BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

UM 1505

In the Matter of	**)**	
Public Utility Commission of Oregon	**)**	**Dave Sullivan's suggestions**
	)	**for revising the pilot solar**
Solar Photovoltaic	**)**	**incentive program**
Comments and Recommendations	**)**	
	)	

Executive Summary

I want to thank the PUC for opening a discussion about how to revise Oregon's pilot solar incentive program. We have learned a lot from the program's first year of operation, and it is appropriate to modify policies based on what we have learned so far.

I have two key recommendations for the PUC Commissioners to consider:

1. **Limit the program's scope so its rate impact does not exceed 0.25 percent of any customer's electric bill.** The pilot program has served its purpose: we now know Oregonians will respond enthusiastically when they are offered incentives to install solar panel systems. We've also learned electricity produced by the program will cost much more than conventionally produced electricity. Oregon's legislature didn't know how expensive the program would be, so it asked the PUC to limit the program's rate impact to 0.25 percent of any customer's electric bill. This 0.25 percent rate limit has already been exceeded for Idaho Power's customers, and it will soon be reached by PGE and Pacific Power's customers. Thus, the PUC should begin winding down the pilot program in an orderly manner to live within the program's legislative mandate. This will allow Oregon's legislature to consider how best to expand our use of renewable energy.
2. **Adjust incentive rates quarterly.** The program's largest problems have been caused because incentive rates were set too high initially and were not allowed to adjust often enough. By using an automatic process to adjust the rates quarterly, demand for the program can be kept in balance with available supply. Making the process automatic will keep administrative costs low while allowing rates to float more rapidly to a market-clearing level.

Sincerely,

Dave Sullivan, signed on February 11, 2011

Recommendation 1: Limit the pilot solar incentive program so its cost does not exceed 0.25 percent of any customer's utility bill.

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.

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. For example, the PUC's recent report to the legislature says,

> "All three electric companies are forecasting to exceed the .25 percent rate impact early in the pilot program."

The report to the legislature contains tables showing the estimated costs of the pilot programs and their rate impact percent for each of the three utilities. PGE's highest expected rate impact is 0.48 percent, Pacific Power's is 0.45 percent, and Idaho Power's is 1.33 percent. The rate impacts decline over time, but they remain significant well into the mid-2020s. For example, the rate impact in 2024 for Idaho Power customers is projected to be 0.61 percent. Thus, this program will raise electric rates in Oregon for a long time.

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).

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 photovoltaic incentive program, the Oregon Legislature might decide to expand the incentive program to allow competition from biomass, solar-powered furnaces, 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.

Given all these ideas, I hope the PUC Commissioners will:

- **Discuss the 0.25 percent rate limit at their February 18th Workshop.** Everyone deserves advance notice of the Commissioners intentions with respect to the 0.25 percent rate limit, and this decision is too important to be made implicitly or without formal discussion.
- **Release Idaho Power from awarding future capacity reservations.** Enough capacity has already been awarded to Idaho Power customers so their rate impact will be above the 0.25 percent limit until 2024.
- **Ask staff to lower the supply of capacity reservations for PGE and Pacific Power.** The enabling legislation for this program suggests the program should either be limited by 25 megawatts of capacity or by a 0.25 percent rate limit on customer bills. We now know the 0.25 percent rate limit will be the binding constraint, so the supply of capacity reservations should be adjusted accordingly.

Recommendation 2: Adjust incentive rates quarterly.

The pilot program's incentive rates were set too high initially and were not allowed to adjust often enough. This caused the program to be attacked as being inefficient and unfair:

- **Inefficient.** The incentive rates were at least 30 percent too high to balance the available capacity with demand. From a ratepayer's perspective, this was like putting 30 percent of the program's cost in the toilet and flushing the money down the drain.
- **Unfair.** Ordinary customers were effectively locked out of the program because nearly all capacity was grabbed by solar industry insiders who used increasingly sophisticated methods to auto-fill the online capacity reservation forms. The program's initial design expected people to enter capacity reservations throughout

each six-month enrollment period. Instead, all capacity was snatched up within minutes of when each enrollment period opened.

Two methods could be used to adjust for this pricing problem: 1. Change the application process to use a lottery, or 2. Adjust incentive rates more frequently. Each approach deserves to be considered.

Method #1: Change the application process to use a lottery.
On the surface, this approach looks like it would make access to the program fairer. Certainly this change removes the fairness problems associated with having industry insiders use custom software that auto-fills applications quickly. But as a practical matter, because this approach does nothing to improve the pricing of incentive rates, it will not help balance supply with demand, won't lower the program's overall costs, and will replace one set of fairness problems with another equally disturbing set.

Lottery-based application processes make sense when supply is limited and prices cannot be adjusted. For example, the supply of drift permits on the Rogue River is limited to protect the river's pristine environment, and Oregonians don't like the idea of letting the super-rich buy all available permits. In this setting, using a lottery to allocate permits makes sense. But with Oregon's pilot solar incentive program, nearly everyone believes incentive rates should be adjusted to balance supply and demand. Why should we deliberately create a process in which lucky winners get paid unwarranted profits on their solar systems?

It is worth looking at how a lottery-based system worked for the only other state to try using it: Vermont used a lottery-based system to accept applications to their solar feed-in tariff program. They kept the registration window open all day on October 19, 2009. The Vermont solar feed-in tariff program was limited to 14.25 megawatts of solar capacity, but they received 185 applications for a total of 147 megawatts of capacity. Using a lottery, the top 16 applications were accepted, and the rest were deferred.

Vermont told everyone their applications would become part of the public record, and they published an Excel list showing who had applied along with contact information and a date/time stamp showing when they applied. Here is an abbreviated list showing the lucky top 7 winners in Vermont's feed-in tariff program along with a couple of the folks who were not so lucky:

Submitted On	Lottery Order	Contact Person	Solar Project Capacity (KW)
10/19/2009 11:54	1	Frank Ammirato	2
10/19/2009 9:19	2	Trevor Parsons	100
10/19/2009 9:05	3	Andy Broderick	450
10/19/2009 9:02	4	John Guerin	2,200

10/19/2009 9:25	5	Van Chesnut	32
10/19/2009 9:04	6	Russ Broderick	1,005
10/19/2009 9:16	7	Robert Fuller	26
To save space, I've deleted applications 8 through 183			
10/19/2009 9:07	184	Chad Farrell	1,000
10/19/2009 9:03	185	David McManus	1,360
Application total:	**185**		**146,955**

Using a lottery trades one set of fairness problems for other set of problems: people would game the lottery process by entering slightly different applications for essentially the same project. For example, in the list above Andy Broderick entered an application at 9:05 a.m. and Russ Broderick entered an application at 9:04 a.m. Since this might have been a coincidence, I decided to look at the list carefully. Although there were 185 applications, there were only 68 unique phone numbers for the applicants. Richard Silkman submitted 16 applications, and all of them had project names like Hannaford – 8397 or Hannaford – 8353.

No one should be surprised to learn people in Vermont were able game the feed-in tariff lottery. Like Oregon, Vermont put a lot of money on the table. Unlike Oregon, access to the money was based on filling out multiple applications instead of filling out a form quickly. But in both cases, the fundamental problem came from using a government-mandated incentive rate instead of a market-based rate.

Consider my four-plex rental building in Albany – I installed solar panels on this building in December through Oregon's pilot solar incentive program. Each apartment has its own meter and has a unique mailing address. If the PUC had used a lottery-based process earlier this year, I would have submitted four different applications for this building. Each application would have used a different Pacific Power electric account and different physical address – and each would have listed enough capacity to cover the entire roof. That way, I would have had a four-fold increase in the likelihood of winning the lottery.

I have no objection if the PUC wants to swap out the first-come first-served application process for a lottery-based application process. But if this change is made, everyone should understand it will do nothing to improve the program's cost efficiency, and it will swap one set of fairness problems for another equally disturbing set of fairness problems. If we really want to improve the program's efficiency and fairness, we need to make changes that will set incentive rates so supply equals demand. This will make first-come first-served or lottery-based application procedures unimportant because they won't need to be used.

Method #2: Adjust incentive rates quarterly.

In the eDocket discussions early last year, people considered adjusting the incentive rates on a quarterly basis. Ultimately, the PUC Commissioners decided it would be too costly to have

quarterly enrollment periods, so they decided to go with six-month enrollment periods. Now that we have a year's experience with six-month enrollment periods, this decision should be reconsidered.

The PUC Commissioners discussed this decision in their May 28, 2010 Order (available at http://apps.puc.state.or.us/orders/2010ords/10-198.pdf). They wrote:

> RNP proposes a "hardwired" price adjustment mechanism that automatically, but predictably, reacts to the actual price of the resource. RNP proposes quarterly MW allocation limits, with a price reduction of no more than 10 percent if the allocation is fully subscribed. CUB also supports quarterly price changes.
>
> We find Staff's proposed rate adjustment mechanism superior to the proposal offered by other parties and adopt it. A quarterly review process would be administratively burdensome and difficult given the complexities associated with adjusting rates. Any benefits to ratepayers by reducing the VIRs would be offset by the administrative costs of the program.

With the hindsight of Monday-morning quarterbacking, it is easy to see this decision was faulty. With six-month enrollment periods and the presumption that prices should be adjusted by only 10-percent each period, it is only possible to raise or lower prices by 20-percent annually. This just isn't enough to keep up with the dynamic changes occurring in the marketplace. For example, wholesale solar panels are selling for roughly one-third the cost that they sold for several years ago.

Changing from a six-month to a quarterly enrollment period would be an easy policy decision to implement. No other policies would need to change. This change would have several practical benefits:

- Quarterly enrollment periods would make the program's capacity available in a more constant pattern, so solar installers would have a more predictable, less cyclic pattern of work.
- Quarterly enrollment periods would allow incentive rates to rise or fall as necessary to track marketplace changes. If quarterly changes had been used last year, we would now know what incentive rate level would balance available capacity with customer demand for the program. Instead, the PUC Staff is planning on guessing how much to lower the rates for the upcoming April 1st enrollment period because customer demand remained wildly higher than available capacity throughout all of last year. While I fully support the idea of dropping the incentive rates by at least 30 percent for the April 1st enrollment period – because the rates should be set so supply and demand match – this sort of catch-up adjustment would be unnecessary if automatic quarterly adjustments are made.

- People wouldn't have to wait up to six months before they could sign up for a capacity allocation.
- Quarterly enrollment periods would provide better information about how incentive rates need to vary over time in order to balance the available supply with customer demand.

The key to reducing the administrative cost associated with using a quarterly enrollment period is to make the incentive rate changes automatic. That way, the PUC Staff would not have to put together quarterly rate analysis. With an automatic rate adjustment process, anyone could calculate the necessary rate changes with a handheld calculator in a minute or two. This would provide a predictability to upcoming rates that people do not currently have about the April 1st rates.

Moving to a quarterly enrollment process could be implemented immediately – it wouldn't require a major rewrite of application software by the utilities, and it would allow the April 1st enrollment to move forward as it is currently planned. The only change necessary for the April 1st enrollment period would be to reduce the available capacity by 50 percent and to make that capacity available on July 1st.