

**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON
UM 1505**

In the Matter of)	
)	
Public Utility Commission of Oregon)	Dave Sullivan’s suggestions
)	for the workshop and
Solar Photovoltaic Draft Report)	procedural schedule conference
Comments and Recommendations)	that will occur on January 20th
)	

Executive Summary

Fairness and transparency in governance suggest two fundamental questions should be resolved quickly about Oregon’s pilot solar incentive program:

1. **The program’s scope needs to be decided.** Will the pilot program be limited to a 0.25 percent rate impact as its legislative mandate implies, or will the PUC decide to expand the program to have substantially larger rate impacts?
2. **The method of setting incentive rates needs to be decided.** Will rates be set by market-based methods (such as an auction), or will rates continue to be based on historical cost models?

Everyone associated with the program – from solar installers to homeowners and the Oregon Legislature – needs to know how these two questions will be answered. The rest of this document contains my suggestions related to these questions, and I’ve organized my comments in two parts:

- **Part 1: Suggestions for the January 20th staff workshop.**
- **Part 2: Suggestions for the January 20th conference to set the procedural schedule.**

On January 20th I will be on a cruise ship off the Mexico coast, so I won’t be able to participate even by phone in the January 20th meetings. Nonetheless, I want to thank the PUC in advance for giving me an effective way to submit suggestions through the nifty eDocket system.

Sincerely,



Dave Sullivan, signed on January 8, 2011

Part 1: Suggestions for the January 20th staff workshop.

This part's eight suggestions (numbered 1.1 through 1.8) are in order of decreasing significance: The first two suggestions are far more important than the remaining six.

Suggestion 1.1: Limit the pilot solar incentive program so its cost does not exceed 0.25 percent of each utility's revenue.

In one important way, the pilot solar incentive program has been a success: We now know Oregonians will respond enthusiastically if they are paid 30 to 65 cents/kilowatt hour for solar-generated electricity. This steep price dwarfs the 3 to 4 cents/kilowatt hour that utility companies pay for electricity generated by more conventional methods, such as hydro, gas, or coal. Unlike conventional sources, solar power cannot be turned on or off to meet demand, so solar power's economic value to utilities is lower than conventional sources because it does not help meet peak electrical loads.¹ Given what we have learned from the pilot program so far, my quick back-of-the-envelope calculations suggest that if the pilot program is expanded so 20 percent of Oregon's power is generated by solar panels, then Oregon's electricity rates will more than double.

Oregon's Legislature didn't know how expensive the pilot solar incentive program would be, so to play it safe the program's enabling legislation suggests the PUC should limit the program's size to make sure:

“... the rate impact of the pilot program for any customer class does not exceed 0.25 percent of the electric company's revenue requirement for the class in any year.”

We are rapidly approaching this rate impact for all customer classes and all utility companies in the program. The PUC needs to decide whether to abide by the suggested rate limit or to expand the program beyond its expected economic impact.

Expanding the program beyond its expected economic impact is primarily a political question – not an administrative question. If the Legislature wants to expand or revise the Oregon's solar incentive programs, it can easily do so (with Governor Kitzhaber's signature).

¹ Mark Pengilly has submitted an eDocket argument that solar-generated electricity “serves load” because it is primarily available during the summer. His argument might make sense for places located near the equator like Hawaii – but his argument makes no sense for Oregon's temperate climate. Oregon's peak electrical usage occurs around 8 a.m. on chilly winter mornings as people raise their homes' temperature for the coming day. Even during the summer, solar power does not “serve load” as Pengilly suggests. The peak summertime electrical load occurs around 6 p.m. when air conditioners are still running and evening activities like cooking kick in. But by 6 p.m., solar panels will produce little electricity.

Perhaps the best reason for deferring to the Oregon Legislature comes from its ability to revise Oregon's renewable energy programs in total – rather than funding just solar electric systems with incentives. Thus, based on the high costs we have seen from the pilot solar incentive program, the Oregon Legislature might decide to expand the incentive program to allow competition from biomass, geo-thermal heat, tides, wind, or other renewable sources.

Oregon's PUC has a simple mission statement, and according to its website, the mission statement was “modified in 2000 to reflect an increased emphasis on competition in the statutes and Commission proceedings”. The mission statement says the PUC will:

"Ensure that safe and reliable utility services are provided to consumers at just and reasonable rates while fostering the use of competitive markets to achieve these objectives"

Given this mission statement and the ease with which the Oregon Legislature can reauthorize, revise or expand the program if it so desires, I don't see how the PUC can honorably expand the pilot program's rate impact beyond the enabling legislation's 0.25 percent limit.

Before any other decisions about the program are made, the PUC needs to decide the scope of the pilot program. This question needs to be addressed up-front because limiting the program's scope will necessarily affect all other aspects of the program's operation.

Suggestion 1.2: Use an auction process to balance available capacity with demand

The decision to base incentive rates on historical cost estimates has proven to be a disaster. Instead of widespread access to the program, nearly all capacity has been grabbed by solar industry insiders who have developed sophisticated software to auto-fill the online capacity reservation forms. They have done this because the historical cost estimates produced incentive rates at least 30 percent too high to balance the available capacity with demand. I see no reason to believe historical cost estimates will work better in the future: We need to try a different approach.

Fortunately, a simple and effective alternative exists: use public auctions to determine market-based incentive rates that balance the available capacity with demand. Lots of easily implemented auction systems exist. For example, charities use simple paper-based silent auctions to sell things all the time. With minor modifications, a similar paper-based system could be used to auction capacity in the pilot program. Alternatively, an eBay-like auction system could collect bids and match available capacity with demand.

I have a fair amount of professional expertise in designing inexpensive but effective information systems². I recently retired as a business professor from Oregon State University, so I have the luxury of free time and would be willing to volunteer to help create a simple auction system that provides comfort and clarity for bidders while remaining easily managed by the PUC and utilities.

All six remaining suggestions in this section assume future incentive rates will be set by auction.

Suggestion 1.3: Make auction data public.

One reason eBay is successful comes from its willingness to reveal information about completed auctions. We should make similar historical data available to people who are considering whether to participate in Oregon's pilot solar incentive auctions. This would allow potential bidders to look at past auction results and predict incentive rates in upcoming auctions.

Also, the PUC's current privacy policies hide so much useful information about program participants that the policies run counter to the pilot program's goal of allowing people to learn from the pilot program. How can we learn if critical information about the pilot program is locked away from public view?

Suggestion 1.4: Hold auctions at least once a month.

Frequent small auctions have several important advantages over larger semi-annual auctions.

- Since frequent auctions would make the program's capacity available in a constant pattern, solar installers would have a more predictable, less cyclic pattern of work.
- Frequent auctions would give less experienced participants (like the average homeowner) more information about how to bid because they would be able to see recent auction results.
- People wouldn't have to wait up to six months before they could participate in an auction.
- Frequent auctions would provide better information about how incentive rates vary over time.

The main objection against conducting frequent auctions comes from concern about the administrative cost of holding more auctions. But once proper procedures have been put in place, auctions are inexpensive to conduct. For example, eBay auctions and silent auctions

² For more information about my background, please look at <http://business.oregonstate.edu/faculty-and-staff-bios/dave-sullivan>

sell items for a negligible marginal cost per auction. The administrative costs for this program's auctions would be somewhat higher because they would auction quite valuable solar system rights, but the benefits of holding monthly auctions would still easily outweigh the added cost.

Suggestion 1.5: Eliminate net metering, use a true feed-in tariff instead

If auctions are used to set incentive rates, then Oregon will no longer need to use net metering for this pilot program to sidestep federal regulations. The net metering requirement gives program participants a perverse incentive to waste electricity if their solar panels produce more power than is used on-site, and this perverse incentive should be eliminated.

Suggestion 1.6: Remove the limits which keep people from installing more solar-generating capacity than their historical electricity usage.

These limits were prompted by an attempt to sidestep the perverse incentives to waste electricity that came from net metering. By limiting the solar-generating capacity to historical levels, the PUC hoped people would not encounter the net metering limits on power production. Fortunately, if we can get rid of net metering, then we can also throw out these arbitrary limits.

Suggestion 1.7: Stop paying higher incentives for installing solar panels in rainy, foggy places!

Incentives usually are used to encourage good behavior, but Oregon has paid higher incentive rates to encourage people to put solar panels in rainy parts of Oregon. I suspect this decision was made because lots of voters live in dreary Portland while few voters live in sunny Lakeview or Twin Falls where the panels would be 30 percent more efficient. But whatever the initial logic behind this decision might have been, the decision should be abandoned. Let people from all over Oregon place bids in a public auction, and whoever is willing to accept the lowest incentive rate should win the auction. This approach will let market forces place expensive solar panels where they will do the most good.

Suggestion 1.8: Drop the requirement for small- and mid-size solar systems to have \$1,000,000 of liability insurance.

Small and mid-size solar systems are not a significant liability hazard, and the requirement to obtain \$1,000,000 of liability coverage can pose a real obstacle for the average residential customer. If we want residential customers to participate in the auctions, we should make the process of placing bids and participating in the program as easy as possible.

Part 2: Suggestions for the January 20th conference to set the procedural schedule.

Lots of management theory exists about top-down versus bottom-up decision making. In general, a new program's broad strategic goals and decisions need to flow initially top-down. Once the enabling strategic decisions are in place, tactical plans should percolate bottom-up.

Oregon's pilot solar incentive program now needs two strategic decisions to be answered:

- Will the pilot program live within its implied legislative rate impact of 0.25 percent?
- Will incentive rates will be set by auction or be based on historical cost models?

Both decisions must be made by the PUC Commissioners – no one else has the authority to make these decisions. Both decisions need to be made before tactical planning can begin in earnest. For example, it makes no sense to plan meetings for the April 1st enrollment period if incentive rates will be set by public auctions – auctions and enrollment periods are fundamentally incompatible. Also, if the pilot program will terminate when it reaches its implied rate impact limit of 0.25 percent, then an entirely different set of tactical follow-up meetings is warranted than if the program will continue unabated.

I am saddened that I will be on a cruise ship and completely out of touch on January 20th – I want to play an active part in helping to shape the pilot program – I want to help make it fairer and more efficient. The PUC selected the January 20th date after my wife and I had already bought non-refundable tickets to this Mexican cruise – otherwise I would have scheduled a different cruise trip so I could attend the January 20th meetings.

If audio tapes are made of the January 20th meetings, I will want to listen to them. Also, I will return to Oregon on January 26th, so if meetings or decisions can be delayed until then, I would appreciate the opportunity to be involved in person. Finally, if anyone wants to contact me for the next few weeks, the most reliable method will be through sending email to dave@sullishak.com. I hope to be able to check email every few days.

Conclusion: I would like to use whatever authority or moral suasion exists from my prior participation in this process to ask that the two questions asked above should be formally addressed as soon as possible by the PUC Commissioners. The first question in particular deserves to be discussed and decided explicitly – the pilot program should not be allowed to expand beyond its intended rate limits simply through inaction or inertia.