



To: House Committee on Energy & Environment
From: Max Muller, Citizens' Utility Board of Oregon (CUB)
Date: April 16, 2015
Subject: Please support HB 3344-5

Save Solar Water Heating in Oregon

Chair Vega Pederson and members of the committee, I appreciate the opportunity to testify in support of the dash-5 amendment to HB 3344. My name is Max Muller, and I am a volunteer lobbyist with the Citizens' Utility Board of Oregon (CUB). We represent the interests of residential ratepayers, working on electricity, natural gas and telecommunications issues.

I'm here today to urge you to support HB 3344-5, which is aimed at saving the solar water heater industry in Oregon.

Most current and aspiring homeowners have probably wondered about the possibility of installing rooftop solar photovoltaic (PV) panels to generate electricity and save on their electric bills. As members of this committee, you've heard much about solar PV panels recently. But there is also an older, mature, and equally cost-effective technology that harnesses just as much of the sun's energy while using less roof space: that technology is solar water heaters.

Unlike solar PV panels, which generate electricity, solar water heaters save energy. They do it by preheating water before it gets to your water heater. Heating water is so energy intensive, and hot water used in so many daily tasks—showering, washing dishes, cleaning clothes—that a solar water heater could cut a family's energy use by 15 to 25%.

Solar water heaters a great way for building owners to harness the sun's energy. The problem is that it's getting hard to find anyone to install one these days. Solar water heaters, and Oregon's once-vibrant industry that built, maintained, and installed them, have been largely driven from the marketplace.

That's NOT because solar water heaters fail to compete on costs. A typical solar water heater located in Willamette valley might save 2500 kilowatt hours (kWh) of electricity per year. It costs roughly the same as a solar PV system while using a quarter the roof-space of a solar PV system that generates the same 2500 annual kWh.

What's killing the solar water heater industry is an outdated state clean energy incentive. The incentive makes the final price consumers pay for solar PV and solar water heaters unbalanced. For example, after current incentives are applied to the example systems I just mentioned, a homeowner would pay \$3,065 out-of-pocket for the solar PV system, but \$5,500, or 79% more, for the solar water heater.

The incentives I'm talking about are part of Oregon's Renewable Energy Tax Credit Program (RETC), which this committee is familiar with. The policy goals of all the RETC programs are to "promote residential energy savings, energy displacement, and market transformation through incentives that encourage the purchase of energy efficient devices and renewable energy systems for homes."

A good question for this committee is this: Is the RETC incentive for solar water heaters accomplishing those goals? Our answer is NO.

I want to contrast the RETC incentive for solar PV, which is working very well to accomplish those policy goals (and which this bill will not touch), with the RETC incentive for solar water heaters, which is failing to accomplish them (and which this bill aims to fix):

- As I said, the RETC for solar PV is working well. It was originally set in statute at \$3.00 per installed watt of capacity, with a cap on total incentive of \$6,000 over 5 years. In 2011, the legislature gave the Oregon Department of Energy (ODOE) the authority to adjust the incentive for solar PV to reflect ever-changing market conditions (factors that change over time such as energy savings, device price, installation cost, device, availability, other incentives, market penetration, and non-energy benefits). The goal was to ensure that the incentive is always set at the right amount to accomplish its policy goals— not too low to incentivize people to buy these systems, nor so high that it was rewarding people who would buy them anyway, but just right. Since then, the department has three times convened stakeholders to consider lowering the incentive, it has lowered it twice, and it plans to continue evaluating whether adjust it annually. The incentive is currently set at \$1.70 per installed watt of capacity, with a cap on total incentive of \$6000 over five years.
- Contrast that with the RETC incentive for solar water heaters which hasn't been adjusted since 1987. It is currently set at 60 cents per annual kilowatt hour (kWh) of energy production, with a cap on total incentive of \$1,500, or four times less than the incentive for solar PV. Those amounts are too low to incentivize solar thermal under current market conditions, and ODOE has no authority to change them.

As I said before, it just so happens that for about \$10,000 (before incentives are applied) a person can install a solar water heater or a solar PV system on their Willamette Valley home to yield roughly the same 2,500 annual kWh. That's the same price for the same amount of energy. But after federal and state incentives are applied, the solar water heater will cost 79% more ***due solely to differing state incentives for the two technologies.***

Without cost competitive solar water heaters to complement solar PV as an option, installers cannot make the most of the sun's energy for large families or those with small south-facing roof areas. That's because solar water heaters use only one-fourth to one-third the roof space of solar PV to heat the same amount of water. Fewer than 50 solar water heaters were installed statewide in each of the last two years, down from hundreds five years ago. And no one has applied for Oregon's solar thermal installation apprenticeship program in over two years

That's why CUB supports HB 3344-5. This bill would raise Oregon's solar water heater incentive to generally match that of Oregon's successful solar PV incentive program. Specifically it would:

- Increase Oregon's Renewable Energy Tax Credit (RETC) for solar water heaters from 60 cents to \$2.00 per annual kWh of energy production.
- Raise the limit on the total incentive from \$1,500 to \$6,000, or half of system cost, whichever is lower, over five years.
- Increase the RETC for swimming pool heaters from 15 to 20 cents per annual kWh of energy production, capped at \$2,500 or half of system cost, whichever is lower, over five years.
- Give ODOE the authority to lower the incentive as market conditions warrant—as it already can and has done twice for solar PV.

By taking these steps, Oregon can save its dying solar water heater industry and create green jobs, preserve Oregon families' investments in the 25,000 solar water heaters already installed by ensuring trained technicians are around to maintain them, and save energy for consumers by restoring a solar option that helps homeowners take maximum advantage of the sun's energy.

We've vetted the bill with the Oregon Department of Energy and other stakeholders. It has no known opponents. I encourage you to support it and would be happy to answer any questions you have.

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