

Small Scale Renewable Energy Projects Study

Background for Access and Ownership Workshop on April 28, 2022

Background

HB 2021 directed the workgroup to examine access and ownership opportunities for low-income communities; black, indigenous and people of color communities; tribal communities; and rural and coastal communities with limited infrastructure. In addition, the bill also directed the workgroup to evaluate opportunities for diverse models of ownership by local governments, nonprofit organizations, and cooperatives of community members. Improving access and expanding opportunities for ownership of small-scale renewables can create local socio-economic value, improve community energy resilience, and help foster positive attitudes towards renewables more broadly. It is important, however, to balance considerations of ownership and equitable distribution of these benefits versus the total societal costs necessary to achieve Oregon's clean energy and climate policy objectives.

Access and Ownership

As Oregon and the nation accelerate the transition away from fossil fuels to clean energy, there has been growing interest in the role small-scale and community based renewable energy projects could play. This interest is driven in part by a recognition that renewable energy technologies (wind, solar, hydroelectric, geothermal and biomass among others) have the potential to generate many environmental, economic, and social benefits such as increased employment, public revenues, workforce development, improved community energy resilience and grid resilience, improved public health, reduced greenhouse gas emissions and pollutants, and potential savings on energy costs. In addition, the inherent characteristic of some renewable technologies to easily scale, innovation in smart technologies and controls, and reduction in costs all contribute to the ability to deploy renewables at smaller scales to potentially unlock some values that larger scale facilities cannot access.¹

While the potential benefits of renewable energy may be substantial, there is concern and evidence that these benefits are inaccessible to many communities and individuals. Historically, communities of color, indigenous communities, and rural and low-income communities have not had equitable access to small-scale renewable energy projects due to a multitude of factors.² For example, there is a disproportionate uptake of customer sited clean energy technologies by higher-income households in US. Many communities and households are unable to access small-scale renewable technologies for a variety of reasons, including

¹ IRENA. 2019. Innovation Landscape For A Renewable-Powered Future: Solutions To Integrate Variable Renewables. https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2019/Feb/IRENA_Innovation_Landscape_2019_report.pdf

² Brown et al. 2020. Low-Income Energy Affordability: Conclusions from a Literature Review. <https://info.ornl.gov/sites/publications/Files/Pub124723.pdf>



affordability, high up-front costs, lack of access to credit, split incentives between landlords and tenants, lack of outreach and awareness, historical inequities, and other barriers. These trends have raised concerns of a growing “electrical divide” where differing abilities to adopt new clean energy technologies prevent certain communities from gaining the benefits of small-scale renewable energy and could further disadvantage communities.

Landscape

The legal and regulatory landscape impact ownership and access opportunities for small-scale renewables. In general, the only entity legally allowed to deliver electricity to customers is either a utility or the customer themselves. Except in limited circumstances, independent generators are not authorized to sell electricity to the retail customers in a utility’s territory. In cases where an independent generator does sell electricity to a retail customer, the electric utility is still responsible for electricity delivery and grid services. That said, there are several enabling policies in Oregon that can help facilitate more diverse access and ownership of small-scale renewable energy projects:

Public Utility Regulatory Policies Act (PURPA) of 1978 (PURPA): The Public Utility Regulatory Policies Act (PURPA) of 1978 was established after the US energy crises of the 1970s to encourage development of small, non-utility power facilities, defined as facilities under 80MW in size that use renewable resources. PURPA gives Qualifying Facilities (QF) the right to interconnect with the utility-controlled grid and requires these utilities to purchase QF-generated energy at an avoided cost rate.³ In Oregon, utilities establish different avoided costs rates based on the technology installed on their system. Certain facilities can qualify for standard contracts, specifically solar facilities smaller than 3MW and other renewable facilities smaller than 10MW. PURPA provides an avenue for renewable energy development – particularly small projects – allowing developers to sell, and requiring utilities to purchase, output from QFs to utilities at an avoided cost rate under standard contracts.

Power Purchase Agreements: Projects that exceed the thresholds for standard PURPA contracts may still deliver energy to a utility through a power purchase agreement (PPA). For example, solar facilities larger than 3MW but smaller than 20MW would still be considered small-scale facilities but would be ineligible for the community solar program or a standard PURPA contract. Like PURPA QFs, these facilities deliver renewable energy and the benefits of decarbonization to the bulk power system.

³ <https://www.energy.gov/oe/services/electricity-policy-coordination-and-implementation/other-regulatory-efforts/public>



Direct Access: Chapter 865, Oregon Laws 1999 describes direct access options in Oregon. Direct access enables certain nonresidential electricity consumers to purchase electricity from an electricity service supplier (ESS) other than their electric utility. Electricity service providers must gain certification by the Oregon Public Utility Commission or the governing body of a consumer owned utility. Within direct access contracts, the electricity service supplier is responsible for generation and transmission of electricity, but the electric utility retains responsibility for distribution of services.

Net Metering: ORS 757.300 describes Oregon’s net metering laws.⁴ Since 1999, Oregon law has required electric utilities to offer net metering to Oregon customers for renewable energy systems up to 25 kilowatts (kW) in size. This law was amended in 2005, enabling the Oregon Public Utility Commission to adopt rules allowing customers of investor-owned utilities to install larger systems. In 2007, the Oregon PUC adopted net metering rules for Oregon investor-owned utilities, including an allowance for non-residential net metered projects up to 2 megawatts (MW) in size. For consumer-owned utilities, net metering policies are developed by each COU’s governing body or board.

Community Solar Program: Oregon Laws 2016, Chapter 28 (SB 1547)⁵ directs the OPUC to establish Oregon’s Community Solar program to enable owners and subscribers of a community solar project to share in the costs and benefits of the project. The program is available to customers of PGE, PacifiCorp, and Idaho Power, and enables subscribers to realize electric bill savings associated with a share of a community solar facility. The bill requires that at least 10 percent of allocated capacity be made available to low-income customers.

Voluntary Renewables Programs: Voluntary green power programs enable participants to access the environmental attributes of renewable energy through voluntary purchasing of renewable energy certificates (RECs) through their electric bills. In Oregon, electric investor-owned utilities are required by law to offer a renewable electricity option to retail customers, and Portland General Electric (PGE) and PacifiCorp have two of the most popular programs of this type in the nation.

Options for Access and Ownership

There are a wide variety of options for community access and ownership of renewable energy. These options are dependent on various factors including energy regulations, how projects are structured, and how projects can access financial incentives. For example, commercial solar

⁴ ORS 757 https://www.oregonlegislature.gov/bills_laws/ors/ors757.html

⁵ Oregon Laws 2016, Chapter 28 (Senate Bill 1547 (2016)). <https://olis.leg.state.or.us/liz/2016R1/Downloads/MeasureDocument/SB1547/Enrolled>



energy facilities are currently eligible for a federal tax credit equal to 26% of the capital cost of the project. Because it is a tax credit, this incentive favors owners, or ownership models, with federal tax liability. Some examples of ownership models include:

Community Shared Renewables: Community shared programs typically enable participants to buy a subscription for output from a centrally located system. The subscription represents a portion of the generation from the community solar project and often translates to savings on the participant's electric bill.

On-Site, Behind-the-Meter: A larger electricity customer (either a taxable business or a tax-exempt entity such as a school) installs a renewable project on the customer side of the meter to supply on-site power and thereby displace power purchased from the utility.

Cooperative Local Ownership: Local landowners and investors, ideally with tax liability that can be offset by the federal tax credit, pool their resources into an LLC to own and operate the project while selling output to the local utility.

Flip Structure: Local investors without tax liability bring in a tax-motivated corporate equity partner to own most of the project for the first ten years (i.e., the period of tax credits), and then "flip" project ownership to the local investor thereafter.

Municipal-Owned: A municipality develops and owns an in-front-of-the-meter project, potentially financed with tax-exempt municipal bonds, and sells the power to the utility.

Ownership is not the only method of improving access. Access also includes improving local capacity and involving community members in local decision making about energy projects. These types of activities could include:

- Ensuring early involvement of community-based organizations and public entities during project development.
- Outreach and education to community members to improve understanding of potential projects and opportunities.
- Technical assistance to assist communities identify plan and construct projects.
- Hold learning sessions in communities to educate them on benefits and pathways to successful project completion with staffing support.
- Create funding opportunities for communities to invest in projects.

Access and Ownership Challenges

The policies and models described above help to increase access and ownership opportunities for small-scale renewables, but challenges remain, including:



Local Capacity and Technical Assistance: Opportunities to develop local energy resources—through energy efficiency or using renewable energy—are present in every community. Capturing those opportunities, however, generally requires knowledgeable businesses, organizations, government agencies, or individuals to lead, manage, and implement projects and programs. Many communities lack such local capacity, and building this capacity is critical to expanding and accelerating community energy efforts.

Financing: Many projects, including projects that could provide benefits to local energy users, may not move forward due to lack of financing. Community energy projects can face additional financial hurdles because existing financing instruments and institutions may not have experience with projects that involve multiple ownership parties or atypical organizations.

Programs Supporting Diversity in Access and Ownership

In recent years, Oregon has created new programs to help expand opportunities for diverse access and ownership of small-scale renewable energy projects, including:

Community Renewable Energy Grant Program: The Oregon Legislature established the Community Renewable Energy Grant Program in 2021 as part of House Bill 2021. The program provides grants for planning and building community renewable energy and energy resilience projects up to 20MW in size. Priority for grant funding is given to projects that serve underrepresented communities and that support community energy resilience. The Community Renewable Energy Grant Program has two features that specifically support diverse ownership of small-scale renewable energy projects.

1. Grants are only available to public entities such as a federally recognized Oregon Indian Tribe; a city, county, or special district; or a consumer owned electric utility. Private developers and other non-public entities may partner in a project, but the applicant must be a public entity as described. This provision supports community partnerships and public ownership of projects.
2. Incentives may cover up to 100% of project cost. One hundred percent funding is available for planning projects and community energy resilience projects. This provision enables projects to be financed without the need for private tax equity partners to leverage the federal tax credit.

Oregon Community Solar Program: The Oregon Legislature established the Oregon Community Solar Program in 2016 as part of Senate Bill 1547. Community solar projects enable individuals to share in the costs and benefits of centrally located solar energy projects up to 3MW in size. Projects must be in the service territory of Portland General



Electric, Pacific Power, or Idaho Power. The Oregon Community Solar Program supports diverse ownership and access to renewables in several ways.

1. solar projects may be cooperatively owned and operated or have a single owner that sells subscriptions to access the solar energy.
2. Virtual net metering enables energy output from a centralized project to be distributed as electric utility bill credits to multiple individual owners or subscribers.
3. Utilities must reimburse project owners at the resource value of solar or another rate determined by the Oregon Public Utility Commission. The current reimbursement rate for projects is the full retail rate for residential electricity. This rate is considerably higher than the avoided cost rates paid to PURPA qualifying facilities and should support diverse ownership options.

