Staff held workshops in October and November 2013, and requested written comments from parties by December 19, 2013. The Commission held a public workshop on January 16, 2014, where it heard oral comments from the parties. Staff issued a first draft of the report on May 7, 2014, and received comments from the parties on May 23, 2014.

The Commission received comments from the Joint Interveners¹, the Alliance for Solar Choice (TASC), Chris Robertson, Oregonians for Responsible Energy Progress (OREP), Clean Coalition, Oregon Department of Energy (ODOE), Renewables Northwest (RNW), Obsidian, PacifiCorp, Portland General Electric (PGE) and Citizen's Utility Board of Oregon (CUB).

The parties' comments were greatly varied and covered a wide variety of topics. Because of the large number of issues raised by the parties, this memo could not address every one. However, there were high level issues that were common to several parties, which we discuss below. Staff recommends that the Commission consider all of the suggestions made by the parties in their comments on the May 7, 2014 draft report.

¹ The Joint Interveners are the City of Portland, Environment Oregon, Oregon Chapter of the Sierra Club, Oregonians for Renewable Energy Progress, Oregon Solar Energy Industries Association, Renewable Northwest, and Solar Oregon.

ISSUES RELATED TO RESOURCE VALUE OF SOLAR

1. The draft report does not calculate a Resource Value of Solar

The Joint Interveners, RNW, Obsidian, and CUB called for a complete Value of Solar calculation. RNW and Obsidian commented that any discussion of cost shifting and cost effectiveness of solar programs is incomplete without knowing the value of the energy generated by solar projects. RNW, Obsidian and the Joint Interveners commented that we could add the 6.7 cents per kilowatt-hour(kWh) avoided cost reported in UM 1559 (the value of avoided energy, avoided capacity, and avoided transmission losses) to the "typical" value of "soft" benefits reported by studies outside Oregon, to reach a total solar value. This would produce a solar value in the range of 11 to 13 cents.

2. Value of Distributed versus Utility Scale Solar

RNW commented that net metered systems have real value in avoided distribution costs, especially at peak demand. RNW provided its own calculation of avoided transmission and distribution benefit to PacifiCorp, and stated that commercial solar correlates better with peak load than residential solar. ODOE also commented that avoided transmission and distribution costs have value. Clean Coalition suggested giving more credit for avoided transmission and distribution costs, and cited a calculated value of 1.94 cents/kWh for Palo Alto, California.

3. Value of Environmental Benefits

Several parties called for specific value of environmental benefits. RNW, for example, provided a table of values for avoided carbon costs ranging from 0.2 to 2.7 cents/kWh.

4. Capacity Value of Solar

RNW commented extensively on the capacity value of solar. Staff notes that this issue will be covered in greater detail in the Commission's review of the utilities' compliance filings with phase 1 of docket No. UM 1610, which will result in actual avoided cost price schedules.

ISSUES RELATED TO COSTS AND BENEFITS OF SOLAR ENERGY

5. The draft report should show the low cost being achieved by large scale projects.

Robertson and Obsidian both provided information on low bid prices currently being offered for projects larger than 500 kW. Obsidian commented that “large scale solar can be built in the sunny part of the state for \$90/Megawatt-hour (MWh) or less, with an annual escalator of 2-3 percent.” Obsidian also commented that under the Volumetric Incentive Rate (VIR), there were large scale Power Purchase Agreements (PPAs) at 10.95 cents/kilowatt-hour (kWh), and less than 9 cents with a 2 percent escalator. Obsidian also described the decline in legal, marketing, permitting and construction costs of its large projects between 2010 and 2013. ODOE commented that utility scale projects should be presented separately, with an explanation of the Energy Trust (ETO) and Business Energy Tax Credit (BETC) contribution to utility scale projects.

6. Cost of Solar Energy compared with Other Energy Sources

Obsidian commented that the draft report does not identify the source of the energy costs in Chapter 4, Figure 8. Obsidian says that the costs on that figure are taken from utility Integrated Resource Plans, and that the Commission should not accept those numbers without critical thinking. Robertson commented that the solar energy costs in Chapter 4 are based on outdated information, and should reflect the lower costs now being achieved with best practices.

7. Classification of “hard” and “soft” benefits

Robertson, OREP and TASC disagreed with the way the draft report divides solar benefits into “hard” and “soft” benefits.

ISSUES RELATED TO THE EVALUATION OF PROGRAMS

8. The draft report overstates the cost of the Volumetric Incentive Rate pilot.

OREP and Obsidian stated that the 31 cent/kWh VIR incentive cost in Table 6.2 is too high. OREP commented that the incentive cost in the VIR pilot is not the full VIR rate, but rather the VIR rate minus retail. OREP performed its own calculation, subtracting the retail rate from the VIR rate to arrive at the actual incentive payment. This resulted in a cost to ratepayers of about 15.7 to 18.7 cents/kWh for PGE and 20.1 to

23.1cents/kWh for PacifiCorp. OREP also commented that the incentive costs for the VIR pilot are zero after year 15, since the payments to participants after year 15 are based on the resource value of the energy produced.

9. Assumptions in Evaluation of Programs

OREP questioned the selection of 20 years as an evaluation period and seven percent as a discount rate in the evaluation of solar programs in Chapter 6.

10. Total Solar Energy Costs in the Evaluation of Solar Programs

Robertson and Obsidian disputed the levelized solar energy costs in Table 6.1. Obsidian commented that Staff inflated these costs by adding in tax credits and other incentives. PacifiCorp recommended that the impact of federal tax credits be incorporated into the calculation of levelized energy cost.

11. Comparison of Oregon Programs with a "True" Feed-in Tariff

OREP commented that the Oregon VIR program is not an advanced feed-in tariff (FIT) such as the one in Germany. Robertson also called for comparisons between the Oregon VIR pilot and the German FIT. Both parties commented that the FIT in Germany has been successful in lowering solar costs, and that no discussion of solar programs is complete with a discussion of a true FIT.

ISSUES RELATED TO CROSS SUBSIDIZATION

12. Cost shift issue related to fixed cost recovery with net metering

The draft report states that net metering customers avoid paying some of the utility fixed costs of transmission and distribution, resulting in a cost shift to non-participating ratepayers. Robertson, TASC and OREP described this as an unsupported statement. Obsidian commented that this is a difficult issue that has not been well explored, it should be examined in a process where more time is available, and it is primarily a residential issue. ODOE recommended a cost shift of retail minus 6.7 cents/kWh, which would be further reduced by savings in avoided transmission and distribution and fuel price hedge. RNW commented that the question of fixed cost recovery is not a subsidy but a consequence of rate design. TASC objected to the reference to PacifiCorp testimony regarding a cost shift in Utah, and to the use of PacifiCorp's informal estimate

of an analogous cost shift in Oregon. TASC also objected to the description in the draft report of California bill AB 327 as a remedy for cost shifts associated with net metering. TASC stated that the description of AB 327 should read "...AB 327 directs the California Public Utilities Commission to perform a comprehensive study of fixed cost recovery for all customers, in the context of rate reform."

13. Cost shift issues in light of resource value of solar

RNW commented that an assertion of cost shifting is only possible by artificially divorcing the discussion of cross subsidization from the cost-benefit analysis. RNW stated that the correct way to consider the question of cost shifting would be to calculate a complete resource value of solar, and compare the resource value to resource cost. Robertson called for a "total resource cost" approach.

ISSUES RELATED TO RECOMMENDATIONS

14. Recommendations for New or Modified Programs

Robertson, the Joint Interveners, and Obsidian commented that the draft report does not recommend new or modified programs. OREP and ODOE made specific suggestions for recommendations to the legislature. ODOE recommended that the State maintain aggressive incentives for solar until 2017 in order to get maximum benefit from the federal investment tax credit before it expires.

15. Recommendations regarding barriers to solar development

The Joint Interveners named a number of barriers not mentioned in the draft report, including lack of policies that support community solar, lack of public education and lack of adequate marketing. OREP provided a list of recommendations, many of which would be under the jurisdiction of agencies other than the PUC.

Conclusion

Staff appreciates the time and effort that went into the detailed comments of all parties on the first draft of this report. This summary is not intended to be a substitute for the parties' complete comments. All comments were reviewed, whether or not they appeared in this memo. Staff looks forward to hearing parties' oral comments at the June 10, 2014 Commission public meeting.

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PROPOSED COMMISSION MOTION:

Staff recommends the Commission finalize the House Bill 2893 report and submit it to the Legislative Assembly by July 1, 2014.

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