ITEM NO. RA1

PUBLIC UTILITY COMMISSION OF OREGON
STAFF REPORT
SPECIAL PUBLIC MEETING DATE: September 21, 2021

REGULAR X CONSENT ____ EFFECTIVE DATE N/A

DATE: September 15, 2021

TO: Public Utility Commission

FROM: Kacia Brockman

THROUGH: Bryan Conway, JP Batmale, and Sarah Hall **SIGNED**

SUBJECT: OREGON PUBLIC UTILITY COMMISSION STAFF:
(Docket No. UM 1930)
Community Solar Program policy changes related to launching the remainder of the initial capacity tier.

STAFF RECOMMENDATION:

Approve Staff's recommended six major policy decisions related to the remainder of the Community Solar Program (CSP or Program) initial capacity tier, to be implemented through revisions to the Program Implementation Manual (PIM) and the CSP rules and effective upon adoption of the revised PIM and CSP rules:

1. Open the 79 MW remaining in the initial capacity tier to new projects in Portland General Electric (PGE) and Pacific Power (PAC) territory;
2. Require a minimum of 50 percent of a project's capacity be allocated to residential customers, inclusive of the minimum 10 percent allocated to low-income residential customers;
3. Require a Project Manager's subscription fee for low-income participants be set at least 40 percent below the bill credit rate;
4. Set the residential bill credit rate for 2022 equal to the 2021 bill credit rate currently in effect, and set the non-residential bill credit rate for 2022 at 90 percent of the residential bill credit rate;
5. Add a two percent escalation rate to the PGE and PAC residential and non-residential bill credit rates beginning after 2022; and
6. Carve out 25 percent of the remaining capacity for exclusive use by community-based projects, to be defined in the PIM, and apply policies adopted herein to any carve-out capacity from the interim capacity tier not yet allocated to pre-certified projects.

ISSUE

Whether the Commission should adopt Staff's proposal to open the 79 MW of capacity remaining in the CSP initial capacity tier and modify Program policies related to bill credit rates, program capacity allocation, and low-income customer benefits in order to better achieve Program goals.

APPLICABLE RULE OR LAW

ORS 757.386(2)(a) directs the Commission to establish a program that provides electricity customers the opportunity to share the costs and benefits of electricity generated by a community solar energy system.[1]

In Order No. 17-232, the Commission adopted formal rules for the CSP under OAR Division 88 of Chapter 860.

OAR 860-088-0060(2) established the Program's "initial capacity tier" as 2.5 percent of each electric company's 2016 system peak load.

ORS 757.386(6)(a) specifies that electric companies shall credit CSP participants for their proportional shares of CSP project generation in a manner that reflects the resource value of solar (RVOS) and directs the Commission to determine RVOS. However, ORS 757.386(6)(b) provides that the Commission may adopt a rate for an electric company to use in crediting a participants electric bill that does not reflect the RVOS if the Commission has good cause to adopt the different rate.

In Order No. 18-088, the Commission determined there is good cause to develop an interim alternative bill credit rate in lieu of RVOS, due to issues of timing and value associated with the application of RVOS as the initial CSP bill credit rate.

In Order No. 18-177, the Commission adopted the simple retail rate structure as the bill credit rate for an interim capacity tier.

In Order No. 19-392, the Commission established the bill credit rate for the interim capacity tier at the residential retail rate of each utility without an annual escalator.

[1] ORS 757.386 codifies Section 22 of Senate Bill (SB) 1547, effective March 8, 2016.

ANALYSIS

Summary

In Staff's Memo of October 4, 2019, Staff identified an overarching purpose for the Community Solar Program: to establish an equitable opportunity for consumers that have not been able to access customer generation opportunities and incentives.[2] Reflecting the legislative intent of SB 1547, this purpose continues to inform Staff's Program's recommendations for changes related to launching the remainder of the initial capacity tier (Tier 2).

Staff now proposes a set of recommendations designed to significantly increase participation by residential customers, particularly in underserved communities. At the same time, the recommendations continue to enable the financial viability of the general capacity projects, since these projects are the means by which the Program is delivered. To arrive at these recommendations, Staff and the CSP Program Administrator (PA) performed financial modeling to test the impact of adjusting different Program design levers. These levers included project capacity allocation by subscriber type, program capacity allocation, bill credit rates, and subscription fees. In addition to describing the recommended changes, this memo focuses on the justification for cost-shifting and the basis for setting an appropriate bill credit rate.

First, in the Background section Staff reviews development of the CSP initial bill credit rate and interim capacity tier, and capacity utilization to date. Next, Staff describes how stakeholders have been engaged in this review and planning process. Staff then presents Program results to date. Next, Staff explains its six recommendations for the remaining initial capacity tier to better achieve the Program's goal, and summarizes stakeholder comments. Staff then describes the financial modeling used to analyze Program design options and the ratepayer impact of the recommendations. Finally, Staff lays out next steps and summarizes its conclusions.

Background

When the Commission adopted the initial bill credit rates for the CSP, it did so with the objective "to balance the need to provide a rate that will result in projects being developed while doing so with the lowest possible shifting of costs to non-participants." The Commission found good cause to launch the CSP using an alternative bill credit rate in lieu of RVOS. This good cause determination was founded on challenges with the timing and the value of RVOS. The Commission found that: 1) the timing for development of final RVOS values would not support a timely program launch

[2] Staff Memo dated Oct. 4, 2019, memorialized in Commission Order 19-392 on November 8, 2019

envisioned by the legislature; and 2) draft RVOS values appeared to be too low to result in viable CSP projects that could offer subscriptions to the public.[3]

The Commission launched the program in 2020 with bill credit rates equal to utilities' residential retail rates. The Commission noted, however, that the use of the retail rate will result in bill credits significantly higher than approved avoided costs and therefore should be used only for an interim period, "until such time as we have more information with which to judge its reasonableness."[4]

The Commission therefore established an interim capacity tier in which this interim bill credit rate could be evaluated. The interim tier would serve as "a pilot program within our Community Solar program, which we can use to develop learnings that will aide in the finalization of future bill credit rate determinations."[5]

The interim capacity tier is equal to 50 percent of the initial capacity tier for Portland General Electric (PGE) and Pacific Power (PAC) and 100 percent of the initial capacity tier for Idaho Power Company (IPC).[6] Table 1 shows, for each utility, the initial capacity tier, the interim capacity tier, and the remaining capacity currently under consideration.

Table 1. Capacity tiers by utility.

Utility	Initial Capacity Tier (MW-AC)	Interim Capacity Tier (MW-AC)	Remaining Capacity (MW-AC)
PGE	93.15	46.57	46.57
PAC	64.60	32.30	32.30
IPC	3.28	3.28	-
Total	**161.03**	**82.15**	**78.87**

Twenty-five percent of the interim capacity tier for PGE and PAC is carved out for exclusive use by small projects (up to 360 kW-AC) and projects developed by a nonprofit or public Project Manager ("carve-out capacity").[7] The remaining 75 percent of the interim capacity tier is available to any project up to 3 MW in size ("general capacity").

[3] Order No. 19-088. p. 2-3.
[4] Order No. 18-177, p. 3.
[5] Order No. 18-177, p. 4.
[6] *See* UM 1930, Order No. 19-392, issued November 8, 2019, p. 5.
[7] The Commission did not establish carve-out capacity for IPC since IPC's initial capacity tier is only 3.28 MW.

The majority of the carve-out capacity remains available to new projects. However, all of the PGE and PAC general capacity in the interim tier has been reserved by projects, and there is a waitlist of projects under development in both PGE and PAC territory awaiting release of the remaining capacity.

The full utilization of general capacity in the interim tier, shown in Table 2, triggered Staff and the PA to perform a program review and develop a recommendation for the next phase of the program.

Table 2. Interim tier general and carve-out capacity utilization.

Utility	Interim Tier General Capacity (MW-AC)	Interim Tier General Capacity Remaining (MW-AC)	Interim Tier Carve-out Capacity (MW-AC)	Interim Tier Carve-out Capacity Remaining (MW-AC)
PGE	34.9	0	11.6	11.6
PAC	24.2	0	8.1	6.1
IPC	3.3	0.3	-	-

Stakeholder Engagement in Program Review and Planning

Staff and the PA initiated a process to review Program results and consider options to inform a Staff recommendation regarding release of the remaining capacity in the initial tier (Tier 2). A public workshop was held June 4, 2021, to review Program goals, discuss stakeholders' experiences with the Program, and hear their priorities for the next Program phase. Staff provided questions to stakeholders in advance of the workshop. Some stakeholders provided written comments, including Oregon Solar + Storage Industries Association (OSSIA), PGE, NW Energy Coalition, Bonneville Environmental Foundation (BEF), Solarize Rogue, and Wallowa Resources Community Solutions.

On July 16, 2021, Staff published a draft proposal for releasing the remaining capacity in the initial tier, and requested public comment. Staff's proposal addressed major policy decisions related to bill credit, allocation of capacity by customer type, and low-income customer benefits.[8] Comments were provided by utilities PGE and PAC; ratepayer groups AWEC and CUB; OSSIA and several Project Managers; community project developers including BEF, Oregon Clean Power Cooperative, and Solarize Rogue;

[8] *Community Solar Program Staff Draft Proposal and Request for Comments*, filed in UM 1930 on July 16, 2021. See https://edocs.puc.state.or.us/efdocs/HAH/um1930hah153659.pdf

environmental organizations including Solar Oregon, Climate Solutions, Spark NW, and Electrify Now; and a residential participant and a non-residential prospective participant. On August 24, 2021, the Commission held a Special Public Meeting at which Staff presented its proposal, stakeholders presented oral comments, and the Commissioners asked questions and shared their comments.

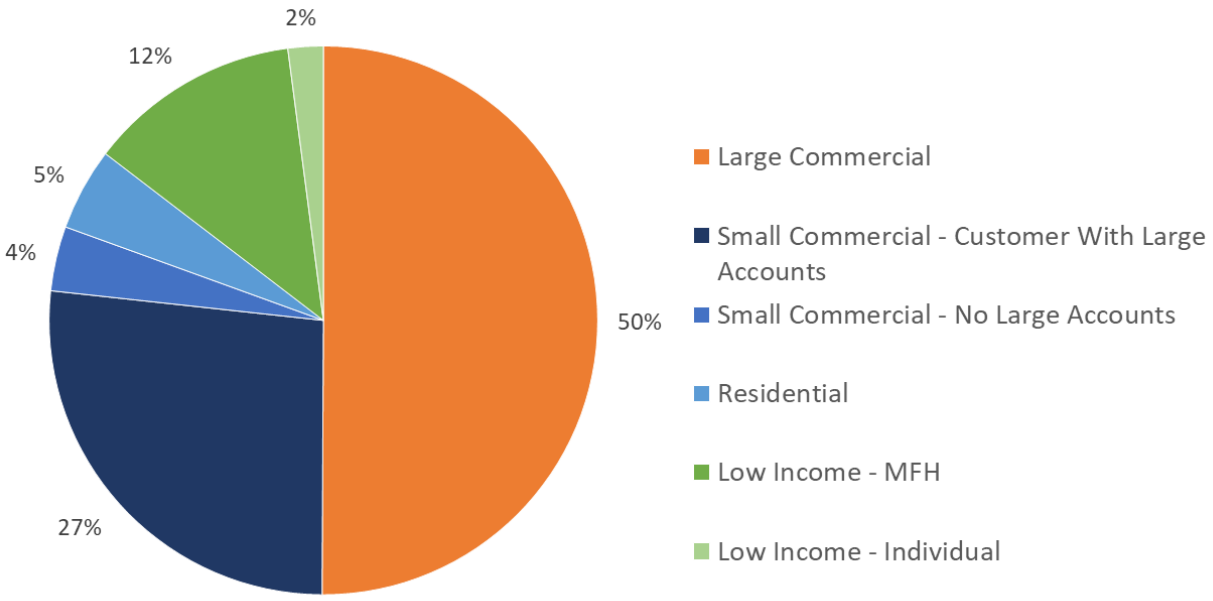
On August 24, 2021, Staff published a second, additional proposal for Program Implementation Manual (PIM) modifications that support Staff's proposed release of the remaining capacity. Stakeholder comments were received September 7, 2021.

Results from Interim Capacity Tier (Tier 1)

Thirty-four projects comprise the reserved capacity in the interim tier. Three projects are operating, two have requested certification, and the remainder are still in development. Most projects are actively recruiting subscribers.

To date, more than 22 MW of capacity across 19 projects have been subscribed by participants. This represents 73 percent of the combined capacity of the projects. The makeup of those subscribers by customer type is shown in Figure 1 below.

Figure 1. Subscribed capacity by customer type (data as of July 26, 2021).



Non-residential participants represent 81 percent of the subscribed capacity. Most of the non-residential subscriptions have been large commercial or public entities with multiple sites that enroll in both the large and small capacity allocations within a project.

Of the 3.2 MW of low-income capacity that has been subscribed to date, over 85 percent has been subscribed by providers of low-income multifamily housing, rather than by low-income individuals. This has allowed the majority of Project Managers to fill a project's 10 percent low-income capacity allocation with one, or a few, low-risk customers.

Stakeholders expressed at the June 4 workshop that these results are not aligned with the legislative goal to create equitable access to solar generation, and that program changes should be made to increase subscriptions by residential customers, particularly in underserved communities. Staff's recommendations, described in a later section in this memo, are intended to improve Program outcomes to better achieve residential participation.

Staff Decision-Making Principles

In the original Program design phase, Staff identified the following decision-making principles to guide its recommendations for key policy issues. These were articulated in Staff's Oct. 4, 2019 Memo.[9] Staff finds they continue to apply, with the addition of a Participation requirement.

Overarching purpose – equitable opportunity: Staff proposes that the overarching objective of the CSP is to establish an equitable opportunity for consumers that have not been able to access customer generation opportunities and incentives.

Additional requirements: As a complement to the overarching purpose, Staffs finds that the CSP must balance the following additional requirements:

- Low-income accessibility: Staff proposes a minimum expectation that low-income CSP participation makes low-income participants better off. This means the net impact of participation cannot result in an increase of low-income participant bills both month-over-month and over the life of a CSP subscription.
- Project availability: In addition, Staff identified minimum conditions for CSP project development to ensure that consumers will have access to opportunities to participate. These include:
    - Project Manager value: A minimum financial return is required for Project Managers to move forward with project development.

[9] Staff Memo dated Oct. 4, 2019, memorialized in Commission Order No. 19-392 on November 8, 2019

    - Project Manager certainty: Project Managers, at minimum, need to have a reasonable understanding of the administrative fees a project will incur, as well as the bill credit rate that the PA will assign to the project. This includes both the rate that will be assigned at pre-certification based on pre-certification queue position and the rate that participants will receive over the life of the project.
    - Community-driven project certainty: Community-driven projects may need additional certainty about the availability of capacity beyond the initial tier and the bill credit rate assigned to that capacity.
- Participation: Subscription by residential customers is a key objective and should be required for at least half of any project's capacity.
- Ratepayer value: Ratepayers need the lowest cumulative ratepayer impact at which the other program requirements are achieved

Staff's Recommendations for Remaining Initial Capacity Tier

The following set of recommendations are designed to significantly increase participation by residential customers, particularly in underserved communities. At the same time, the recommendations continue to enable the financial viability of the general capacity projects, since these projects are the means by which the Program is delivered. To arrive at these recommendations, Staff and the PA performed financial modeling to test the impact of adjusting different Program design levers. These levers included project capacity allocation by subscriber type, program capacity allocation, bill credit rates, and subscription fees. This financial analysis follows Staff's recommendations below.

Staff's recommendations are the same as described in Staff's draft proposal dated July 16, 2021. Each recommendation includes a summary of stakeholder comments that were submitted in response to Staff's draft proposal and presented at the August 26 Special Public Meeting.

1. Open the remaining 79 MW of the initial capacity tier as soon as practical.

Staff proposes to release the remaining capacity in order to 1) allow more residential participation in the CSP; and 2) support project viability that may be threatened by delay.

First, the PA anticipates that all of the general capacity in the interim tier will be subscribed in the same proportions by customer type seen to date, which is over 80 percent non-residential. Therefore, in order to increase residential participation in the

Program, additional capacity needs to be opened. Staff proposes recommendations #2-4 to maximize residential subscriptions in this new capacity.

Second, the Program has facilitated a pipeline of projects that can utilize the remaining initial tier capacity when it becomes available. Opening the remaining capacity now is necessary to allow development of waitlisted projects that may be threatened by significant delay due to expiring land use permits and interconnection deadlines. The PA estimates that the waitlisted projects in PGE territory are the lowest-cost projects available to the Program under the current program delivery model, which relies on these large projects to provide capacity to which customers can subscribe. Land use restrictions in PGE territory will likely prevent projects whose permits expire from developing in the future. Waitlisted projects also have interconnection deadlines that will require paying interconnection costs or withdrawing from the interconnection queue. Opening the capacity now provides those projects the certainty they need to proceed. Acting now also leverages the federal ITC, which will drop from 26 percent to 22 percent for projects that begin construction after 2022.

Stakeholder comments:

PGE and AWEC argue that the PUC should pause the program and perform an evaluation before making program adjustments and opening new capacity. AWEC notes that the program has not demonstrated existing demand from the residential sector, so opening new capacity will not guarantee participation.[10]

PGE argues that the CSP is uniquely positioned to serve community projects and low-income residents, but that neither of these segments benefits from releasing capacity quickly. PGE notes that the general capacity was filled by PURPA projects already under development, whereas there has not been time for community projects to develop from the ground up in order to inform program changes that will benefit those projects.[11]

OSSIA emphasizes the risk to waitlisted projects of a delay in the release of new capacity.[12]

PAC suggests the Commission pause to reconsider the costs and benefits of the CSP in light of Oregon's new clean energy policy landscape, particularly HB 2021, which requires utilities to reduce greenhouse gas emissions 100 percent by 2040 – a timeframe in which ratepayers will still be paying for CSP project generation.

[10] AWEC comments on Staff draft proposal, filed in UM 1930 on July 30, 2021.
[11] PGE comments on Staff draft proposal, filed in UM 1930 on July 30, 2021.
[12] OSSIA comments Staff draft proposal, filed in UM 1930 on July 30, 2021.

CUB supports opening the remaining capacity and modifying the program requirements as suggested by Staff. CUB notes that the CSP should not be expanded beyond the initial capacity tier, however, without a significant review of costs and compensation methodology.

The environmental groups also generally support all elements of Staff's proposal.

2. Require that a minimum 50 percent of project capacity be subscribed to residential customers, inclusive of the minimum 10 percent allocated to low-income residential customers.

For the remaining capacity in the initial tier, Staff proposes to require at least 50 percent of each project's capacity be reserved for residential subscriptions. This mandate will increase residential subscriptions from approximately 20 percent of project capacity, as seen to date, to at least 50 percent. Currently there is no residential mandate other than the 10 percent low-income requirement, which Staff proposes to retain for all capacity in both tiers. Setting the minimum residential requirement at 50 percent of project capacity will allow the other half of project capacity to still be available to large non-residential customers that act as "anchor" subscribers. The Project Managers report that low-risk, long-term anchor subscribers are essential to securing project financing.

Increasing the portion of capacity subscribed by residential customers will increase the Project Managers' costs of customer acquisition and replacement after attrition, given the small size of residential subscriptions and the frequency with which residential customers move. Staff's modeling of the financial impact of this recommendation included assumptions for higher customer acquisition costs to accurately reflect the impact of this recommendation. The revised cost is $0.15 per Watt-DC compared to $0.05 per Watt-DC for non-residential. This and other assumptions are included in the Financial Modeling section.

Stakeholder comments:

At the June 4 workshop, several stakeholders noted the lack of residential participation to date and argued that higher residential participation should be a goal for the remaining capacity. In joint comments, NW Energy Coalition, BEF, Solarize Rogue, and Wallowa Resources Community Solutions identify tenants as a target population for CSP since they don't own their roofs and can't access net metering.

PGE expresses particular interest in the CSP serving low-income residential customers. PGE does not oppose retaining the 10 percent minimum low-income requirement, but would support increasing it beyond 10 percent.

OSSIA supports the increased residential requirement as long as it is accompanied by the bill credit escalator (see recommendation #5) in order to cover the increased cost and risk of customer acquisition and maintenance.

CUB supports this change in order to shift CSP participation toward residential, noting that residential is the largest customer class and source of utility revenue.

3. Increase the low-income subscription discount to 40 percent.

Staff proposes to increase the low-income subscription discount from 20 percent to 40 percent for the remainder of the initial capacity tier in order to facilitate recruitment of low-income participants and provide more meaningful benefit to those participants.

The higher subscription discount will result in long-lasting, measurable bill savings for energy-burdened customers, which is a priority for the State.[13] This additional value to the customer will help Project Managers and the Low-Income Facilitator recruit and retain low-income customers over time to comply with the legislative requirement to allocate 10 percent of Program capacity to low-income participants. Low-income recruitment has been hindered to date by two major barriers: the COVID-19 pandemic and a utility billing hierarchy that put the customer at risk of falling into arrears with the Project Manager. While both of these are being addressed, the Low-Income Facilitator reports that CSP participation is not an easy sell to low-income residents at the current incentive level. Increased bill savings is expected to motivate organizations that serve those individuals to encourage their participation the Program.

Increasing the subscription discount will directly reduce the Project Manager's revenues by reducing the amount they can charge to low-income participants. Staff's modeling of the financial impact of this recommendation accounted for the reduced subscription fee revenue to the Project Manager.

Stakeholder comments:

While PGE does not oppose this change, PGE notes that there have been additional barriers to low-income recruitment, such as a complicated enrollment process, and recommends market research to determine whether a higher incentive is needed. PGE sees low-income customers as a priority segment within the Program and seeks to collaborate with the Program in this area.

[13] HB 2475 (2021) will reduce energy burden for low-income and other underserved customers.

AWEC warns that lowering the revenues Project Managers receive from low-income participants will actually discourage them from recruiting more low-income customers.

OSSIA supports this change as long as it is accompanied by the bill credit escalator to make up the lost revenue to the Project Manager.

4. Decrease the non-residential bill credit rate by 10 percent.

Staff proposes to lower the bill credit rate for non-residential participants by 10 percent relative to the current bill credit rate. This change, combined with recommendation #3 to limit non-residential participation to 50 percent of project capacity, is intended to shift the Project Managers' focus toward residential subscribers, while still providing some value proposition for anchor non-residential subscribers that Project Managers describe as essential for securing project financing.

This bill credit rate decrease is justified because non-residential customers appear to need less incentive to participate. To date, many non-residential CSP subscribers are commercial and public entities with stated sustainability goals. These subscribers may indicate a willingness to actually pay more for clean energy, much like the Portfolio of Options or, for larger customers, the well-subscribed VRET program.

Project Managers report that project lenders and investors require them to offer a subscription discount to all customers to ensure that the project's capacity can be re-subscribed quickly after customer attrition. Therefore, lowering the non-residential bill credit rate will result in Project Managers lowering their subscription fee for non-residential customers. This means that Project Managers' revenues from non-residential customers will be lower than from residential. This could motivate them to dedicate more of their project capacity and recruitment efforts to residential customers, which would be a desired outcome.

A reduction in the non-residential bill credit rate mitigates some of the increased program costs associated with a higher LI subscription discount. While this may make commercial customer participation less attractive, non-residential customers have other alternatives. These include the option to subscribe to a share of a solar project through PGE's Green Energy Affinity Tariff (GEAR) as an alternative to CSP, and the option to purchase unbundled Renewable Energy Certificates (RECs) through PGE's Green Future or PAC's Blue Sky programs. Staff's modeling of the financial impact of this recommendation accounted for the reduced subscription fee revenue to Project Manager.

Stakeholder comments:

OSSIA has concerns about this change but does not oppose it as long as it is accompanied by the bill credit escalator to make up the lost revenue to the Project Manager.

5. Add a two percent annual escalator to the bill credit rate.

The proposed two percent annual escalator is designed to offset the higher costs and lower revenues that Project Managers will experience as a result of the combination of Program requirements recommended in this memo. Project Managers will most likely experience higher customer acquisition costs to meet the proposed 50 percent residential capacity mandate, and lower revenues due to lower subscription fees charged to low-income and non-residential customers. The bill credit escalator will allow Project Managers to charge escalating subscription fees, increasing their revenue over the life of the project. This increased revenue is designed to keep projects economically viable under the proposed Program changes. Project Managers report that escalating revenues will also improve cash flow, since many project costs escalate over time.

In addition to replacing lost revenue for the Project Mangers, an escalating bill credit will make a more attractive value proposition for prospective residential customers and should make residential recruitment easier. The escalator will also improve the economics for community projects.

Staff recognizes that a bill credit escalator was originally rejected by the Commission in the early Program design to minimize cost-shifting. However, Staff believes that to achieve the equity of access to the value of solar for residential and low-income customers, comparable to net-metering, an escalator is worth the additional cost.

Staff proposes that residential participant rates in the first year (2022) are the same as the interim tier rates currently in effect, with non-residential rates ten percent less, per recommendation #4. Since all of IPC's capacity is in the interim tier, the IPC bill credit rates will not be subject to these recommended changes, including the escalator. The proposed first-year rates are shown in Table 3 below.

Table 3. Proposed first-year (2022) bill credit rates for remainder of initial capacity.

Utility	Residential (including low-income)	Non-residential
PGE	$0.11234	$0.101106
PAC	$0.0977	$0.08793
IPC	n/a	n/a

Staff's financial modeling indicates that a two percent escalation rate results in an increase to the project IRR of approximately one percentage point compared to current IRRs in the interim tier. These results are shown in Table 8 in the Financial Modeling section of this memo. Staff feels that this IRR increase is necessary to account for the increased financial risk associated with relying on residential subscriptions to fill 50 percent of the project's capacity. Residential customers will most likely have a higher attrition rate, and the risk of lost revenue from attrition is not included in Staff's financial modeling.

The incremental costs to ratepayers of the two percent escalator, in combination with the reduced non-residential bill credit rate, are also shown Tables 7 and 8 in the Financial Modeling section of this memo.

Stakeholder comments:

AWEC is deeply concerned with program cost and does not support the escalator. AWEC states that PGE's green tariff program, which serves similar public policy goals as the CSP by providing customers access to renewable energy projects, is prohibited from cost shifting. AWEC suggests that the CSP is not scalable at this cost. AWEC further asserts that Staff's justification is based on speculation.

PAC is strongly opposed to adding an escalator, and suggests that the waitlist of projects indicates that demand exists without an escalator. PAC argues that Staff moved too far away from the mandate to use RVOS and minimize cost shifting, and has not demonstrated that projects need additional incentives to be viable. PGE similarly questions the reasonableness of Staff's recommendations and requests more transparency in the modeling assumptions.

CUB had hoped for compensation at RVOS levels, but agrees that the value of RVOS is too low and therefore ratepayer subsidy is needed. CUB believes the subsidy is a reasonable cost to implement a successful program, given that the initial capacity tier is limited in size and the cost is spread over 20 years.

OSSIA strongly supports the bill credit escalator. OSSIA states that current project economics are marginal, as evidenced by the lack of national community solar developers in Oregon. OSSIA and environmental stakeholders note that HB 2475 could protect low-income customers from cost shifting imposed by the CSP.

6. Retain the 25 percent capacity carve-out for community-driven projects; roll unused carve-out capacity from the interim capacity tier into the new carve-out capacity.

Stakeholders see community-based projects as an important vehicle to provide equitable access to solar projects. While the carve-out capacity in the interim tier remains largely unused, Staff proposes to retain the 25 percent carve-out for the remaining capacity in the initial tier.

Because community-based projects typically need more funding than available from CSP bill credits, Staff does not propose to increase the carve-out beyond 25 percent. The local known sources of outside funding are insufficient to support a rapid expansion of the carve-out at this time.[14] Additionally, increasing the carve-out beyond 25 percent will reduce the general capacity available to waitlisted projects, as shown in Table 4 below.

Table 4. Waitlisted capacity compared to general capacity available.

	General Capacity Available with 25% Carve-out (MW-AC)	Capacity of Waitlisted Projects (MW-AC)
PGE	34.9 MW	25.9 MW
PAC	24.2 MW	25.4 MW

Stakeholder comments:

PGE does not object to retaining the 25 percent carve-out, but would support increasing it beyond 25 percent and making community projects a focus of the Program. PGE encourages flexibility in the 40 percent low-income discount mandate for carve-out projects that aim to serve 100 percent low-income customer so as not to render them economically unfeasible.

OSSIA supports the capacity carve-out and notes the importance of the escalator given challenging economics faced by most carveout projects. OSSIA notes that interconnection challenges are also a major barrier for small projects.

Solarize Rogue suggests the escalator be applied to community projects still in development in the interim tier. Solarize Rogue makes additional recommendations to support small projects including adjustments to pre-certification requirements; a

[14] In 2021, Energy Trust is funding five small CSP projects that represent 1 MW of carve-out capacity out of the 37.4 MW of carve-out capacity that will be available after the remaining initial tier capacity is released.

standard, affordable interconnection process for small projects; and additional financial assistance.

Oregon Clean Power Cooperative asserts that the program changes are insufficient to help small, community projects succeed.

Other Program Changes Will Be Considered in the Future

In addition to the six policy recommendations in this memo, Staff and the PA have proposed additional Program changes to promote the desired outcomes. Staff published those recommendations, described as changes to the PIM, on August 24, 2021, for public comment. Stakeholders filed comments on September 7, 2021.

If the Commission adopts Staff's recommendation to open the remaining capacity in the initial tier, there will be additional stakeholder engagement and Commission actions needed to update the PIM and the CSP rules. The next steps are described in a later section of this memo.

Financial Modeling

To develop these recommendations, Staff used the same financial model that was developed in 2019 to evaluate the impact of different bill credit rate and program design options on 1) the internal rate of return (IRR) for projects and 2) the incremental cost to ratepayers.

Project IRR is estimated using 20-year project cash flow. In the original version of the model, the project capital and operating costs were built up based on assumptions. In the current version of the model, much of the project capital and operating cost elements were replaced with median actual project cost data provided by Project Managers for pre-certified and certified projects, as shown in Table 5. Additional upfront and ongoing cost elements not provided by the Project Managers are listed in Table 6 with their assumed values.

Table 5. Revised model inputs based on project data.

	Original Model Inputs	Revised Inputs Based On Project Data		
		PGE General Capacity	PAC General Capacity	PGE/PAC Carveout
Project Size (kW-AC)	2,200	2,500	2,053	245
Project Size (kW-DC)	3,000	3,154	2,663	287
kWh/kW-AC	1,898	1,950	2,063	1,444
kWh/kW-DC	1,392	1,546	1,590	1,234
Up-front Cost/kW-AC	$1.84	$1.54	$1.32	$2.27
Upfront Cost/kW-DC	$1.35	$1.22	$1.02	$1.94
Ongoing Cost*/kW-AC	$0.015	$0.025	$0.031	$0.018

**Includes only subscriber management and operations/maintenance costs.*

Table 6. Additional project cost assumptions used in model.

	Cost ($/Watt-DC)
Up-front Costs	
Subscriber acquisition - residential	$0.15
Subscriber acquisition – non-residential	$0.05
CSP application fee	$0.01
Ongoing Costs	
Property lease	$0.005
Property taxes	$0.010
Insurance	$0.005
Equipment replacement reserve	$0.003
Other management	$0.005

Incremental cost to ratepayers is based on the full initial capacity tier, including the interim tier and the remaining capacity yet to be opened. The incremental cost is estimated by calculating the annual bill credits paid and then deducting 1) the utility and PA fees collected from participants; 2) application fees collected from Project Managers and 3) the avoided cost of energy generated.[15] The ratepayer costs are modeled from

[15] Staff used the same 2018 standard avoided cost prices for solar qualifying facilities that were used in Staff's original financing modeling during program design. This was for ease of comparison to the original modeling assumptions and results. It would be appropriate to use the RVOS, rather than avoided costs, as the baseline to determine incremental ratepayer cost. However, the model requires a forecast of baseline costs, which is not available for RVOS.

the year of the first project pre-certification through the 20th year of generation for the last project to be certified. The cumulative ratepayer cost is estimated as the net present value of the annual ratepayer costs over the over that time period. Annual ratepayer costs are shown in Table 7. Project IRR and cumulative ratepayer cost are shown in Table 8.

Table 7. Annual ratepayer cost of staff recommendations.

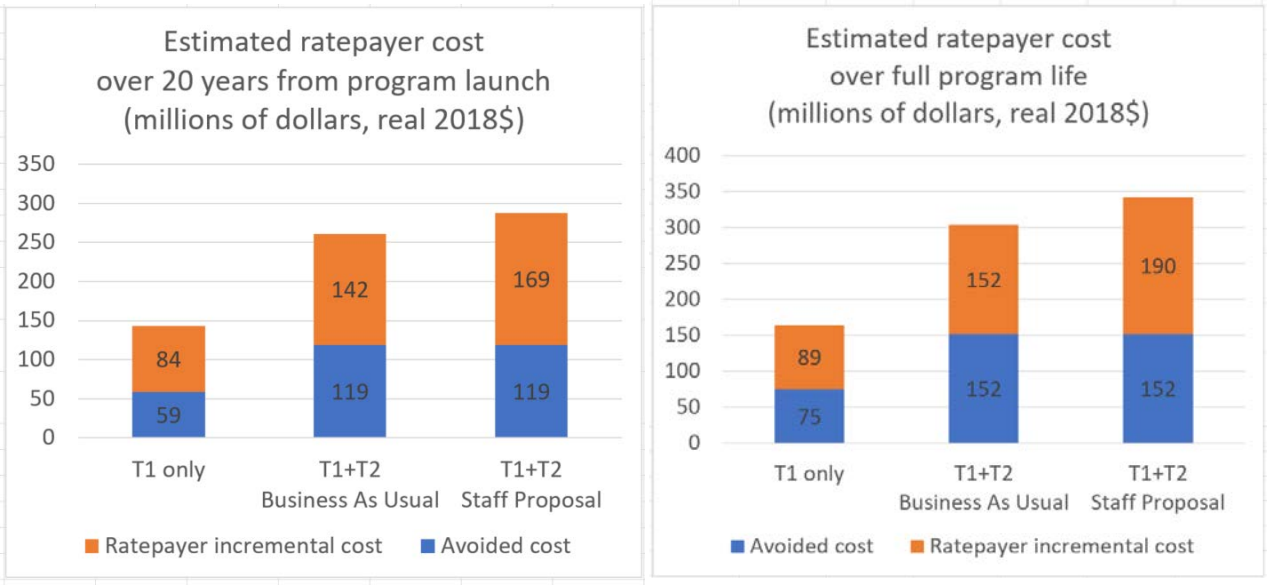
Utility	Annual incremental ratepayer cost
PGE	$7-9M
PAC	$3-5M
IPC	$135k

Table 8. Project IRR and ratepayer cost of staff recommendations.

Scenario	Project IRR in PGE Territory	Project IRR in PAC Territory	Cumulative Ratepayer Cost
Release remaining capacity with no changes	7.95%	7.02%	$152.1M
Implement all recommended changes, but with 0% escalator	5.80%	4.62%	$144.5M
Implement all recommended changes including 2% escalator	9.03%	8.27%	$190.2M

The cumulative ratepayer costs presented above differ from the costs presented in Staff's draft proposal and at the August 26 Special Public Meeting. Staff discovered that the model was originally only including 20 years from Program launch in 2020. The model was updated to include all the future years of project generation. The graphs in Figure 3 below show the cumulative ratepayer and avoided costs before and after this change.

Figure 3. Cumulative program costs after update from 20-year period to full program life.



Cost-Shifting Still Justified

Since the original Program design, market conditions haven't changed substantially. Solar costs have remained stable or experienced a temporary increase due to the COVID-19 pandemic. The updated RVOS values filed in 2019 are approximately half the value of the current bill credit rate for all three utilities, and therefore continue to be too low to stand up a program under the current program delivery model. A recent review by the PA found that other U.S. markets using a similar community solar delivery model to Oregon's CSP are also offering bill credits roughly equal to the local residential retail rates.[16]

Each CSP project must conform to investor and lender requirements in order to be "bankable," and must have a cash flow that supports ongoing operating costs, including costs associated with subscriber acquisition and maintenance.

Redesigning the Program to achieve a lower cost delivery model would require substantial time and cost by Staff, the PA, utilities, stakeholders and the Commission with a lack of certainty around outcomes. Staff does not recommend embarking on a fundamental redesign at this time. Instead, Staff recommends the proposed changes to

[16] States with bill credit rates roughly equal to residential retail rates include Minnesota, Massachusetts, and New York.

the existing Program design in order to leverage investments already made in the current model by the Program, utilities, and Project Managers.

Next Steps for Implementation

If the Commission approves the recommendations in this memo, the following additional actions will need to occur before the Program can open the remaining capacity in the initial tier and begin accepting pre-certification applications.

- Revise Program rules:
  Staff's recommendation #2 will require a change to OAR 860-088-0080. Staff will request the Commission open a rulemaking, with the opportunity for public comment on proposed rule changes.

- Update the PIM:
  Staff and the PA will publish a redlined PIM for public comment, then will ask the Commission to adopt a final version.

- Implement Program changes:
  The PA will identify and implement any needed changes to the project data platform and website in coordination with the Project Managers and utilities.

- Revisit CSP interconnection queue:
  Staff will recommend criteria for accepting new interconnection applications to the CSP queues, first for stakeholder feedback, then for Commission approval.[17]

Policy Considerations for Future

Much has recently changed in Oregon's energy landscape. The benefits of CSP and the associated cost-shifting necessary to achieve the Program's equity goals arrive at a time when several new and important policies are just beginning – bringing their own rate pressures. From decoupling energy production and use from GHG emissions (HB 2021) to establishing the basis for an income energy rate differential (HB 2475), for stakeholders interested changing Oregon's energy system the balancing of greater policy options with potentially higher costs to ratepayers could be more precarious than in previous years.

[17] On June 15, 2021, in Order No. 21-199, the Commission directed PGE and PAC to pause their CSP interconnection queues to new applications from general capacity projects, but not carve-out capacity projects, and planned to revisit the criteria for accepting interconnection applications to the CSP queue after opening additional initial tier capacity.

If it is determined in the future that the Program needs to grow beyond the current 160 MW capacity limit, a wholly different program delivery model may need to be explored to reflect the changed circumstances of the Oregon and regional energy markets. In short, better options may exist in the future for providing the many benefits of solar to customers – and even communities – lacking rooftop access or the financial means to purchase a standalone system, especially as new legislation starts to be implemented. One example of this could be only opening capacity to projects which focus solely on community-based projects. The rules associated with this capacity could be structured to provide custom levels of support to different project types; encourage projects that provide both resilience and grid benefits, such as integrated customer-sited solar and storage, to more vulnerable populations and communities; and encourage projects that work in conjunction with the new community grant program emerging at the Oregon Department of Energy. While this is just an example, it is meant to be illustrative of the creative thinking that stakeholders could bring forth to ensure any possible expansion of the Community Solar Program in the future reflects and complements the evolving realities to our energy system.

Conclusion

The Commission launched the program with an interim capacity tier in order to evaluate the effectiveness of the interim alternative bill credit rate in achieving the Program goal at minimal ratepayer cost. At the June 4, 2021, workshop, stakeholders broadly agreed that the primary Program goal is to provide equitable access to solar generation for customers who have historically lacked access. Results from the interim capacity tier show that the current Program design and bill credit rate are not achieving this goal. Staff finds that minimizing ratepayer cost without achieving the primary Program goal does not meet the legislative intent. Therefore, Staff is recommending incremental Program changes that will better achieve the goal.

The Commission should approve the incremental Program changes recommended in this memo as they strike the best balance between the need for a successful program and the need to limit ratepayer cost.

Staff acknowledges the significant support from the PA in developing the recommendations and evaluating many different options. Staff also appreciates the time and thoughtful input shared by stakeholders and utilities.

PROPOSED COMMISSION MOTION:

Approve Staff's recommended six major policy decisions related to the remainder of the Community Solar Program (CSP or Program) initial capacity tier, to be implemented through revisions to the Program Implementation Manual (PIM) and the CSP rules and effective upon adoption of the revised PIM and CSP rules:

1. Open the 79 MW remaining in the initial capacity tier to new projects in Portland General Electric (PGE) and Pacific Power (PAC) territory;
2. Require a minimum of 50 percent of a project's capacity be allocated to residential customers, inclusive of the minimum 10 percent allocated to low-income residential customers:
3. Require a Project Manager's subscription fee for low-income participants be set at least 40 percent below the bill credit rate;
4. Set the residential bill credit rate for 2022 equal to the 2021 bill credit rate currently in effect, and set the non-residential bill credit rate for 2022 at 90 percent of the residential bill credit rate;
5. Add a two percent escalation rate to the PGE and PAC residential and non-residential bill credit rates beginning after 2022; and
6. Carve out 25 percent of the capacity for exclusive used by community-based projects, to be defined in the PIM, and apply policies adopted herein to any carve-out capacity from the interim capacity tier not yet allocated to pre-certified projects.