Appendix D. Partner Meeting #2 Brainstorm

This document was used to structure and capture notes from the discussions among Meeting 3 participants of the Act 179 Meeting Series.

Question 1: To what extent do program models covered in Meeting 2 advance objectives stated in Act 179 for program participants? For non-participants?

Focus populations ("Frontline & Impacted"): *Affordable housing, manufactured home communities, Vermonters with low income, Environmental Justice Focus Populations ("EJFP"), schools & municipalities (particularly in EJFPs or disadvantaged communities), those with a disability or fixed income (elderly Vermonters)*

Reducing Resident Energy Burden: Reduces resident electricity & energy (more broadly) expenditures to the benefit of the resident
Reducing Operating Costs: Reduces the overall energy bill and operations & maintenance costs for a building
Encouraging Building Electrification & Decarb: Limits increases in electric rates and/or electrification costs

- Notes:
  - Electrifying: seeing increases in O&M and usage costs, need to offset those cost somehow
  - Expectation that electrification will lower costs, but experience that can actually increase - this seems accepted elsewhere, but we have made this societal choice to decarbonize
  - Worthy goal to think about solutions that don't contribute to rate pressure, but not necessarily achievable that there will be no costs / cost shifts → how do we consider holistically and work towards most equitable
  - Reducing O&M - limiting costs for the program we do and limiting costs to other customers (this specific program)
  - Climate goals requires at-scale electrification, requires keeping electric rates affordable; Cost shift should be transparent and thoughtfully explained (assuming there are above-market costs)
  - ME NEB found system-wide benefits from both front and BTM - for every $1 program cost, seeing $1.27 system benefit

Connecting Communities with Solar: Creating a community asset that provides economic, social, and/or environmental benefits

- Notes:
  - Interpretation that NM originally to develop more renewable energy than we were, in new RES now have 100% requirement, given that context does that change the need for a separate program to invest in renewable energy?
  - Could financial benefits that have come from NM come from federal funding and provided to categories of users?

- Need to understand the ownership structure for the building & NM array to understand where/to whom the benefit flows (needs to be considered upfront in program design)
- On the building decarb & connecting communities objectives: for whom is important to articulate
- We are part of an interconnected grid - keeping some flexibility in terms of siting location, projects may expand beyond a specific community

Question 1: To what extent do program models covered in Meeting 2 advance objectives stated in Act 179 for program participants? For non-participants? *Use the table below to brainstorm answers which we will then discuss as a group.*

Program Name	**Act 179 Objective**			
	Reduces resident energy burden	Reduces operating costs	Encourages building electrification & decarb.	Connects communities with solar
Baseline - Current Program Examples Based on Virtual Group Net-Metering from Meeting 2				
Evernorth Bay Ridge	Yes, resident electric costs are zero through the design of the program	Yes, according to program developers	Ownership creates longer-term price certainty, more confidence in investment decision	Affordable housing is considered community for EPA purposes
SEVCA Community Solar	Passes all benefits through to participants			Locally owned and increases access
Alternative Program Models – Examples from Meeting 2				
VEC Community Solar	Not overpaying for solar, and no cost shift. Competitive PPA cost to utility. No special direct benefit to identified communities but helps all utility customers Competitive market rate	Reduces monthly electric bill More of a SF program?	Not currently available to house meter of MF housing Reduces electric bill Limited community connection? Where are arrays located?	Seems like n-m in that it provides a way for individuals to invest in solar, but without actual n-m, rather a calculated return to the individual
PSD ACRE (ARPA + Solar for All)	Uses federal funding to avoid increased rates while providing benefits to participants Not overpaying and no cost shift. Relies on grant funding. Market rate		Not currently available to house meter of MF housing	

	Can be a very minimal benefit to renters who are only paying for apt plugload Maybe a better benefit for SF LMI homeowners, or renters with high electric bills due to the split incentive This program works because there is outside source of funding, ie federal govt. Hard to replicate that Direct bill credit benefits to identified communities			
PSD Renewable Energy for Communities Proposal	I don't have enough info on the details of this program to make an informed decision, e.g. savings to ratepayers I also don't feel like I understand it well enough to comment Might not be efficient to add new program with new admin costs. Pulls $ from directly helping identified communities, Not helpful to keeping costs down.	Depending on the lens or your perspective (developer, individual ratepayer, or electric utility), it seems to be the most comprehensive approach to reduce operating costs.		Community engagement and siting may reduce conflict and associated costs, and build support

	Appears to be a holistic approach to solving issues around utility renewability while also prioritizing suitable site development that benefits all residents (and ratepayers).			
NY Value Stack + NY Sun	On this list of options, NY & MA programs seem like they bring the most savings to customers	Transparency around value of energy Upfront per-watt incentives aren't tied into the long term compensation for energy production	Funded only partially by systems benefit charge on rates - to the extent not funded by rates then doesn't have deleterious impacts for non-participants	Many opportunities for community solar participation Brownfield incentives
MA SMART (Solar Massachusetts Renewable Target Program)		Costs to ratepayers separated out in bill charge.		Incentives for brownfields, disincentives for greenfields

Question 2: Where do you see gaps in the ability for example program models to achieve some or all the objectives outlined in questions 1? Where do models have to make tradeoffs on achieving one objective to advance another?

GAPS

- Without grant money, low admin costs, and transparency about costs, none of the options will maximize benefits to targeted groups (without causing impact to other groups in need of assistance.
- Value of solar is what it is, anything above is a cost shift from nonparticipants to participants
- Programs focus on solar development without links to community resilience
- Areas of Vermont without adequate distribution grid for electrification, desire to use transmission capacity, difficult to address the specific low income housing issue in the abstract without looking more specifically at the variation in the state's geography and electric systems.
- While it was not a focus of this study, we do have an incredible opportunity to implement Solar For All in a way that can greatly enhance our ability to deliver the goals stated in Question 1
- Either ownership by front-line communities or guaranteed long-term benefits needed to incentivize electrification
- Many of these programs fail to address those within the margins of clear ability to pay/invest and those considered low- or income-qualifying. A shrinking "middle class" only exacerbates the struggles of affordability.
- Current programs mostly do not offer benefits to master-metered buildings, which will be necessary to serve some affordable housing, especially those that serve older Vermonters/people with disabilities.
- Assessing if there is a gap is somewhat dependent on the scope of this study.Wh
- In considering participation of rural, low-income households, programs that accommodate off site solar development can bring in residents in small towns that have disproportionately low grand list values and disproportionately high stock of manufactured homes (making it unlikely that residential rooftop solar installation will happen there). Same for communities where larger scale solar development is best cited on agricultural or conserved land areas.
- I am not seeing an articulation or clear pathway for municipalities or school districts to leverage the program
- One thing that is not clear is how will the program treat multi-use developments. Thinking of projects like the Putman Block, Post Apartments in Burlington, the South End Innovation District -- an increasingly successful model for the development of permanently affordable housing includes commercial, governmental, and public institutions as co-tenants or co-developers. Would the municipality and/or commercial partners to a development agreement be able to participate in the net metering?
- Siting is barely part of this discussion and needs to be a top priority, to reduce opposition, speed development and build community.
- Need a better understanding of how communities value having a connection to one of their generation sources, if at all.
- Parks of Manufactured Homes are not necessarily continuing into the future. Many have been closed. Need to look long-term about the viability of specific mobile home parks that may end up being closed.

TRADE OFFS

- Balance between solar rate, cost to develop, what is needed to help affordable housing development - what is the fair rate to balance these needs?

- Trying to achieve LMI equity can not be done in a cost neutral fashion. We see this in all programs that try to address LMI equity. It is a question of finding the right balance
- This RMI study should be reviewed: https://rmi.org/scaling-low-income-solar-with-the-inflation-reduction-act/
- Balance between ratepayer impacts,developer profit, participant benefit, and utility administrative costs, particularly over the long term.
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- Ownership may be over-rated. Costs for maintenance and decommissioning must be considered.
- Siting, cost, and size matter. Need to ensure all projects are are sited, priced and sized efficiently.
- Smaller projects close to load minimizing transmission costs but higher cost electricity, or larger projects far from load that cost less but increase transmission costs
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- Consider the cost of solar development programming versus bill reduction programming for LMI/affordable housing/other.. They don't necessarily need to be tied together.
- Investments in the heating/cooling system for a MF building are a 20-30 year investment; this program design for matching solar benefits needs to have a 20-30 year time frame.
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- Considering state-wide electrification goals (i.e. public transport/school bus electrification) alongside resilience alongside decarbonization.
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Question 3: What are your recommendations for program models that best meet the objectives outlined in Act 179 based on their impact to Vermont's frontline & impacted communities?

- For Solar For All specifically, an agreed-upon tariffed rate to allow development of community projects to allow benefits metered/otherwise conveyed to affordable housing buildings, including tenants and property owners. Will need to account for 20 year+ requirement under SFA to deliver benefits to tenants.
- Determine if there is a value for storage. It has been hard to identify financial benefits for storage under Solar For All for affordable housing, but maybe there's a way to increase value of these projects for utilities and work that into design?
- Model if limited to DU service territory - Larger project size than NM – 5 MW or smaller?; Credits distributed like current group NM; Negotiated rate like PPA or rate set annually by PUC like Standard Offer, each project gets their rate for 20 -25 years

  Model if statewide -Project size up to 20 MW?; Credits divvied up similar to ACRE – each utility get a share to distribute – costs divvied up like Standard Offer; Negotiated rate like PPA or rate set annually by PUC like Standard Offer, each project gets their rate for 20 -25 years

  20MW projects sited away from community offtakers are some of the most problematic from a grid management perspective.

- In terms of scale, if one of the outcomes is that for some instances, the owner of the affordable housing also owns the solar PV system, getting to a scale of over 1MW will be very challenging. Is it a bad thing that some of the PV systems might only be 500kW….beyond the fact that they cost more to build, but it is easier for the affordable housing building owner to leverage the ITC boost if they own the system
- Perhaps it is a recognition that we need a blend; the very large systems, which will be owned by the DUs (?) or procured by the DUs and the smaller systems owned by affordable housing builder owners. Can we work with both models.
- It may be that for net metered MF buildings with smaller offsite systems, there actually isn't a cost shift because the MF building's electric load exceeds the solar production by a large margin
- Build in regular programmatic reviews to allow opportunities for minor course correction

- Large projects up to 20 MW have little connection to community and are harder to site.
- Community ownership has the benefit over the long run of eventually being paid off and greater benefits then accrue to the community rather than investors
- Compensation tied to value to the grid, plus incentives for "public policy" benefits
- Opportunities for both community ownership and third-party ownership
- Recognition and analysis of the long-term benefits of ownership
- Recommend broader eligibility for group-net metering--like Massachusetts "neighborhood net metering," which places projects and offtakers in proximity to one another without limiting participant eligibility.
- Implement solar for all
- Consider solar plus storage, with its additional benefits for grid resilience/community resilience

- Let utilities implement the RES requirements without more constraints– will help ensure a cost effective and reliable grid for all ratepayers.
- statewide low income rate study– don't create other requirements until that work is fully explored.
- Incentives for brownfields and the built environment, disincentives for greenfields and forests. Siting matters, regardless of size.
- Whatever model is chosen should align with utility requirements for renewability and provide comprehensive benefit to all stakeholders - within and outside this specific engagement group. Affordable power purchasing for all meets legislative and regulatory intent.
- Allow municipal, state government, and school district buildings to benefit from cost saving and electrification incentive programs to control property tax burden and drive carbon reduction impact, as these entities often operate the largest buildings and biggest fleets in communities
- Need more up front input from utilities about sites that support the grid, then comes community engagement.
- Make sure not cost-shifting. Certain communities (schools, muni) doing off-site net metering just passing above market costs around to others in same community.
- Prioritize projects that build community resilience and not just solar generation. Climate change is real--we want to support the ability to microgrid/store energy/generate within communities.
- Seriously review discounted rates for LMI households and projects - this may be the most consistent support for electrification
- Consider grid efficiency. Need to diversify renewable resources - not just solar. And need base load resources.
- At what point does Vermont have too much solar, and built in the wrong places. Can the state be more strategic in siting, and not make mistakes?
- Keep in mind that complexity can create barriers to project development and participation, make program as simple as possible
- Microgrids
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