

OREGON SOLAR + STORAGE REBATE PROGRAM

2023 Program Report

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by the

**OREGON
DEPARTMENT OF
ENERGY**

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OREGON
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ENERGY

Oregon Solar + Storage Rebate Program 2023

Executive Summary

The Oregon Solar + Storage Rebate Program was established by the Oregon Department of Energy at the direction of HB 2618, passed by the Oregon State Legislature in 2019. The legislation directed the department to develop a program to provide rebates for the purchase, construction, or installation of solar electric systems and paired solar and storage systems.

The program first launched in January 2020 with \$2 million for rebates and program administration. The program proved to be very popular, and all available funding was reserved by the end of September that year. The Oregon Legislature continued its support of the program through HB 5606 in 2021, which provided an additional \$10 million and extended the program sunset to January 2024. The legislature invested \$5 million more in the program in 2022 through SB 5202. By June 2023, all funding was reserved for rebates. As ODOE turned to a new biennium, the legislature again invested \$10 million in the program through SB 5506, and extended the program sunset to January 2, 2029, through HB 3409. ODOE began accepting new rebate reservations in July 2023.

Program rebates are issued to participating contractors, who pass the savings on to eligible customers as a reduction in the price of the installed system (ODOE's program staff do not work directly with the customers). To claim a rebate, a contractor must first apply for a reservation of rebate funds prior to the start of project installation. Reservations are converted into cash rebates once a contractor certifies a project complete. The legislature directed the department to make at least 25 percent of the rebate budget available for projects installed for residential customers with low or moderate incomes and for organizations that provide services to Oregonians with lower incomes (called low-income service providers in the program). Low-income service providers are a specific group of non-residential customers that provide assistive services to lower-income individuals and households.

The Oregon Solar + Storage Rebate Program advances Oregon energy policy by helping reduce the upfront costs associated with the purchase and installation of renewable energy production and energy storage systems, as well as supporting the Oregon solar installer industry.

AT LEAST 25 PERCENT OF THE REBATE BUDGET SUPPORTS LOW- OR MODERATE-INCOME RESIDENTIAL CUSTOMERS.

Informed by a public input process, the rebate program features tiered incentive rates for rebates based on the income level of the project owner, the availability of other rebates to the project owner, and whether it is a residential project or a project for a low-income service provider. The largest rebate amounts are reserved for low- and moderate-income residential customers and low-income service providers to expand access to those populations that may not otherwise have the financial resources to invest in solar. Eligibility for income-restricted rebates can be demonstrated by providing proof of eligibility for several low-income programs operated by the State of Oregon or by providing an Oregon Department of Revenue tax transcript. The department implemented an expanded list of eligibility options after the start of the program in response to program stakeholder feedback.

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There are currently 70 contractors participating in the program. To be eligible to participate in the program, a contractor must meet eligibility requirements established under rule.

The program continues to successfully meet the legislative mandate that 25 percent of funds be reserved for low- and moderate-income projects. In calendar year 2022, the program reserved or rebated 2,868 projects, representing over \$8.90 million in funds. \$3.14 million, or 35 percent of the committed funding, was for projects owned by LMI residential owners or low-income service providers.

THE REBATE PROGRAM HAS RESERVED OR ISSUED REBATES FOR PROJECTS IN **34 OF OREGON'S 36 COUNTIES.**

Of the 2,868 projects that ODOE supported in 2022, 41 projects were for low-income service providers, and 326 were paired solar and storage projects.

The projects that received a rebate in 2022 represent solar electric generation that is estimated to displace 13,900 metric tons of CO₂e (carbon dioxide equivalent) per year based on the carbon intensity of the electric utility serving the project.

This report is available electronically on the Oregon Department of Energy's website:

<https://www.oregon.gov/energy/Data-and-Reports/Pages/Reports-to-the-Legislature.aspx>.

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About the Program

Program Background

The Oregon Solar + Storage Rebate Program was established by the Oregon Department of Energy at the direction of HB 2618, which was passed by the Oregon State Legislature in 2019. The legislation directed the department to develop a program to provide rebates for the purchase, construction, or installation of solar electric systems and paired solar and storage systems.



Program rebates are issued to participating contractors and are passed on to customers as a reduction in the price of the installed system. To claim a rebate, a contractor must first request a reservation of funds prior to the start of project installation. Once a project has been completed, a contractor then applies to have the project's reservation converted into a cash rebate, which is issued as a check to the contractor. The legislature directed the department to make at least 25 percent of the rebate budget available for projects installed for residential customers with low or moderate incomes and for organizations that provide services to Oregonians with lower incomes (called low-income service providers in the program). Low-income service providers are a specific group of non-residential customers that provide assistive services to low- or moderate-income individuals and households.

The Oregon Solar + Storage Rebate Program advances Oregon energy policy by helping reduce the upfront costs associated with the purchase and installation of renewable solar energy production and solar energy storage systems, as well as supporting the Oregon solar installer industry.


HB 2618 directed the department to provide a report to the legislature by September 15 of each year the program is in effect that includes the number, size, and location of solar electric systems installed for residential customers and low-income service providers, as well as the number and storage capacity of paired solar and storage systems installed, for which a rebate was claimed. The report is to include the estimated amount of greenhouse gas emissions reduced or avoided due to the installation of the completed systems. The bill also directed that the report should address whether the goals of the rebate program are being met and include recommendations on whether the rebate amount limits or the funding levels reserved for LMI and low-income service provider projects should be modified. While not required, this report also includes legislative recommendations.

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Program Operations

The Oregon Department of Energy developed program rules informed by targeted outreach with 26 different stakeholder groups, held three public meetings in Salem and Portland, and wrote letters to Chairs of Oregon Tribes. The department filed final program rules on December 19, 2019. On May 28, 2020, ODOE filed updated administrative rules that made it easier to demonstrate qualification for a low- and moderate-income rebate by adding the Supplemental Nutrition Assistance Program, the Oregon Health Plan, and the Children’s Health Insurance Program to the list of programs under which a project owner would be eligible. In addition, ODOE added the ability of a residential project owner to prove eligibility by providing a current tax transcript from the Oregon Department of Revenue. The department further amended program rules on April 15, 2022, with changes designed to encourage more participation from low-income service providers, such as affordable housing organizations. The feedback and suggestions provided through ODOE’s outreach and engagement were very valuable in the development of the program’s rules.

The Oregon Solar + Storage Rebate program features a tiered incentive rate for rebates based on the location and financial capacity of the project owner. The largest rebate amounts are reserved for residential customers with low and moderate incomes and low-income service providers to expand access to those populations that may not otherwise have the financial resources to invest in solar. The smallest rebate amounts are available for non-LMI residential customers that have access to existing financial incentives through their electric utility.

“It was very helpful that rebates were offered and not just tax credits — because of my low income, tax credits alone would’ve been useless.” 

Program Participant

- Projects for low- and moderate-income households can receive a rebate of \$1.80 per watt (DC) of installed capacity, up to 60 percent of the project net cost or \$5,000, whichever is less.
- Low-income service provider projects can receive a rebate of \$0.75 per watt of installed capacity, up to 50 percent of project net cost or \$30,000, whichever is less.
- Projects for non-LMI residential customers who are not eligible for a utility incentive can receive a rebate of \$0.50 per watt of installed capacity, up to 40 percent of net project cost or \$5,000, whichever is less.
- Projects for non-LMI residential customers who are eligible for a utility incentive can receive a rebate of \$0.20 per watt of installed capacity up to 40 percent of net project cost or \$5,000, whichever is less.

For solar electric projects with paired energy storage, the program offers an additional rebate for the storage component, which is also tiered based on the type of project owner:

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- Low-income service provider projects are eligible for a rebate of \$300 per kilowatt hour of installed storage capacity, up to 60 percent of net project cost or \$15,000, whichever is less.
- Projects for LMI customers are eligible for a rebate of \$300 per kilowatt hour of installed storage capacity, up to 60 percent of project cost or \$2,500, whichever is less.
- Projects for non-LMI residential customers are eligible for a rebate of \$300 per kilowatt hour of installed storage capacity, up to 40 percent of net project cost or \$2,500, whichever is less.

Consistent with the direction provided in HB 2618, the department worked closely with Oregon Housing and Community Services to develop program rules regarding eligibility for LMI households. Informed by OHCS's experience in providing benefits to low-income individuals, ODOE determined that individuals and households could have their projects qualify for low- and moderate-income restricted rebates if the individual or household was eligible for services offered by OHCS through the Low-Income Home Energy Assistance Program, the Oregon Energy Assistance Program, or the Low-Income Weatherization Assistance Program. Rebate program participants are also eligible for the LMI rebate if they are eligible for the Supplemental Nutrition Assistance Program, Oregon Health Plan, or the Children's Health Insurance Program. Participants can also prove eligibility through an Oregon Department of Revenue tax transcript demonstrating that they earn less than or equal to 100 percent of state median income adjusted for household size. This type of eligibility system allows ODOE to reduce the number of primary income verification steps, which is both resource intensive and outside the scope of the department's program experience.



The Oregon Solar + Storage Rebate Program issues rebates directly to solar contractors as reimbursement for cost savings, which must be passed on to the project owner at the time of project installation. The program does not often work directly with project owners, other than occasionally providing information via phone or email, or during compliance inspections. For a solar contractor to receive a rebate through the program, the contractor must meet the program's contractor eligibility requirements

and must have applied for a reservation of rebate funds prior to commencing installation of a project. There are currently 70 eligible contractors participating in the program.

In 2022, the program reserved or rebated 2,868 projects, representing over \$8.90 million in funds. \$3.14 million, or 35 percent of the committed funding, was for projects owned by LMI residential owners or low-income service providers.

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The department is proud to be able to continue to administer the Oregon Solar + Storage Rebate program, which was awarded a national State Leadership in Clean Energy (SLICE) award by the Clean Energy States Alliance in 2022.

Program Challenges

The most immediate challenge facing the Oregon Solar + Storage Rebate program is the likelihood of funds being utilized early in this biennium, so homeowners may not have funds available in summer of 2024. In calendar year 2022, \$8.90 million was reserved and rebated. Based on this trend, the current \$10 million allocation is expected to last until June 2024.

While the program has been successful, supply chain issues have led to a long wait time for battery storage. The current statute requires that both the PV system and battery storage must be in place for a rebate to be processed for a solar + storage project. This has left contractors and homeowners waiting for the rebate, sometimes for months, after already installing the PV system. The 2023 legislature added a technical fix related to supply chain issues that will allow the agency to separately process rebates for solar PV first and then for storage later when those systems are purchased together starting January 1, 2024. ODOE will be conducting stakeholder outreach and plans to update rules in late 2023.

“This was a major reason I ended up doing more storage. I initially was going to do one battery, but because of the program, I did two batteries. Thank you!”



Program Participant

Few Tribal governments have participated in the program to date. It is unclear what factors are behind this lack of project participation, but the department believes opportunities for PV and energy storage projects exist in Tribal communities. ODOE conducted outreach to Tribal governments in 2022 and early 2023 with information about this program.

Program Goals and Recommendations

The department has been asked to report on whether the goals of the program are being met and to make recommendations on some of its parameters. The goals identified by legislative supporters were to support the solar industry and its workers and to increase the use of renewable energy sources, including among low- and moderate-income households and the non-profit organizations that serve them.

First, ODOE continues to find that there is significant demand for residential solar rebates. Seventy solar installation businesses have participated in the program to date. Based on continued demand for the incentive, ODOE believes the program has created economic opportunities for the solar installation industry. The additional funding provided by the 2023 legislative session is currently projected to be fully reserved by the summer of 2024.

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“Thank you for the assistance you provide. It was the determining factor in us going solar.”



Program Participant

Second, by helping reduce the upfront costs associated with the purchase and installation of renewable energy production and energy storage systems, the program has increased the use of renewable energy throughout Oregon. In 2022, 2,868 projects were completed in 34 counties across the state. These projects are expected to reduce greenhouse gas emissions by 13,900 metric tons of CO2 equivalent per year. The Oregon Department of Environmental Quality estimates

Oregon’s economy wide sector-based greenhouse gas emissions were 61.4 million metric tons of CO2 equivalent in 2021.¹

Low-income service providers represent just over 18 percent the funding dollars for low- and moderate-income projects, with \$585,400 in allocated funding out of \$3.12 million in total funding allocated to all low- and moderate-income projects. As noted previously, the department believes there are opportunities for even more low-income services provider projects in the coming biennium.

HB 2618 directed the agency to make recommendations on the level of rebates provided to project owners or on the maximum and minimum levels of funding provided to certain project owners. As discussed above, we will work with stakeholders through the legislative and rulemaking processes to ensure the program is accessible to our Tribal partners and low-income service providers, such as affordable housing providers.

Demand for solar rebates, by number of reservations and rebates, is higher in the non-LMI category, but the program has been successful at driving program funding (35 percent) to low- and moderate-income homeowners and low-income service providers.

In early 2021, ODOE published its [strategic plan](#) and [mission](#), which places a greater emphasis on equity in our programs and services — a strategic objective that is increasingly shared across state government.

The Oregon Department of Energy also submitted a Racial Equity Impact Statement associated with the rebate program as part of its 2023-2025 Agency Request Budget, through which ODOE requested additional funds to continue this valuable program. The 2023 legislature ultimately allocated \$10 million for the program for 2023-2025. Through the REIS process, ODOE strengthened its engagement activities with environmental justice



¹ [Department of Environmental Quality : Oregon Greenhouse Gas Sector-Based Inventory Data : Action on Climate Change : State of Oregon](#)

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organizations to better understand the diverse needs of communities for a program like this, enhanced the program’s website to better serve potential participants, developed a flyer in Spanish, and completed a rulemaking effort that adjusted the definition of *low-income service provider* to further expand eligibility to affordable housing organizations.

To identify potential gaps in program participation among diverse communities, ODOE has been sending an optional, anonymous survey to participants, asking about demographic data, including race or ethnicity and if someone in the household has a disability. To date, the department has received a total of 951 survey responses; in calendar year 2022, ODOE received 461 responses. Of those who responded, participants in the program overwhelmingly identify as white.

Self-Identified Race/Ethnicity*	Calendar Year 2022	Program to Date
Asian	30	45
Black or African American	8	14
Hispanic/Latino	7	26
Middle Eastern	3	5
Native American/Alaska Native	9	22
Native Hawaiian/Pacific Islander	4	8
White	407	857
Two or More Races	17	27

*In an effort to allow respondents to self-identify their race or ethnicity, they are able to check more than one box. As a result, the total number of responses to this question varies from the total number of overall respondents. Questions are also optional, so some respondents skipped this question.

To date in the program, 150 participants said they or someone in their household has a disability. In calendar year 2022, 70 participants reported that they or someone in their household has a disability.

While not necessarily scientifically valid, the survey results show that Black, Indigenous, and People of Color, and people with disabilities are likely under-represented in the program. Similarly, there are also some parts of the state that are under-represented in the program (see Metrics section below).

ODOE adapted its approach for sending the surveys to improve survey participation and the resulting data. For much of 2022, contractors would provide homeowners with the anonymous demographics survey, which homeowners could complete and mail to ODOE or submit online via SurveyMonkey. While the approach showed some improvement in survey participation, ODOE determined it may have more success if the agency directly emails a link to the survey to participants. ODOE implemented the change in August 2022, and has seen a marked uptick in survey responses. Since August 2022, ODOE has received 763 responses – the total prior to the change in approach was just 188.

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The department believes there could be value in collaborating with other state agencies, state leadership, and the public to determine agency best practices when it comes to the collection, storage, and use of individual demographic information to ensure equity practices are consistent across state government and sensitive to historically and currently under-served communities.

“Thanks for helping us meet our goal of providing a better life for our kids and grandkids.”



Program Participant

Program Metrics

Figure 1: Number of All Projects Reserved and Rebated by County in 2022

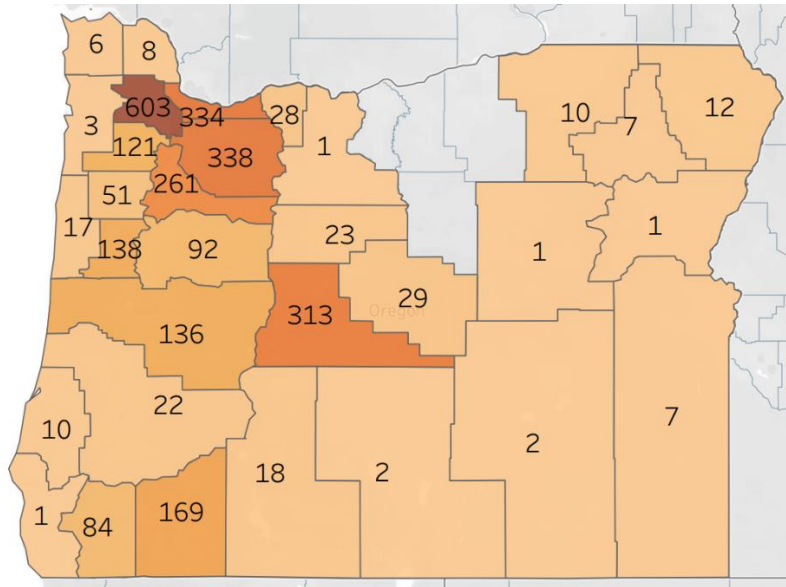
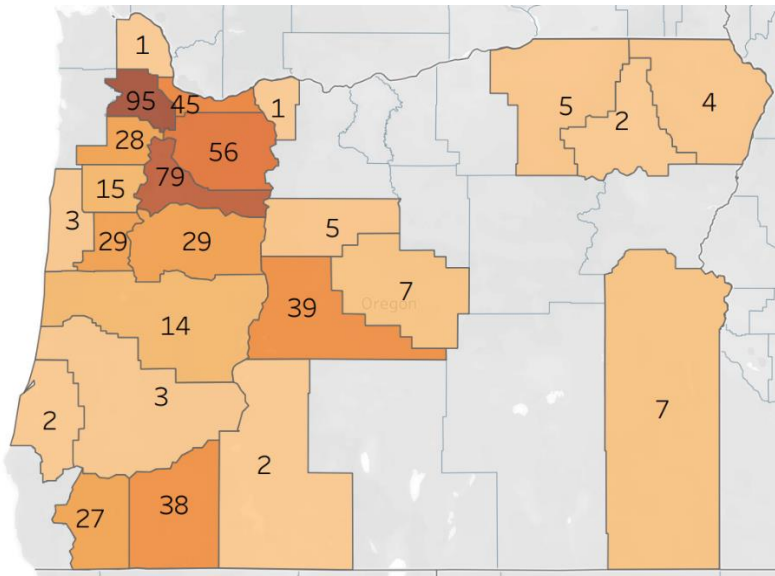


Figure 2: Number of Low- and Moderate-Income and Low-Income Service Provider Projects Reserved and Rebated by County in 2022



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Table 1: Total Residential Reservations and Rebates Issued in Year 2022

Customer Type	PV Only			Storage (Paired with PV)			Total Committed Funds
	# of Projects	Funds Committed	Nameplate Capacity (kW)	# of Projects	Funds Committed	Storage Capacity (kWh)	
Non-LMI	2,045	\$4,331,08	21,714.44	287	\$1,427,51	1390.24	\$5,758,59
LMI	497	\$2,847,20	6,313.98	39	\$292,088	184	\$3,139,290
Totals	2,542	\$7,178,285	28,027.42	326	\$1,719,604	1574.24	\$8,897,889

Table 2: Estimated Greenhouse Gas Emissions Reductions* for Projects Completed in 2022

Installed Projects	Total kWh Production (Annual)	Metric Tons CO2e Reduced (Annual)
2,809**	33,543,217	13,900

*The greenhouse gas emissions reduction estimate is calculated by multiplying the estimated annual kWh electricity production of a completed project by the estimated carbon intensity multiplier (lbs CO2e per kWh) of the electric utility providing service to the project. Utility carbon intensity multipliers are maintained on ODOE's [Electricity Resource Mix dashboard](#).

** Number is off by three because three rebated projects were completed off the grid, and therefore have no utility CO2 data.

“I love that people are being encouraged to do the right thing for the environment <3”



Program Participant

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FOR MORE INFORMATION

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