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The Oregon Solar Energy Industries Association (OSEIA) and Coalition for Community Solar Access (CCSA) (hereto after, Solar Parties) provide these comments in response to the Staff Recommendation (Staff Proposal) filed with the Public Utilities Commission (PUC) on October 4 in (Docket No. UM 1930) on Community Solar Program Interconnection, low-income, transition to ongoing costs, and bill credit rate policies.

Introduction

The Solar Parties applaud the work by PUC Staff and the Program Administrator team in analyzing Oregon's solar market and project economic assumptions the past six months while taking into consideration stakeholder feedback provided over the past several years. We agree with what Staff identified as the "overarching purpose" for this program, "to establish an equitable opportunity for consumers that have not been able to access customer generation opportunities and incentives." We also understand the herculean task involved in meeting that objective while balancing a host of stakeholder interests and policy goals with market realities and challenges unique to solar development in Oregon.

To that end, Staff has largely struck a good balance. As with many stakeholders, the Solar Parties are eager for this program to launch and are not interested in producing unnecessary bumps in the implementation process. Staff's proposal is on the right path and we support that momentum. That said, we do have some notable concerns with a few specific components of the proposal which we feel could be addressed to more firmly ensure the program achieves the stated objective.

The following comments provide feedback on each of the primary policy elements addressed in Staff's proposal: credit rate and capacity allocation; administrative costs; low-income requirements and options; and interconnection. We also added a section at the very end focused on modeling assumptions. For each of these critical elements we attempt to highlight the positives, negatives (if any), and, where possible, recommendations for improvement. The following bullet list highlights our key recommendations:

- Apply the credit rate (residential rate with an escalator) to the full initial capacity tier.
- Expand the credit rate to the full initial capacity tier and set the transition to full ongoing costs at the 75% or 100% capacity levels.
- Use ratepayer funding to cover the ongoing administrative costs for low-income participants.
- Explore opportunities for reducing administrative costs as well as how these costs are designed and administered to participants.
- Remove the "prioritization" that might be imposed by the Low-Income Facilitator based on the discount level provided to low-income customers.
- Make mostly minor adjustments to the Staff Proposal interconnection recommendations to drive more action-oriented results for the program.
- Revisit some of the assumptions informing the financial model to better align with average project scenarios as opposed to a more aggressive, best-case scenario.

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Credit Rate & Capacity Allocation

Positives

The Solar Parties strongly support Staff's recommended interpretation of the credit rate. This value is at the heart of the program's viability. Incorporating an escalator that roughly matches projected inflation reinforces an underlying goal to provide community solar subscribers with an opportunity that is akin to the net metering benefits experienced by those able to host their own onsite solar system. It is also critical to providing a reasonable chance of being able to overcome the program administrative costs and other development hurdles. Establishing a known rate with a known escalator also ensures more accurate revenue projections which simplifies and reduces risk in the value proposition offered to customers and provides more certainty to investors and Project Managers. Finally, a known rate supports a more transparent and streamlined bill crediting and payment process which reduces administrative complexity and enables Staff and the Program Administrator to make more educated projections regarding program costs and revenues.

The Solar Parties support the proposed capacity allocation associated with the identified credit rate. The combination of a known credit rate tied to a more significant amount of capacity reduces market uncertainty and provides clear benefits to key stakeholders:

- Customers – Ensures greater equity across state programs and ability to participate sooner.
- Industry – Reduces investment risk and allows business models to scale and be more diverse.
- Administrator – Provides longer runway for program design and cost recovery assumptions.
- PUC – Creates bandwidth for Staff and more time and experience to evaluate the market.

Further, the one benefit of such a long-awaited program is that it has provided more time to analyze market conditions and assess project economics to support a more deliberate and far reaching program launch. Additionally, the declining federal investment tax credit (ITC) is now a reality, set to drop from 30% to 26% on January 1, 2020, then to 22% in 2021, and finally 10% in 2022. Those federal subsidies are in the public interest and will help save Oregonians money – whether participating in the community solar program or not – as they directly impact the program levers (e.g., credit rate and administrative costs) influencing project (and program) viability.

The Solar Parties support maintaining the capacity carve-out for small projects, and Staff's proposal to expand that eligibility to non-profit and publicly led projects. As has been realized by many potential project developers, whether they are for-profit or not-for-profit, the marginal project economics in the market naturally drives development toward larger projects that can leverage economies of scale. It makes sense to set aside capacity for these market sectors to ensure smaller developers and community-based groups have an adequate shot at program participation. As the program progresses, the PUC may wish to revisit the size of the carve-out if it appears the carved-out capacity is not being fully utilized.

Recommendations

Apply the credit rate (residential rate with an escalator) to the full initial capacity tier. As Order 17-232 stated in its adoption of the final rules for the program, the PUC "intention in setting this initial limit [2.5% of peak load] is to launch the program at a size large enough to sustain the initial administrative costs while ensuring that we have the opportunity to adjust all aspects of the program before

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proceeding to any further expansion.[1]" This forecast by the PUC over two years ago holds true today. We are very encouraged by Staff's attempt to do just that - launch the program "at a size large enough to sustain the initial administrative costs" – however, we would argue that expanding from 75% to 100% of the initial capacity tier will provide greater confidence in the ability to recover more administrative costs. Increasing the capacity allocation will reduce the administrative costs for participants, which as discussed below is currently a barrier to the program's success. In turn, increased program interest and participation will provide a broader base over which to recover administrative costs and provide savings that can be passed onto participants. Finally, between a declining ITC and a market with increasingly limited or time-sensitive development opportunities due to interconnection and land-use constraints, there is pressure to move this market quickly.

Administrative Costs

Positives

We appreciate Staff's effort to develop an innovative solution to recover the program administrative costs without undermining the success of the program. While we maintain concerns with the cost figures themselves (discussed in the "Negatives" section below), the general mechanism Staff proposes for recovering the various program administrative costs is reasonable. Specifically, Staff's "hybrid" framework balancing the "task-based" and "capacity-based" approaches with a "time-based" backstop to determining the transition point between start-up and ongoing costs is both logical and, most importantly, likely the only viable method for a functioning program to get off the ground. Further, as highlighted in more detail below, the risk of having over-burdening administrative costs at the program outset goes beyond penalizing first-movers to threatening the entire program launch and ability to recover any meaningful administrative costs at any time.

In addition, the Solar Parties support the notion that administrative costs should not fall on low-income participants. Though the cost is baked into the administrative costs falling on non-low-income participants, the basic premise makes sense and is justified. As noted in the Recommendation section below, costs associated with low-income participants should be rate-based as part of a financial incentive to support low-income participation, rather than using other project participants to bear this cost.

Negatives

The proposed administrative costs for the program are exceedingly high. The Solar Parties are concerned that Oregon's program will have trouble scaling based on the project economics in Staff's Proposal. This concern is based on evaluation of larger (e.g., 1-3 MW) projects which suggests project economics for even these larger projects are marginal or out of reach. It's safe to assume that the opportunity will be even tighter for smaller projects. Notably, this is also in the face of a market not yet familiar with community solar and with significant development variables associated with interconnection and land use permitting.

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[1] AR 603. (2017) pg. 7. https://apps.puc.state.or.us/orders/2017ords/17-232.pdf

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To illustrate further, the following table shows the administrative costs as proposed by Staff (a $5 kW-DC pre-certification fee and a $1.50 kW-DC/month ongoing fee) and what it would mean for two example projects (3 MW-AC and 360 kW-AC) and for the program overall.[2] Note that these only refer to cost recovery for the "Program Administrator," and that the utilities will also have incremental ongoing administrative costs, of which the burden remains unknown.

Capacity	Actual Pre-Certification Cost ($75/kW-DC)	Pre-Certification Fee Paid by PM ($5/kW-DC)	Ongoing Fee ($1.50 kW-DC /Month) – Month 1	Ongoing Fee ($1.50 kW-DC /Month) – Year 1	Pre-Cert Fee ($5/kW-DC) + 20-Year NPV of Ongoing Fee ($1.50 kW-DC /Month) (8% discount)
3,000 kW-AC	$292,500	$19,500	$5,850	$63,180	$639,811
360 kW-AC	$35,100	$2,340	$632	$7,582	$76,777
Transition Level (80,000 kW-AC)	$7,800,000	$520,000	$140,400	$1,684,800	$17,061,615

The far-right column shows the cumulative net present value of administrative costs that would be collected from participants. We understand the rates could potentially go down based on the amount of capacity in the program and other efficiencies or improvements gained by the Program Administrator. However, the "potential" for cost declines is not something a Project Manager or developer can count on from a financing perspective. In addition, assuming the program reaches a point (when 80 MW is "subscribed and billing"), the $75/kW-DC pre-certification fee risks effectively ending future interest in the program due to failed project economics.

The Solar Parties are unaware of any other program in the country that applies anything close to the level of program costs proposed for participants in Oregon. In some cases, there is a refundable deposit or collateral required to ensure there's "skin in the game", but which is ultimately returned once a project is operating.[3] Most markets require application fees of a few hundred to a few thousand dollars which are one-time costs typically associated with the administrator reviewing or approving a project.

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[2] In the table, 10% is deducted for the ongoing administrative fees to account for low-income participation. Also, as a side reference this table includes the actual pre-certification costs (at $75/kW-DC), despite these values being proposed as part of the "start-up" costs ahead of triggering the capacity transition. Finally, our understanding from communications with the Program Administrator is that these administrative fees are all in terms of DC capacity, despite all other references (through all materials to date) to program and project capacity being in AC capacity. Therefore, we've applied a generic 1.3 AC:DC ratio which would bring the ongoing fee to $1.95/kW-AC, for example.

[3] Citations for: Colorado (Xcel) - $100/kW deposit returned when the project is COD (if meets deadline), found here: https://www.xcelenergy.com/staticfiles/xe-responsive/Working%20With%20Us/Renewable%20Developers/Solar-rewards-comm-developer-resources-standard-offer-application-process.pdf; Illinois – Adjustable Block Program Guidebook - 5% REC collateral for 15-year value, refundable in year 5, Found here: http://illinoisabp.com/wp-content/uploads/2019/05/Program-

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Xcel's program in Minnesota provides the most readily available data points. In Minnesota, project operators pay a one-time application fee of $1,200/MW-AC (~$0.92/kW-DC) and an annual participation fee of $300/MW-AC (~$0.23/kW-DC). Xcel Energy estimates that it spent a total of nearly $574,000 to administer the program in 2018, with 505 MW-AC of projects in operation by the end of the year (translating to ~$0.87/kW-DC/year or $0.07/kW-DC/month).[4] This includes the cost of program staff time and an online portal for project and subscriber management. While Minnesota's program benefits from greater economies of scale and does not include on-bill payment or a Low-Income Facilitator, it is not clear why ongoing program administration costs in Oregon would be more than 20 times the cost in Minnesota on a per-kW basis.

Recommendations

Expand the credit rate to the full initial capacity tier and the transition rate to the 75% or 100% capacity level. Staff is attempting to thread a needle with regards to setting the administrative costs at a level that will *just* work for projects without overly exposing the Program Administrator. We appreciate the balance being sought by Staff, but as we've described above, the marginal economics coupled with high development risks lowers confidence that all the capacity will be allocated. Conversely, the lower the administrative fee, the higher the likelihood that the capacity will be allocated. Hence, releasing more capacity allows for a lower administrative fee and in turn, an increased assurance that the program capacity can and will be fully allocated. A higher capacity transition level (and lower administrative fee) also better aligns the target IRR with market expectations.

Rate-base the ongoing administrative costs for low-income participants. The Solar Parties support not burdening low-income participants with ongoing administrative costs, however the result is, i.e., a 10% or more increase in the administrative cost that falls on all other participants. In other words, the ongoing administrative costs is calculated based on an assumption that low-income participants will not be paying. Instead of that cost falling on non-low-income participants, the Solar Parties recommend funding it through all ratepayers to support low-income participation. This cost designation would not only reduce the administrative cost burden on the program but also be consistent with an opportunity granted by the program rules, which state that the "Commission may establish by order a funding mechanism to facilitate participation of low-income residential customers.[5]" In addition, this change would ensure more accurate cost accounting and remove the risk exposure currently on the Program Administrator in trying to anticipate the amount of program capacity that will go to low-income participants.

Dissect the administrative costs to identify cost reduction opportunities. As discussed above, the estimated program administration costs in Oregon are far in excess of the costs seen in other community solar markets. The level of costs and potential impacts on the program justify revisiting the

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Guidebook-2019_05_31.pdf. Rhode Island – performance deposit guarantee of $25/MWH of expected output, up to $75K, refunded in year after commercial operation is achieved. Found here: https://ngus.force.com/s/article/Net-Metering-in-Rhode-Island

[4] Northern States Power Company d/b/a Xcel Energy, Solar*Rewards Community Program 2018 Annual Operations Report, https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId={3075D969-0000-CE1F-B6B2-A01BABF88030}&documentTitle=20194-151547-01

[5] OAR. 860-088-0080. https://secure.sos.state.or.us/oard/displayDivisionRules.action?selectedDivision=4090

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scope of work for program administration and identifying opportunities to reduce costs. For example, there may be functions performed by the Program Administrator that could be handled more cost-effectively by Project Managers themselves. For example, if these higher costs are being driven by the on-bill payment facilitation function, it may make sense for this service to be offered to Project Managers on a fee-for-service basis, rather than requiring all projects to pay for it. Notably, it's not yet clear what benefits or cost savings a Project Manager should incorporate in their modeling assumptions with regards to the support provided by the Low-Income Facilitator (a similar concern is raised in that section below) and/or the clearinghouse and potential communications made through each utility (as proposed by Staff). Some of this quantification will only come through market experience.

Consider adjustments to how the ongoing administrative fee is applied. As discussed further in the Modeling section below, the current model inputs shared in the Staff proposal show the administrative fee being converted from a capacity (per kW) fee to a generation (per kWh) fee. It's unclear if this is the expectation for the program going forward. There are implications to making this conversion, as the value could differ substantially based on the location and technology of each project. A kWh fee would also result in a steady decline in overall revenue production, not only based on the time value of money but also the degradation of the system performance. Finally, another option is to use a fee based on a percentage deducted from the credit rate. Similar to the previous recommendation made above, greater transparency into the rate calculation and assumptions would be helpful from a project development standpoint and to provide assurance to the public that the fee is being allocated fairly.

Low-Income Requirements and Options

Positives

The Solar Parties support applying a 10% capacity minimum for low-income participation across all projects. This approach ensures the legislative intent is met, and that state's community solar program – which is inherently focused on providing equitable access to clean energy programs - meets important policy objectives.

The Solar Parties also generally support the requirement for a minimum 20% savings discount to be passed onto low-income participants, with a caveat that exceptions be available for projects seeking more than a 10% low-income participation. Ensuring low-income participation is focused on creating meaningful benefits for those customers is a good policy objective.

The Solar Parties support the definition of a low-income customer being expanded to include low-income housing providers. This is an important option for low-income customers that have utility costs already incorporated in their rent payments.

Negatives

The Solar Parties are concerned with the Staff's proposal for the Low-Income Facilitator to "prioritize" Project Managers offering a 50% or greater discount to low-income participants. As Staff has thoughtfully captured throughout their proposal, certainty is a key factor for Project Managers evaluating whether to participate in a market. Any uncertainty is treated as a risk, and therefore cost. In this case, aside from being able to achieve a "Low-Income Project" designation, it's unclear what the

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true incentive is with regards to being prioritized, or, conversely, what the potential penalty is for not providing a 50% savings discount. Does this mean that a Project Manager may not receive help from the Low-Income Facilitator in placing low-income participants in their project? Does it mean preference would be given to a Project Manager in the case where a lottery was held? What criteria should a Project Manager be accounting for when weighing the cost and benefits of providing low-income participants with a 50% discount or not? This issue raises bigger questions regarding the role of the Low-Income Facilitator. For example, will the Low-Income Facilitator have an endless pool of low-income customers (thousands) that can be directed to Project Managers upon request? Or is there no guarantee of that type support and therefore Project Managers should be modeling customer acquisition costs for low-income customers?

***The pass-through of 75% of financial savings by housing providers to tenants may have the unintended consequence of dissuading or simply preventing participation from that market sector*.** The Solar Parties support the ability for housing providers to represent low-income tenants, but we are concerned that the pass-through of 75% of financial savings may prevent this option from ever happening. We recommend more allowing for more flexibility here to ensure there is a benefit/incentive for a low-income housing organization that outweighs the complexity and legal challenges required to participate at all. As the Staff proposal calls out, California has a similar opportunity, but uses 51% of savings as the minimum pass-through amount which may also be a more reasonable level for Oregon.

<u>Recommendations</u>

The Solar Parties recommend removing the "prioritization" for Project Managers that might be imposed by the Low-Income Facilitator based on the discount provided. As noted above, we're concerned this currently represents a policy objective that lacks a clear incentive (or disincentive), making it impossible to perform a cost/risk analysis. The Solar Parties are not opposed to the "Low-Income Project Designation" being an incentive (separate from a project's selection and treatment in the pre-certification/certification process) for projects offering a 50% or greater discount.

Consider providing exceptions to the minimum discount requirements for projects that are heavily geared toward low-income participation, e.g., over 50% of the project capacity. Although the ongoing administrative costs are already waived for low-income participation, there remains a risk for Project Managers hoping to have a 100% low-income project to not be able to cover their costs due to the minimum discount savings required for those participants.

Leverage ratepayer funds to support the ongoing administrative costs for low-income participation in the program. This concept was raised in prior sections. In the interest of reducing the administrative cost burden on participants, this is a logical and policy-supported option.

<u>Interconnection</u>

The Solar Parties are primarily supportive of the recommendations put forth by Staff on all six components. We recognize that there is limited time and resources to delve into every nuance of an issue as complicated as interconnection and we appreciate Staff's effort to balance the input submitted by all stakeholders in addition to incorporating their own internal research. Interconnection represents the greatest barrier to community solar development in Pacific Power territory, and Staff's proposal

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gives hope that this will not be the brick wall that was previously anticipated. Further, Staff is laying the groundwork for additional advancements that could help community solar and solar development more generally over the coming years. Our input below is mostly to encourage minor adjustments and tweaks to Staff's proposal.

<u>Overarching Comment and Recommendation</u>

The Solar Parties flag the importance of also supporting existing queue projects in the program. While we are encouraged by the prospect of new development opportunities through the special CSP screening and other considerations highlighted in Staff's recommendations, we also recognize that there are several projects in PAC's queue and a larger number in PGE's queue which are either already intending to participate in the program or are strong candidates that are awaiting final program design and policy decisions to determine their future. Many of these projects have been under development for over a year and will likely be the first to operate and serve customers in the state. Further, restrictive land use rules have significantly reduced new development ("greenfield") opportunities – which advocates have noted could remove about 80% of viable solar development in the Willamette Valley – making the existing queued projects a key element to the program's success. Therefore, we emphasize the importance of not only supporting the path for new interconnection applications into the program but also those existing projects in the queue opting to pursue a spot in the community solar program. Staff's proposal does call out attention to this to a degree, in Recommendation #6. However, we would recommend that all of Staff's Recommendations more explicitly allow flexibility for existing projects in the utility queues to leverage similar benefits if they are pursuing capacity in the community solar program. Relatedly, we recommend that QF projects with existing PPAs with a utility be able to maintain that PPA until moving forward with a new PPA associated with unsubscribed generation (i.e., as part of the project's "certification"). This would be consistent with the Joint Utilities proposal to allow for projects to maintain standing in the CSP queue along with traditional serial queue[6], and would be important to reducing market risk and exposure for a project attempting to be in the community solar program.

<u>Response to Staff's Recommendation #1</u>

The Solar Parties strongly support Staff's recommendation to adopt the Joint Utilities proposal for a streamlined community solar project (CSP) interconnection process, with modifications, and we urge a stronger directive with regards to other elements of this recommendation. Most importantly, we applaud the recommended modifications to use the minimum daytime load (MDL) as the first eligibility criteria, followed by 30% peak load as the backstop. We will not reiterate all the arguments in support of this recommendation, but instead point to the comments we filed on September 13 for a lengthy justification.[7]

That said, the Solar Parties fear that many of the additional components called out in Recommendation #1 may not come to fruition due to the lack of a forceful directive to the utilities. Therefore, we recommend the following:

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[6] Joint Utilities CSP Interconnection Proposal. Pg. 4. https://edocs.puc.state.or.us/efdocs/HAH/um1930hah163325.pdf

[7] https://edocs.puc.state.or.us/efdocs/HAC/um1930hac17406.pdf

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- Utilities be directed (rather than simply "consider") the ratio of load to generation for all feeders leaving a substation serving the feeder on which the CSP generator proposes to locate.
- Utilities be directed (rather than encouraged) to refine the screening criteria to account for differences between feeders.
- Utilities be directed (rather than encouraged) to consider storage and transfer trip as eligibility criteria.

These more active measures on the utility interconnection review could hold significant outcomes for prospective community solar projects. Similarly, the Solar Parties recommend waiving any potential telemetry requirements for CSP projects, which largely already meet the thresholds outlined under OAR 860-082-0070[8], as these can easily kill project economics as Staff acknowledges in their Proposal.[9] As an example, a CSP project that doesn't meet the threshold requirements for avoiding telemetry would be able to instead install a transfer trip which would provide an alternative solution at a fraction of the cost. In addition, storage holds an equally promising opportunity for enabling greater capacity availability in the program and should not be prevented from consideration.

Lastly, we recommend these utility directives be included in both the special CSP screening opportunity as well as for projects already in the interconnection queue that are pursuing community solar.

Response to Recommendation #2

The Solar Parties support Staff's recommendation to begin developing models for cost-sharing between generators, with one caveat. Having near-term and long-term objectives associated with testing and investigating cost-sharing mechanisms is a rational approach to exploring this opportunity. Collecting and analyzing interconnection information will also be a useful project for cost sharing and other efforts associated with improving interconnection in Oregon.

We do, however, recommend there be more flexibility with regards to the eligibility criteria for community solar project applicants requesting joint studies in the near term. The Staff proposal recommends that utilities be directed to "study CSP generators jointly upon request if the generators are located in the same local area and apply for interconnection at the same time". Instead, we recommend not requiring these applications to be submitted at the same time, as that could create an unrealistic expectation of developer coordination. Specifically, projects that are already in the interconnection queue but with different interconnection application dates should be allowed to request joint studies so long as other interconnection requests on the feeder or in the local area are not negatively impacted.

The Solar Parties further recommend (or seek clarification) that this opportunity be extended to any self-proclaimed CSP generator regardless of whether it's considered eligible for the special CSP interconnection queue.

Response to Recommendation #3

The Solar Parties support Staff's proposal to utilize secondary metering for smaller projects.

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[8] Oregon Small Generator Interconnection Rules. https://secure.sos.state.or.us/oard/viewSingleRule.action?ruleVrsnRsn=223940

[9] Staff Proposal. Pgs. 14-15. https://secure.sos.state.or.us/oard/viewSingleRule.action?ruleVrsnRsn=223940

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Response to Recommendation #4

The Solar Parties support the Staff's recommendation to issue a "request for information" (RFI) for potential third-party expert reviewers of interconnection studies. This is a reasonable near-term action and we hope that the PUC will ultimately identify a reviewer that can perform quality control reviews. It was not clear if Staff envisioned these reviews (assuming an expert is hired) to be performed based on a request by the CSP generator, or a request by the PUC? The Solar Parties recommend the former be the case.

Response to Recommendation #5

The Solar Parties support the "enhanced" pre-application report opportunity created for non-profit and public Project Managers.

Response to Recommendation #6

The Solar Parties support Staff's proposal for requiring information from the utilities with regards to the backlog of interconnection applications, though we urge a slightly more action-oriented result. For example, utilities should be required to complete studies and interconnection agreements within a specified time period (consistent with state small generator interconnection rules).

Modeling

The Solar Parties appreciate Staff sharing some of the key modeling assumptions used in determining project economics. As noted by Staff, we recognize that these are – and must be – "imperfect" in order to capture a wide berth of Project Manager and project types.[10] We also recognize that this glimpse into the modeling behind Staff's proposal may not fully capture some of the nuances in its assumptions. That said, as noted elsewhere, we are concerned that Staff is cutting it extremely close with regards to identifying an appropriate target for enabling viable project economics which will, in turn, result in a program that comes up short for the majority of potential Project Managers. Further, it appears Staff is using a combination of very aggressive, best-case scenario project modeling assumptions in tandem with a very low target internal rate of return (IRR). This approach may work for a handful of projects but is not indicative of the typical project being developed in Oregon (particularly going forward as development opportunities decrease) or the average assumptions used by the majority of national and local developers. The following section highlights areas where the model assumptions could be improved to better reflect market realities and hopefully make this program more widely available.

Internal Rate of Return

The IRR is a good example of where the Staff Proposal cuts an extremely fine line with regards to setting expectations for project viability. Staff notes that the identification of 8% was purely as a "proxy" and "not intended to be a minimum requirement for project development or absolute indicator that a given project will or will not move forward with development".[11] However, the Solar Parties note that the model is clearly playing a key role in helping guide important program economic considerations and that

[10] Staff Proposal. Pg. 25. https://edocs.puc.state.or.us/efdocs/HAU/um1930hau115910.pdf
[11] Staff Proposal. Pg. 25. https://edocs.puc.state.or.us/efdocs/HAU/um1930hau115910.pdf

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the associated IRR is in fact the best underlying data point informing those decisions. That said, the Staff Proposal identified 8% as a reasonable target IRR based on input from five developers despite four of those developers stating they would use something higher.

At the very least, we recommend using an average IRR based on the research conducted by Staff and the PA. Further, at least one prominent community solar developer states that they use a minimum of 9% for community solar projects to help account for the increased risk and variables associated with the community-solar specific elements of those projects, and related program requirements and other general market dynamics. For example, Rhode Island used an after-tax equity IRR of 9.5% to inform the pricing of their community-remote distributed generation projects in its Renewable Energy Growth program.[12] Further, the Staff Proposal appears to actually use a slightly lower IRR than 8%, basing the administrative cost recovery level on a 50% (80 MW) capacity transition level, or 7.76% IRR. The Solar Parties recommend using an average of the IRRs they received during their data collection efforts, rather than the "more conservative" approach Staff selected which is not in line with the vast majority of projects that will actually attempt to get developed.

Project-Specific Development and Construction Costs

The Staff Proposal model assumes a 3 MW-DC single-axis tracking system with an EPC cost of $1.05/Watt-DC. Although this might work for a portfolio of projects it would be very optimistic for a stand-alone project. Further, if the project is not multi-megawatt in size and/or sited on land this cost rapidly increases. The Solar Parties recommend using $1.20/Watt-DC or higher to capture a wider selection of potential projects.

Likewise, the property tax and land lease costs assumed in the model, while possible, are not indicative of averages that are likely to be experienced in the market. These values are based on best-case scenarios where the local county has opted to provide the "fee in lieu of property taxes" and the site location is based on suitable farmland. There are probably less counties than more which actually offer that fee option, and there is increasingly less suitable farmland to develop projects on, particularly in PGE territory. Further, those costs will be higher for projects developed closer toward load zones and urban

Community-Solar Specific Costs

The subscriber acquisition costs of $0.05/Watt-DC is very low, particularly for residential and small commercial customer acquisition. While the evolvement of community solar and experience in other markets has steadily improved cost efficiencies in this area, market the Solar Parties recommend a value of at least $0.10/Watt-DC. We understand that Staff seeks to help bring that costs down through the clearinghouse website, but this is a benefit that has yet to be fully demonstrated or quantified.

Likewise, ongoing subscriber management costs of $2,500/year is not in line with industry experience. The Solar Parties ongoing subscriber costs of anywhere from $5/kW-DC for large commercial and industrial customers to $15-20/kW-DC a year for residential customers. For a 3 MW-DC project that equates to anywhere from $15,000-$60,000/year cost. In addition, the model shows a 1% escalator,

[12] Sustainable Energy Advantage, LLC. Slide 8. RI Renewable Energy Growth Program: Research, Analysis, & Discussion in Support of Frist Draft 2020 Ceiling Price Recommendations. (7/19/2019) http://www.energy.ri.gov/documents/renewable/ri-reg-2020-mtg-1-july-2019.pdf

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whereas the market will more likely apply a 2% annual escalator. Similar to the customer acquisition costs, it's unclear how much benefit can be attributed to the on-bill payment mechanism built into the program, however we do not believe it makes up for a six to over twenty fold difference in cost savings.

Finally, the target of a 5% discount rate is not a fair representation of what the market overall will expect or what Project Managers will target. National experience has demonstrated that a minimum of 10% discount is really required for tipping the scale on financing and market confidence.

Administrative Costs

As highlighted in the administrative cost section, it's unclear what Project Managers should assume with regards to how the ongoing administrative cost will be applied. For example, will it be a capacity charge, or converted into generation charge? Further, the Solar Parties note that the model assumes a 5% annual de-escalation of the ongoing kWh charge ($0.0129). While this is encouraging, there is not sufficient evidence for a Project Manager to make a similar assumption, so this is therefore not built into our models. As a result, a Project Manager will have a different cost projection and different IRR expectations.

Respectfully submitted,

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