

## HB 1046: Subsidizing community solar is bad for ratepayers and for the environment

By Todd Myers, Director, Center for the Environment

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### Key Findings

1. HB 1046 would not reduce CO2 emissions from electricity in Washington state, which is already required to be 100 percent renewable by 2030.
2. Small solar installations are some of the least effective and most expensive forms of low-CO2 electricity.
3. The National Renewable Energy Laboratory ranks Western Washington as the worst place for solar energy outside Alaska.
4. Subsidizing community solar in Washington state combines the worst form of renewable energy with the worst location in the country. Every dollar spent on community solar in Washington state is a dollar that could be used to reduce many times more CO2 elsewhere.
5. Community solar will increase costs for the vast majority of low-income families and would do nothing to increase their access to renewable sources of electricity.
6. HB 1046 is simply a complex mechanism to funnel government subsidies to a small number of low-income families, with solar installers and community solar organizations taking a cut along the way.
7. The more serious that people believe climate change is, the less reason there is for them to support community solar.

### Introduction

By 2030, Washington law requires that 100 percent of our state's electricity must be supplied by renewable sources of energy after passage of SB 5116 in 2019.<sup>1</sup> Despite that commitment, the legislature is considering adopting a new system that would subsidize one of the most expensive sources of renewable electricity known as "community solar."

House Bill 1046 would allow anyone to receive public subsidies for generating solar power, even if they do not have solar panels on their home.<sup>2</sup> Individuals could sign up for a share of a solar project and receive tax and ratepayer subsidies as if the solar panels were on their roof.

Advocates argue the bill would help reduce Washington's electricity-related CO2 emissions, create a "more equitable" transition to renewable energy, and help low-income families. Unfortunately, the data show that community solar will increase costs for the vast majority of low-income families while doing nothing to reduce the CO2 emissions of Washington's electricity.

There are already good programs that allow anyone to use renewable electricity. There are also good programs that help low-income families reduce the burden of high electricity costs. If legislators want to achieve those policy goals, they should fund those programs rather than wasting public resources subsidizing wasteful community solar and a new government program.

1 Washington State Legislature, "Engrossed Second Substitute Senate Bill 5116," 66<sup>th</sup> Legislature, 2019 Regular Session, <http://lawfilesexternal.wa.gov/biennium/2019-20/Pdf/Bills/Senate%20Passed%20Legislature/5116-S2.PL.pdf?q=20210114081205>

2 Washington State Legislature, "House Bill 1046," 2021 Regular Session, <http://lawfilesexternal.wa.gov/biennium/2021-22/Pdf/Bills/House%20Bills/1046.pdf> (Accessed January 12, 2021)

## **HB 1046 would not reduce CO2 emissions**

Several people who testified at a recent public hearing in favor of the legislation mentioned the need to reduce CO2 emissions. One advocate claimed the bill would reduce “our need for fossil or hydro-based generation.” The legislation, however, would do nothing to achieve that goal. It would just make meeting that goal more expensive.

Washington state utilities are already required to use 100-percent renewable sources of energy by 2030. That goal will be achieved with or without this legislation. The only thing this legislation would do is divert taxpayer and ratepayer subsidies to pay people to reduce CO2 emissions in a particular, extremely expensive, way – rooftop solar or small solar installations.

Indeed, in response to a question during the hearing, one of the advocates noted that the bill is *only* about changing the way people are billed for renewables, not increasing the quantity of renewables. This bill would do nothing to reduce CO2 emissions.

## **HB 1046 would not increase access to renewable energy**

The bill’s supporters argue it would help low-income households gain access to renewable energy. As we have noted in the past, taxpayer subsidies for rooftop solar have overwhelmingly gone to wealthy households, not low-income families. The claim that this bill would help low-income households access renewables is intentionally misleading.

Anyone – rich or poor – can buy renewable energy today by purchasing a renewable energy credit, known as a REC. I have purchased RECs for about a decade. Community solar is simply another way to create RECs.

As noted in the hearing, the bill creates “virtual net metering.” Traditional net metering allows people with solar panels on their roofs to sell excess electricity to utilities at a very high cost. Virtual net metering is similar, but the solar panels are located elsewhere in the state – hence the term “virtual.” How, then, are renewables accessed by those who participate

in community solar? They are accessed through RECs generated by the projects.

With solar panels on a home, the owners can, at the very least, use the electrons created by those panels in their own house. With virtual net metering, community solar members not only do not receive those electrons – they are put on the common grid like all other forms of electricity – but they also have no greater access to renewables than currently exists.

## **HB 1046 would waste money that could be used to effectively reduce CO2 emissions**

Perhaps the worst element of community solar is that it wastes funding that could generate real reductions in CO2 emissions (or for other environmental projects). Even if community solar did reduce the CO2-intensity of Washington’s electricity (which, again, it does not), it would be one of the worst ways to do that.

First, rooftop solar is the most expensive form of renewable energy. Lazard’s Levelized Cost of Energy Comparison notes that the unsubsidized cost of five kilowatts (kW) of rooftop solar projects is between \$150 and \$227 per megawatt hour (MWh).

For projects of one MW, the cost is between \$74 and \$179 per MWh. Currently, community solar projects in Washington state are far below one MW. For example, Seattle City Light has four community solar projects, the largest of which is 61.59 kW.<sup>3</sup> Olympia Community Solar’s Hummingbird project is

<sup>3</sup> Seattle City Light, “Community Solar,” <https://energysolutions.seattle.gov/renewable-energy/customer-solar/community-solar/> (Accessed January 12, 2021)

100 kW.<sup>4</sup> Costs are likely to be toward the high end of Lazard's estimates.<sup>5</sup>

By way of comparison, Lazard estimates utility scale solar of 150 MW to cost between \$29 and \$42 per MWh. Although Avista's 28 MW solar farm in Lind is smaller than Lazard's assumption, it is closer to this price range and is 280 times as large as the Hummingbird project.

Wind energy is even less expensive. Lazard estimates the costs are between \$26 and \$54 per MWh.

Put simply, community solar is one of the most expensive forms of renewable electricity, spending many times more to reduce CO2 emissions than other forms of low CO2 sources of electricity. That wasted cost yields no additional CO2 reduction.

It gets worse. According to the National Renewable Energy Laboratory, Washington state is one of the worst places in the country to produce solar electricity.<sup>6</sup> Western Washington, with high rainfall and heavy cloud cover for much of the year, has the lowest level of solar irradiance outside of Alaska. Eastern Washington is only marginally better.

Subsidizing community solar in Washington state combines the worst form of renewable energy with the worst location for it in the country. Every dollar spent on community solar in Washington state is a

dollar that could be used to reduce many times more CO2 elsewhere.

It would be more effective to use the approximately \$1.5 million identified in the fiscal note for the Utilities and Transportation Commission and invest in CO2-reduction projects.<sup>7</sup> At \$10 per metric ton, that amount would eliminate the CO2 emissions of about 34,000 cars for a year.

The more serious that people believe climate change is, the less reason there is for them to support community solar.

## **HB 1046 would harm more low-income households than it helps**

Far from helping low-income households, this legislation is more likely to increase costs for those families.

The real purpose of the legislation was best described by Mason Rolph, from Olympia Community Solar when answering a question in the hearing on January 12, 2021. When asked if participants would receive the electricity produced, he noted "They might not receive the electrons, but the monetary benefits of that solar generation." Those "monetary benefits" are not from the electricity, but from government subsidies. Without those subsidies, the solar power would be more expensive than electricity currently available. Rather than helping the environment, the bill simply proposes a complex mechanism to funnel government subsidies to a small number of low-income families, with solar installers and community solar organizations taking a cut along the way.

To get a sense of how few people benefit from community solar projects, Olympia Community Solar's Hummingbird project has 80 subscribers.

If legislators want to help low-income families pay their energy bills, there are already systems in place to do that. For example, the Low-Income Home Energy Assistance Program (LIHEAP) offers help

4 Pickerel, Kelly, "Olympia Community Solar announces unit availability in first community solar project," Solar Power World, April 29, 2020, <https://www.solarpowerworldonline.com/2020/04/olympia-community-solar-announces-unit-availability-in-first-community-solar-project/#:~:text=The%20100-kW%20Hummingbird%20Project%20will%20be%20located%20atop,to%20own%20a%20piece%20of%20the%20solar%20project>.

5 Lazard has a category it calls "Solar PV – Community," but their estimates are based on a 5 MW system, about 100 times larger than Seattle City Light's average community solar project. Lazard, "Lazard's Levelized Cost of Energy Analysis – Version 14.0," October 2020, <https://www.lazard.com/media/451419/lazards-levelized-cost-of-energy-version-140.pdf>

6 National Renewable Energy Laboratory, "Direct Normal Solar Irradiance," February 22, 2018, <https://www.nrel.gov/gis/assets/images/solar-annual-dni-2018-01.jpg> (Accessed January 12, 2021)

7 Washington State Legislature, "HB 1046 Individual State Agency Fiscal Note," <https://fnspublic.ofm.wa.gov/FNSPublicSearch/GetPDF?packageID=61005> (Accessed January 12, 2021)

to households with incomes at or below 150 percent of the federal poverty level, or about \$39,000 a year.<sup>8</sup> If the goal is to reduce the burden of energy costs, programs like LIHEAP are more effective. In 2020, LIHEAP provided assistance to about 71,000 people in 2019 and 2020.

Local public and private utilities have assistance programs of their own as well.

By way of contrast, HB 1046 would likely increase electricity costs for most low-income ratepayers. The legislation allows utilities to include “all start-up costs prudently incurred” as well as some other costs associated with community solar in their rate base. Additionally, the costs of the program would be paid by ratepayers. Except for the few households included in community solar projects, the effect of the program is likely to increase rates for everyone else.

## Conclusion

Although supporters of HB 1046 promote it as a bill that is supposed to help reduce Washington’s CO2 emissions, and do it in an equitable way, the bill would actually do neither. There are already established programs to achieve the legislation’s goals in ways that are more environmentally effective and less expensive.

A key reason Washington state has continued to miss all of its CO2-reduction targets is that policymakers have failed to prioritize effective policy that would get the most bang for every dollar spent by rate and taxpayers. Instead, HB 1046 consists of, in the words of philosopher George Santayana, “redoubling your efforts when you have forgotten your aim.”

*Todd Myers is the director of Washington Policy Center’s Center for the Environment*

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8 Washington State Department of Commerce, “Low-Income Home Energy Assistance Program (LIHEAP),” <https://www.commerce.wa.gov/growing-the-economy/energy/low-income-home-energy-assistance/> (Accessed January 12, 2021)