

This document aims to inform how different strategies - including policies, regulations, financial tools, and community engagement programs - can be used in Montana to increase access to, and development of, distributed solar in rural and low-to-moderate income communities.

Montana Rural Solar Access Project

Phase One Report

Montana Renewable Energy Association

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Executive Summary

The Montana Rural Solar Access Project (MRSAP) is an effort supported by the Montana Renewable Energy Association (MREA) and the Bonneville Environmental Foundation (BEF). The aim of this project is to understand the opportunities and challenges around development of distributed solar in Montana's rural communities, with a specific emphasis on communities with low-to-moderate income (LMI) households, and then identify and implement projects and programs that can overcome these challenges and expand upon these opportunities.

MRSAP has three expected phases. Phase One focused on analyzing common challenges that rural and LMI communities face to accessing and developing distributed solar as well as the existing strategies in Montana, in other states, at the national level, and in other countries that can help to address and overcome these challenges. This Phase of the project synthesized recent reports on LMI solar policy, literature on energy transitions and the policies that have been seen to be most effective, and research into the challenges that rural communities in particular face when accessing and developing distributed solar. This research has also drawn from the experience and expertise of stakeholders who have worked with rural communities, LMI communities, or in the renewables energy sector here in Montana.

Phase Two will involve in-depth community engagement opportunities to bring Montanan's perspectives, priorities, concerns, and experiences into this process, and further refine our understanding of the challenges and opportunities for distributed solar development in our rural and LMI communities. Phase Three intends to move these refined strategies into action to address and overcome the challenges that impede access to, and development of, distributed solar.

Throughout Phase One we have analyzed 23 diverse Strategies regarding policy, regulation, financial mechanisms, and community engagement programs, to identify those that have been the most impactful in other contexts those that may be most impactful in our unique context of Montana.

From this analysis, we have identified several Strategies as potentially particularly impactful in increasing access to, and development of, distributed solar in our rural and LMI communities.

- a) Virtual and Aggregate Net Metering Legislation
- b) Community Purchase Programs (CPPs) / Solarize
- c) Green Tax Incentives
- d) Green Grants and Rebates
- e) On-bill Financing/Recovery
- f) Property Assessed Clean Energy (PACE)
- g) Special Improvement Districts (SIDs) / Rural Improvement Districts (RIDs)

These are preliminary findings that are intended to be adjusted, added to, and enriched by the second phase of this work that focuses on learning from rural Montanans and bringing their insights into this process.

Introduction

The Montana Rural Solar Access Project (MRSAP) is a partnership of the Montana Renewable Energy Association (MREA) and the Bonneville Environmental foundation (BEF). This project focuses on how to expand the market for distributed solar generation by enabling greater access and development in rural and low-to-moderate income (LMI) communities. This first phase of the MRSAP examines how policy, regulation, financial mechanisms, and community engagement programs (“Strategies”) can enable access to, and development of, this energy resource. The second phase of this project moves into deeper community engagement to learn from Montanan’s perspectives on the opportunities and challenges to accessing and developing distributed solar in their communities.

Making solar accessible to rural and LMI communities is an important component of expanding the market for solar generation in Montana, a nascent – but growing – industry where 0.04% of electricity was generated from solar in 2016.¹ Examination of several Montana cities, spanning the state, found a similar potential for power production as in New York where the solar industry is growing rapidly with nearly 2% of electricity generated from solar thus far.² It is important to note that according to the 2010 census, over 99% percent of Montana land area was characterized as rural, with over 44% of state residents living in rural areas. This indicates that a substantial portion of the state’s solar resources can be accessed by enabling rural residents to harness these resources in their communities.³ Rural communities in Montana also tend to have a lower median household income relative to more urban portions of the state⁴ and can thus benefit substantially from the financial savings of distributed generation. This intersection is why we are examining Strategies that address the challenges that may be faced by rural and LMI communities in Montana and support growth of their solar markets.

¹ Benjamin L Norris and Philip M Gruenhagen, “Montana Solar Market Assessment,” 2018.

² Norris and Gruenhagen.

³ 2010 Census, “Montana: 2010 Population and Housing Unit Counts,” 2012.

⁴ United States Census Bureau, “Households—Median Income (Dollars)—Estimate,” 2018, [https://data.census.gov/cedsci/map?g=0400000US30,30.050000&layer=VT_2018_050_00_PY_D1&cid=S1901_C01_012E&tid=ACSST5Y2018.S1901&t=Income %28Households, Families, Individuals%29&hidePreview=false&vintage=2018](https://data.census.gov/cedsci/map?g=0400000US30,30.050000&layer=VT_2018_050_00_PY_D1&cid=S1901_C01_012E&tid=ACSST5Y2018.S1901&t=Income%28Households,Families,Individuals%29&hidePreview=false&vintage=2018).

For this project, we characterize distributed solar generation as a broad range of photovoltaic (PV) systems, such as residential distributed solar on individual or multifamily homes/properties; community shared solar that residential or commercial customers can subscribe to, purchase, or lease; community sited solar that serves a community building; commercial solar sited on individual businesses, and microgrid designs that may encompass a combination of distributed generation sources. In this report, we do not examine the relative efficiency of these distributed generation models in reducing greenhouse gas emissions compared to fossil fuels. To learn more about the fossil fuel emissions reductions of distributed solar models compared to fossil fuel generation, see the IPPC section Annex III of the Fifth Assessment Report.⁵

When we refer to rural communities, we are primarily considering communities with a population of 1,000 to 10,000 residents since this range encompasses the majority of rural residents in Montana, and thus the greatest amount of rural customers for expanding the distributed solar market.⁶ These rural communities are the intended focus for community engagement efforts in the second phase of this project. While some Strategies may have the largest impact when attempted in communities with larger populations, many Strategies, such as statewide policy changes, can be beneficial to communities across the spectrum of population sizes. When speaking of LMI communities, we are using the U.S. Department of Housing and Urban Development definition of “low income” which is described as communities where households earn 80% or less of the area’s median household income, or 80% or less of the statewide non-metropolitan median income. For this project, we are also focusing on communities that are just above those figures to incorporate moderate income communities. In Montana, the non-metropolitan statewide median household income was recorded as around \$52,000 in 2017.⁷ Throughout the state, 17 of our 56 counties have an estimated median household income near or below 80% of the non-metropolitan state level, and each of these counties are rural areas of the state.⁸

This report begins by characterizing the common challenges that rural and LMI communities face to accessing and developing distributed solar, drawing from research across the country, research done here in Montana, and from the experiences and expertise of key stakeholders working with rural and LMI communities and in the renewable energy sector here in Montana. From this research, numerous Strategies have been identified for their potential to address these challenges. This report

⁵ Steffen Schlömer et al., “Annex III: Technology-Specific Cost and Performance Parameters. In: Climate Change 2014: Mitigation of Climate Change,” 2014.

⁶ 2010 Census, “Montana: 2010 Population and Housing Unit Counts.”

⁷ Rural Health Information, “Average Median Household Income for Metro and Nonmetro Counties, 2009-2017 - Montana,” 2017, Average Median Household Income for Metro and Nonmetro Counties, 2009-2017 - Montana.

⁸ United States Census Bureau, “Households—Median Income (Dollars)—Estimate.”

characterizes the goals of each Strategy, drawing from the Guiding Principles described in the Low-income Solar Policy Guide created by Vote Solar, GRID Alternatives, and the Center for Social Inclusion.⁹

For each Strategy in this report, we have provided a description of the Strategy, a summary of the impacts on rural and LMI communities, and a brief description of pertinent examples of implementation in other states, at the national level, and in other countries. In addition, we include a brief analysis of the opportunities and challenges regarding implementation of each Strategy in Montana, along with a list of relevant stakeholders. Several Strategies include opportunities specifically for tribal communities, which are especially pertinent in Montana since seven federally recognized tribes reside here, with members often living in rural areas. The final section of this report includes recommendations outlining how to implement or adjust Strategies that may be particularly impactful given Montana's unique context. This section synthesizes the information of this report to provide potential paths forward, with the knowledge that these recommendations will be further revised as we continue to learn from Montanans about the opportunities, challenges, and priorities in their communities.

Challenges for Rural and Low-to-Moderate Income Communities

This section characterizes the key challenges that can impede rural and LMI communities from accessing and developing distributed generation. Synthesized from recent literature, policy reports, and the experiences and knowledge of Montana stakeholders, this list of challenges helps to explain some of the obstacles that effective Strategies must navigate to bring distributed generation to rural and LMI communities in Montana. Each of the strategies in this document directly addresses one or more of these challenges and that information is included in the Strategy descriptions below.

Cost

Solar energy generation can help stabilize energy bills and offset a customers' energy costs. However, the initial investment can be a barrier for LMI or rural communities that often do not have the financial resources to cover the project costs. Further, existing financial incentives may not be available to LMI communities. Tax credits are a frequent economic incentive for distributed solar that can go unrealized for LMI communities.¹⁰ Customers with low-to-moderate incomes often do not have a enough tax burden to

⁹ GRID Alternatives, Vote Solar, and Center for Social Inclusion, "Low-Income Solar Policy Guide," 2016, https://www.lowincomesolar.org/wp-content/uploads/2016/03/Low-Income-Solar-Policy-Guide_3.11.16.pdf.

¹⁰ National Bureau of Economic Research, "The Distributional Impact of Alternative Energy Incentives," 2015, <https://www.nber.org/digest/sep15/w21342.html>.

benefit from nonrefundable tax credits and, if they do, may not be able to bridge the gap from the expense of a project and the financial offset of a tax credit down the road.¹¹ Financing options, discussed further below, may help distribute those costs into smaller payments to be made overtime. However, these payments may still be too high for the monthly budgets of LMI customers without direct cost reductions in the form of accessible grants, rebates, and tax incentives.

Access to Financing

Common financing options, such as loans, can often be inaccessible to LMI customers, who frequently have lower credit scores.¹² Alternative financing options may be necessary to ensure LMI customers have the opportunity to pay off the costs of projects in smaller payments over time.

Physical Barriers

Some residences have obstructions to their solar resources and are not suitable locations to install solar. Additionally, some residences do not have the structural integrity to support rooftop solar, which is often a challenge for LMI residents in particular.¹³ In these cases, residential solar may not be feasible and residents may need more diverse options, such as virtual or aggregate metering, to access distributed solar.

Homeownership Status

Many residents in LMI communities are renters, and do not own the property they live on.¹⁴ This can pose an added challenge to accessing and developing distributed solar in these communities because renters generally must seek offsite generation options (e.g. community shared solar) which may not allow them to receive certain incentives, such as property tax credits.¹⁵

Education and Outreach

In communities where solar installations are not common, there may be a perception that solar is a luxury or otherwise inaccessible. Since LMI communities are also the targets of scams, communities may have distrust of sales teams that promise savings

¹¹ GRID Alternatives, Vote Solar, and Center for Social Inclusion, “Low-Income Solar Policy Guide.”

¹² GRID Alternatives, Vote Solar, and Center for Social Inclusion.

¹³ GRID Alternatives, Vote Solar, and Center for Social Inclusion.

¹⁴ Benjamin Sigrin and Meghan Mooney, “Rooftop Solar Technical Potential for Low-to-Moderate Income Households in the United States Rooftop Solar Technical Potential for Low-to-Moderate Income Households in the United States,” 2018.

¹⁵ Jeffrey J Cook et al., “Unlocking Solar for Low- and Moderate-Income Residents : A Matrix of Financing Options by Resident , Provider , and Housing Type Unlocking Solar for Low- and Moderate-Income Residents : A Matrix of Financing Options by Resident , Provider , and Housing Ty,” n.d.

such that education and trust building may be critical to increasing access and development in these communities.

Complexity

Solar installation can be a complex process with multiple steps, such as learning about solar systems, how they work, where to find an installer, what funding and financing options are available, etc., and this can be an immediate obstacle to pursuing the possibility distributed solar development, especially since LMI households often have other pressing financial priorities.¹⁶

Market Disincentive

The preceding barriers can lead to small or non-existent markets among rural and LMI communities. This disincentivizes installers from designing and deploying marketing strategies for low-income communities and means that “targeted, intentional incentives for investments” will be needed to support the low-income solar market in developing and scaling such that it is viable long-term.¹⁷ In Montana, market disincentive can exist specifically around serving rural residents. Many installers in the state are located around urban centers, and it can be several hours drive to a potential customer. While installers may be willing to take those trips, the additional time and travel costs can impact the scheduling and finances of the project, which can make the installation more challenging for both the customers and installer.

Strategy Goals

To characterize the goals of each strategy, we synthesize recent work spanning the last decade on renewable energy transitions in the United States and on the policies, regulations, and financial tools that can enable and/or increase access to, and development of, distributed solar generation in low to moderate income (LMI) and rural communities. A recent Low-income Solar Policy Guide, created by Vote Solar, Grid Alternatives, and the Center for Social Inclusion, has outlined a variety of policy instruments and characterized how they align with Guiding Principles that the authors have identified as crucial components of effective low-income solar programs.¹⁸ These Guiding Principles are Accessibility and Affordability, Community Engagement, Consumer Protection, Sustainability and Flexibility, and Compatibility and Integration, and are described below. For this project, we are integrating these Guiding Principles with recent literature on energy transitions which provided additional Strategies that

¹⁶ GRID Alternatives, Vote Solar, and Center for Social Inclusion, “Low-Income Solar Policy Guide.”

¹⁷ GRID Alternatives, Vote Solar, and Center for Social Inclusion.

¹⁸ GRID Alternatives, Vote Solar, and Center for Social Inclusion.

can facilitate development of distributed generation. Energy transition literature examines our current economic and policy context and identifies what adjustments can remove impediments and create enabling conditions for further development of distributed solar generation. The goals identified in energy transition literature are diverse, and often vary depending on the location that the program is targeting. We have specifically examined literature that discusses strategies for increasing distributed solar in LMI and rural communities since the goals of these Strategies largely align with the goals of this project. Some of the goals discussed in this literature are: establish new working relationships between community organizations, local governments, etc.; generate new models of owning energy generation and new models of financing; distribute the economic benefits of energy generation throughout communities; ensure low-income communities can participate; and provide communities more control over their energy consumption.¹⁹ Each of these goals has been described as a component of increasing access and development of distributed solar in LMI and/or rural communities and is considered in this analysis. Below, we identify the goals of each Strategy using the same categories of Guiding Principles provided by the Low-income Solar Policy Guide, but with slightly altered definitions that encompass the goals identified in energy transition literature.

Accessibility and Affordability

Strategies that address the challenges to participating in and financing solar projects can be categorized as enhancing accessibility and affordability.

Community Engagement

Strategies that aim to bring communities into decision-making processes and provide education around accessing and developing distributed solar can be categorized as enhancing community engagement. These types of Strategies can create new relationships between communities, NGOs, government agencies or other groups that enable communities to leverage a broader range of resources for a program or project. By doing so, community engagement Strategies empower historically underserved communities to reap the economic benefits and independence of distributed generation.

Consumer Protection

Strategies that specifically involve protections for potential program participants or customers are characterized as enhancing consumer protection. Consumer protections

¹⁹ Matthew J Burke and Jennie C Stephens, “Energy Research & Social Science Energy Democracy : Goals and Policy Instruments for Sociotechnical Transitions,” *Energy Research & Social Science* 33, no. October (2017): 35–48, <https://doi.org/10.1016/j.erss.2017.09.024>.

aim to prevent deceptive or unfair business practices and can ensure that historically underserved communities are not exploited as they move into the solar energy market, allowing for sustained expansion into that customer base.

Sustainability and Flexibility

Strategies that can adapt to continue meeting the needs of LMI and rural communities over time as conditions change are characterized as providing sustainability and flexibility. The goals of this project and those described in energy transition literature can only be met long term by strategies that can endure and evolve to continue being effective.

Compatibility and Integration

Strategies that complement existing incentives for distributed generation or programs that serve LMI and rural communities are characterized for their compatibility and integration with the existing policy, regulatory, economic, and programmatic landscape. Strategies are identified for their compatibility and integration when they provide synergies rather than undermining existing incentives or programs.

Summary Table

This table intends to serve as a quick guide to the Strategies discussed throughout this report. The green rows indicate Strategies that may be particularly impactful for increasing access to, and development of, distributed generation in rural and LMI communities in Montana. Throughout this table, we indicate where there are existing policies or programs implemented in Montana, in other states, at the national level, and in other countries. We discuss these existing policies and programs further in the detailed descriptions of each Strategy in the Strategies and Their Application in Montana section.

Strategy	Strategy Goals	Challenges Addressed by this Strategy	Existing Programs in Montana	Pertinent Programs Beyond Montana	Page Number
Net metering, Virtual Net Metering, Aggregate Net Metering	Accessibility and Affordability Sustainability and Flexibility	Cost Physical Barriers (addressed by virtual net metering and aggregate net metering) Home Ownership Status (addressed by virtual net metering and aggregate net metering)	Yes	National: Net metering (NO) Virtual net metering (NO) Aggregate net metering (NO) States: Net metering (YES) Virtual net metering (YES) Aggregate net metering (YES)	14
Renewable energy/ electricity/ portfolio standards (RES/RPS)	Accessibility and Affordability Sustainability and Flexibility Compatibility and Integration	Cost (if includes performance-based incentive like REC/SREC and/or credit multipliers)	Yes	National: NO States: YES	16
Community solar legislation with low-income carveouts	Accessibility and Affordability Compatibility and Integration Sustainability and Flexibility	Cost Access to Financing Physical Barriers Homeowner Status	No	National: NO States: YES	18
Energy Investment Districts (EIDs) / Participatory planning and place-based investments	Accessibility and Affordability Community Engagement Compatibility and Integration	Cost Access to Financing Market Disinterest Education and Outreach	Yes	National: NO States: YES	19
Community Choice Aggregation (CCAs)	Community Engagement	Cost (CCAs often offer lower rates than utilities) Complexity (CCAs can contract with new solar projects in communities so members can enjoy renewables without having to procure them individually)	No	National: NO States: YES	21

Strategy	Strategy Goals	Challenges Addressed by this Strategy	Existing Programs in Montana	Pertinent Programs Beyond Montana	Page Number
Green Tax Incentives	Accessibility and Affordability Compatibility and Integration	Cost (offsets total cost, though customers are responsible for upfront cost)	Yes	National: YES States: YES	22
Renewable energy cooperatives	Community Engagement	Education and Outreach	No	National: NO States: YES	24
Remunicipalization	Affordability and Access Community Engagement	Cost	No	National: NO States: YES	25
Feed-in tariffs	Accessibility and Affordability	Cost	No	National: NO States: YES	25
Sustainable Energy Utilities	Accessibility and Affordability Compatibility and Integration	Complexity	No	National: NO States: YES	27
Carbon Tax-and-Invest	Affordability and Accessibility Sustainability and Flexibility	Cost Market Disinterest	No	National: NO States: YES	28
Cap-and-Dividend	Affordability and Accessibility	Cost	No	National: NO States: YES	29
Green Grants and Rebates	Accessibility and Affordability Community Engagement Compatibility and Integration	Cost	Yes	National: YES States: YES	30

Strategy	Strategy Goals	Challenges Addressed by this Strategy	Existing Programs in Montana	Pertinent Programs Beyond Montana	Page Number
On-bill recovery/ on-bill financing (OBR/OBF) and repayment programs	<p>Accessibility and Affordability</p> <p>Compatibility and Integration</p> <p>Sustainability and Flexibility</p> <p>Consumer Protection</p>	<p>Access to Financing</p> <p>Complexity</p>	Yes	<p>National: YES</p> <p>States: YES</p>	32
Property Assessed Clean Energy (PACE)	<p>Accessibility and Affordability</p> <p>Compatibility and Integration</p> <p>Sustainability and Flexibility</p>	<p>Access to Financing</p> <p>Complexity</p>	Yes	<p>National: NO</p> <p>States: YES</p>	34
Green public service banks	<p>Affordability and Accessibility</p> <p>Community Engagement</p> <p>Compatibility and Integration</p>	<p>Cost</p> <p>Access to Financing</p>	No	<p>National: NO</p> <p>States: YES</p>	35
Revolving loan funds	<p>Accessibility and Affordability</p> <p>Sustainability and Flexibility</p>	Access to Financing	Yes	<p>National: NO</p> <p>States: YES</p>	37
Other loans	<p>Accessibility and Affordability</p> <p>Sustainability and Flexibility</p>	Access to Financing	Yes	<p>National: NO</p> <p>States: YES</p>	37
Public bonds	Compatibility and Integration	Access to Financing	No	<p>National: yes</p> <p>States: YES</p>	39
Cooperative Financing	<p>Accessibility and Affordability</p> <p>Community Engagement</p>	Access to Financing	Yes	<p>National: YES</p> <p>States: YES</p>	40

Strategy	Strategy Goals	Challenges Addressed by this Strategy	Existing Programs in Montana	Pertinent Programs Beyond Montana	Page Number
Community Purchase Programs (CPPs)	Accessibility and Affordability Community Engagement	Cost (Through competitive pricing) Market Disincentive Education and Outreach Complexity (customers have to make fewer decisions on their own)	Yes	National: NO States: YES	41
Community Benefit Agreements (CBAs)	Accessibility and Affordability Community Engagement	Cost	No	International: YES National: NO States: YES	42
Partnering with Community Development Institutions	Accessibility and Affordability Compatibility and Integration Community Engagement	Cost	Yes	National: NO States: YES	43

Strategies and Their Application in Montana

Policy Strategies

While many Strategies throughout this report can require enabling legislation, this section describes strategies that, once passed as policy at the state or local levels, can directly influence the context of distributed solar development and enhance the opportunities for rural and LMI customers to participate.

Net metering, Aggregate Net Metering, Virtual Net Metering

Goals: Accessibility and Affordability, Sustainability and Flexibility

Challenges Addressed: Cost (addressed by net metering, virtual net metering, and aggregate net metering), Physical Barriers and Home Ownership Status (addressed by virtual net metering and aggregate net metering)

Net metering enables customers who generate part or all of their energy with distributed generation to feed their excess energy production back onto the grid. In doing so, customers

receive a bill credit for the value of the energy they provide which can offset the cost of drawing energy from the grid. This program makes development of distributed solar more affordable because customers can reap the financial benefits of their energy savings, and surplus energy generation, over time and pay back their initial investment.

Virtual net metering allows customers to offset their energy consumption with distributed generation sited somewhere else in the community, often termed 'shared solar'. These types of programs often allow customers to purchase or lease a portion of a larger solar array, or sign up for a subscription program where they pay a small fee to receive credit for a portion of the energy generated by the shared solar array. The energy produced from their portion of the array then offsets their total energy bill.

Aggregate net metering allows customers to use credits from a single solar array on their property to offset energy costs from other meters they own/operate.

Virtual and aggregate net metering can make this payment method more accessible to renters or other interested customers that have challenges developing solar on the building(s) where they intend to use the generated energy.

Impact for Rural and LMI Customers

Net metering enables customers who generate their own energy to receive compensation for the value of that energy – including excess energy sent to the grid – making it more financially feasible to afford solar installation because then the project pays for itself over time. Virtual and aggregate net metering provide customers more flexibility in what solar installations they net meter from. Virtual net metering allows renters, or other residents without a suitable roof or location for solar development, to have alternative means of benefiting from the solar resources in their community. Aggregate net metering can make net metering more accessible to farmers and ranchers who often have multiple meters that serve different buildings or equipment. If the best site for solar is on one building but the biggest energy demand is on another, each with separate meters, this program lets the property owner receive credit to offset their energy consumption across all meters so they aren't limited to siting solar development near their energy use.

Pertinent Programs in Other States, Nationally in the U.S., and in Other Countries

There is not a national net metering policy for the U.S., however, 40 states have implemented state-wide net metering policies, though five are moving toward other forms of energy compensation.²⁰ Virtual net metering is allowed to varying extents in 16 states, with differences in if utilities are mandated to offer this compensation model and in what customers are eligible to participate in the program (See Appendix A).²¹ Aggregate net metering has likewise been

²⁰ DSIRE, "Net Metering Programs," 2020, <https://programs.dsireusa.org/system/program>.

²¹ Institutue for Local Self Reliance, "Updated: States Supporting Virtual Net Metering," 2015, <https://ilsr.org/rule/net-metering/updated-states-supporting-virtual-net-metering/>.

enabled in at least 17 states with varying rules regarding customer eligibility, technology type, and the distance between meters and the renewable energy system (See Appendix B for enabling legislation).²²

Opportunities and Challenges in Montana

Montana has statewide net metering legislation that requires Investor Owned Utilities (IOUs) offer net metering such that customers are credited for the retail value of their energy production and allows electric cooperatives more flexibility in designing their own net metering programs.²³ At the end of the 12 month billing cycle, the credits for excess generation from the customer's solar array are forfeited to the utility.²⁴

These net metering policies are currently limited to systems that are 50 kW or less in IOU service territory and electric cooperatives generally approve up to 10kW and anything more they consider on a case by case basis.^{25, 26} These limits can constrain the development of larger shared solar projects. There is currently no enabling legislation for virtual or aggregate net metering, which current net metering legislation has been interpreted to preclude. One consideration is that these programs can require additional administrative work to allocate energy credits in the correct proportion to respective customers. The Clean Energy Collective have currently worked in Massachusetts, Maine, New York, Colorado, and Connecticut to provide software that performs these administrative duties and could be a resource to draw from for Montana and other states aiming to implement these programs.

Relevant Stakeholders

Stakeholders involved in implementation, and adjustment, of these programs in Montana include legislators, utilities ([Montana-Dakota Utilities](#), [NorthWestern Energy](#), or [electric cooperatives](#)) and the Public Service Commission (PSC).

To learn more about out of state programs, consider contacting [Clean Energy Collective](#) for information on how they manage the administrative aspects of virtual and aggregate net metering in the northeastern United States.

Renewable Energy/Electricity/Portfolio Standards (RES/RPS)

Goals: Accessibility and Affordability, Sustainability and Flexibility, Compatibility and Integration

²² National Conference of State Legislatures, "State Net Metering Policies," 2017, <https://www.ncsl.org/research/energy/net-metering-policy-overview-and-state-legislative-updates.aspx>.

²³ Public Service Commission, "Net Energy Measurement Calculation" (1999), https://leg.mt.gov/bills/mca/title_0690/chapter_0080/part_0060/section_0030/0690-0080-0060-0030.html.

²⁴ NorthWestern Energy, "Rule No. 16 Electric Net Metering," 2019, <http://www.northwesternenergy.com/docs/default-source/documents/net-metering/rule-16.pdf>.

²⁵ DSIRE, "Montana Electric Coops - Net Metering," 2012, <https://programs.dsireusa.org/system/program/detail/72>.

²⁶ Montana Department of Environmental Quality, "Net Metering and Easements," n.d., <http://deq.mt.gov/Energy/renewableenergy/netmeterrenew>.

Challenges Addressed: *Cost (if includes performance-based incentive like REC/SREC and/or credit multipliers)*

RES/RPS programs require that a certain portion of a supplier's energy be generated by designated renewable sources, and when this requirement is larger than the current supply from renewable sources, it can incentivize suppliers to replace fossil fuel generation with renewables rather than expanding renewables along with fossil fuels. Distributed solar projects can benefit from RES/RPS because the value of their renewable energy production can be monetized in the form of renewable energy credits (RECs) or solar renewable energy credits (SREC) that are purchased by electric utilities to meet their standard. This can be aided by credit multipliers that provide more credit value to distributed generation or solar. This can be an added incentive, in addition to net metering, to make distributed generation more financially feasible at a community shared solar scale.

Impact for Rural and LMI Customers

RESs/RPSs that set higher goals for renewables than energy providers are currently meeting can create a market for RECs and SRECs which allows larger projects, like shared community solar, to receive another economic benefit in addition to net metering, and can make participation in community solar more economically feasible. See "net metering" above and "community solar" below.

Pertinent International, National, and State Programs

States with RES/RPS programs mandate minimum renewable energy generation by utilities and can provide a means of paying distributed generation providers for the renewable energy that they add to the grid. Across the country, 37 states have mandatory or voluntary RES/RPS, and 22 states have RES/RPS with a mandatory solar carveout.^{27,28}

Oregon and WA both have RPS legislation and provide RECs /SRECs to help meet their RPS goals.^{29,30} Oregon provides a credit multiplier of 2 for PV (500 kW-5 MW) meaning every kWh generated is credited at the value of 2 kWh. Washington has a credit multiplier of 2 for distributed generation. Massachusetts had a SREC II Program, replaced in 2018 with the Solar Massachusetts Renewable Target [\(SMART\) program](#), and Colorado has a [RPS](#) with a 3% distributed generation carveout and a credit multiplier of 3 for solar facilities.³¹

²⁷ State Policy Opportunity Tracker, "Renewable Portfolio Standard," accessed June 8, 2020, <https://spotforcleanenergy.org/policy/renewable-portfolio-standard/>.

²⁸ State Policy Opportunity Tracker.

²⁹ Oregon Department of Energy, "Renewable Portfolio Standard," accessed June 8, 2020, <https://www.oregon.gov/energy/energy-oregon/Pages/Renewable-Portfolio-Standard.aspx>.

³⁰ DSIRE, "Washington Renewable Energy Standard," 2020, <https://programs.dsireusa.org/system/program/detail/2350>.

³¹ Solar Energy Industries Association, "RPS Solar Carve Out Colorado," 2013, https://www.seia.org/sites/default/files/resources/RPS_Solar_Fact_Sheet_CO.pdf.

Opportunities and Challenges in Montana

In Montana, the Montana Code Annotated [§69-3-2001 et seq.](#) codifies our Renewable Portfolio Standards which mandates generation is 15% renewable by 2015 and every year after that for all energy providers with 50 customers or more. As of 2012, a portion of renewable energy has to come from community renewable energy projects. Renewable energy credits (RECs) can be used to meet this goal. This RPS does not incentivize new renewables for NorthWestern Energy, the largest provider in Montana, because their portfolio is already approximately 61% renewables, primarily because of hydro. In Montana, a higher RPS is necessary to promote increased investment in renewables above current levels. This increase could also provide an economic means for compensating distributed energy providers.

The Western Renewable Energy Generation Information System ([WREGIS](#)) is only available to process RECs/SRECs for generation within the Western Electricity Coordinating Council ([WECC](#)), which Montana is within and this could be an avenue for Montana to enter into a regional trading market for RECs/SRECs

Relevant Stakeholders

Stakeholders involved in implementation, and adjustment, of these Renewable Portfolio Standards in Montana include NorthWestern Energy; Montana-Dakota Utilities Co.; Utility Division of the PSC (406-444-619); and the local offices of the electric cooperatives with 50 or more members. To learn more about RECs/SRECs, consider becoming familiar with the Western Renewable Energy Generation Information System ([WREGIS](#)).

To learn more about out of state programs, consider contacting Oregon Department of Energy Planning & Innovation Team and the Washington Department of Commerce (eia@commerce.wa.gov).

Community Shared Solar Legislation with Low-income Carveouts

Goals: Accessibility and Affordability, Compatibility and Integration, Sustainability and Flexibility

Challenges: Cost, Access to Financing, Physical Barriers, Homeowner Status

Legislation enabling community shared solar, can designate statewide procedures for shared solar development and set carveouts that specifically include LMI communities, and require a certain level of their participation in projects.

Impact for Rural and LMI Customers

Community solar can make solar accessible to renters or customers that do not have suitable properties or roofs for solar. This model of solar development can also be more affordable since the large installations can disperse costs across numerous customers. Enabling legislation can ensure LMI customers are included in these projects and receive the benefits of these projects and can even provide added incentives. One such incentive is a higher credit value for the portion of energy generation that LMI customers lease, own, or subscribe to.

Pertinent Programs in Other States, Nationally in the U.S., and in Other Countries

Several states have enabling legislation for community solar that includes carveouts for LMI populations. In Colorado, the [2010 Solar Gardens Act](#) requires 5% of new shared solar to be designated for low-income communities; in Connecticut, the [Shared Clean Energy Facilities Program](#) authorizes shared solar subscriptions with on-bill subscription fee and energy credit, and incentives for low-income participation; in Hawaii, [SB 1050](#) allows utilities to own community solar projects as long as 50% capacity is reserved for low-income customers; In Illinois, the [Low Income Community Solar](#) program allows qualified low income customers to incur no upfront costs and ensures ongoing costs don't exceed 50% of the value of energy generated. Massachusetts' [SMART program](#), Maryland's [Community Solar Pilot Program](#), Oregon's [Oregon Community Solar project](#), and Rhode Island's House bill [HB 8354](#) are each examples of statewide legislation for community solar that involves carveouts for Low income customers.

Opportunities and Challenges in Montana

There is no statewide legislation enabling community shared solar or designating carveouts for LMI customers in Montana. Passing statewide legislation can be difficult without a legislature that favors renewable energy. Carveout programs can also be underutilized if LMI customers are not aware of these programs, which indicates the importance of using educational and outreach efforts in coordination with carveouts.

Relevant Stakeholders

Stakeholders involved in implementation, and adjustment, of these programs in Montana include the Montana Energy Office and legislators.

To learn more about out of state programs, consider contacting the Colorado Energy Office and Grid Alternatives, who received a grant from the Colorado Energy Office of \$1.2 to manage and implement a community solar project designed to benefit LMI residents.

Energy Investment Districts (EIDs) / Participatory planning and place-based investments

Goals: *Accessibility and Affordability, Compatibility and Integration, Community Engagement*

Challenges: *Cost, Access to Financing, Market Disincentive, Education and Outreach*

Just Transition Zones, Energy Investment Districts or Energy Improvement Districts (EIDs) are programs that designate qualifying communities for targeted grant funding, economic development programs, or other resources to support renewable energy development.

Impact for Rural and LMI Customers

This is an approach that would specifically funnel funding and other resources to communities that have suffered environmental and economic hardships in the past and ensure that they are supported in a transition toward a clean energy economy.³²

Pertinent Programs in Other States, Nationally in the U.S., and in Other Countries

In California, the California Environmental Justice Alliance (CEJA) used [California Green Zones](#) to identify communities at greatest environmental risk and run participatory planning around how that community could be supported, through existing organizations and federal/state programs, to achieve a sustainable future.³³ [Ohio, Connecticut, and Arkansas](#) each have models that allow communities to apply for designation as an Energy Investment District, which qualifies them for PACE programs and other financial support.³⁴

Opportunities and Challenges in Montana

In Montana, Montana Code Annotated 7-12-4101 (j)³⁵ authorizes city or town councils to create Special Improvement Districts for the development of alternative energy production facilities, and Montana Code Annotated 7-12-2102³⁶ authorizes county commissioners to create Rural Improvement Districts for interested rural residents. These existing programs are distinct from Energy Investment Districts because they finance projects by assessing a fee to impacted property owners on their property taxes rather than providing access to programs and resources to support solar development. However, SIDs could potentially be used to finance community scale renewable projects by allowing residents to share the project costs, paid over-time through property taxes, similar to the Property Assessed Clean Energy (PACE) program.

The 2017 Tax Cuts and Jobs Act authorized [Opportunity Zones](#) to be designated in economically struggling communities and allow investment in those communities to qualify for tax benefits, which could also support the development of community shared solar projects and reduce the overall cost.

Relevant Stakeholders

Stakeholders involved in implementation, and adjustment, of these programs in Montana include city and town councils, county commissioners, and residents interested in community shared solar.

To learn more about out of state programs, consider contacting California Environmental Justice Alliance and the Center for Social Inclusion Program Manager.

³² Center for Social Inclusion, “Energy Investment District (EIDs): Policy Concept Paper,” 2014.

³³ California Environmental Justice Alliance, “Green Zones for Economic and Environmental Sustainability :,” 2012.

³⁴ Center for Social Inclusion, “Energy Investment District (EIDs): Policy Concept Paper.”

³⁵ Montana Code Annotated, “Authorization for Creation of Special Improvement Districts” (2007), https://leg.mt.gov/bills/mca/title_0070/chapter_0120/part_0410/section_0020/0070-0120-0410-0020.html.

³⁶ Montana Code Annotated, “Authorization for Creation of Rural Improvement Districts” (2017), https://leg.mt.gov/bills/mca/title_0070/chapter_0120/part_0210/section_0020/0070-0120-0210-0020.html.

Community Choice Aggregation (CCAs)

Goals: Community Engagement

Challenges: Cost, Complexity

CCAs allow local governments to procure an alternative energy supply for their communities while using the transmission and distribution service of their utility provider. This could be an indirect approach to supporting greater distributed solar in that CCAs may choose to procure their energy from local sources, spurring development of more community sited solar.

Impact for Rural and LMI Customers

By choosing to purchase local solar power for their communities, CCAs can support distributed solar development in the form of local solar projects and can often deliver energy to their customers at a lower cost than utilities, such that customers can benefit from distributed solar development in their communities without the costs and complexity of implementing a solar project themselves.

Pertinent Programs in Other States, Nationally in the U.S., and in Other Countries

Legislation in California, Illinois, Massachusetts, New Jersey, New York, Ohio, and Rhode Island enables CCAs, and local governments hold hearings to authorize the CCAs, which tend to include opt-out provisions to give customers the choice of participating.³⁷ Some key examples of CCAs are in [Town of Swampscott, MA](#); [Village of Glen Ellyn, IL](#); [City of Cleveland, OH](#); and throughout California, such as in [Town of Fairfax](#), [City of Belvedere](#), [City of Lancaster](#), [City of Richmond](#). The regulated market in states like California can pose challenges regarding legacy cost allocation and resource adequacy requirements, as outlined in a 2019 report by the National Renewable Energy Laboratory.³⁸

Opportunities and Challenges in Montana

Montana does not currently have enabling legislation for CCAs. If enabled by state legislation, there can be challenges with the upfront costs of the program if there is low community participation, and because of this customers are often offered the choice of opting out, rather than opting in.³⁹ CCAs can be particularly difficult to implement in regulated markets like Montana (See California example and report mentioned in section above on out of state programs).⁴⁰

³⁷ National Conference of State Legislatures, "Community Choice Aggregation," 2015, accessed June 8, 2020, <https://www.ncsl.org/research/energy/community-choice-aggregation.aspx>.

³⁸ Eric O Shaughnessy et al., "Community Choice Aggregation: Challenges, Opportunities, and Impacts on Renewable Energy Markets," 2019.

³⁹ Amy Cilimburg et al., "Missoula's 100% Clean Electricity Options Report, V2," 2019, https://www.missoulaclimate.org/uploads/4/3/2/6/43267085/missoula100_optionsreport_v2_3-6-19.pdf.

⁴⁰ Shaughnessy et al., "Community Choice Aggregation: Challenges, Opportunities, and Impacts on Renewable Energy Markets."

Relevant Stakeholders

Stakeholders involved in implementation, and adjustment, of these programs in Montana include legislators, local city councils and county commissioners, IOUs, and electric cooperatives.

To learn more about out of state programs, consider contacting the local government officials who have implemented the practice elsewhere (see examples from other cities and towns above) and the National Renewable Energy Laboratory, which recently released a 2019 review of the challenges and opportunities regarding CCAs.⁴¹

Green Tax Incentives

Goals: *Accessibility and Affordability, Compatibility and Integration*

Challenges: *Cost (offsets total cost, though customers are responsible for upfront cost)*

Green tax incentives are intended to help offset some of the financial burden of developing distributed solar generation by issuing tax credits or abatements.

Impact for Rural and LMI Customers

Tax credits can offset the total cost of solar installation projects, making them more affordable. As discussed further below, tax credits may need to be adjusted to make them refundable or immediately dispensable to ensure LMI customers benefit from this financial support, at the time it is needed.

Pertinent Programs in Other States, Nationally in the U.S., and in Other Countries

At the federal level, there are two tax credits specifically targeting renewable energy. One is the [Residential Renewable Energy Tax Credit](#) which provides a tax credit of 26% the cost of the solar array in the year it was installed. Storage, if installed with PV, counts towards the total cost. Starting in 2021, the amount steps down to 22% and then moves to 0% starting 2022. The other tax credit is the [Business Energy Investment Tax Credit](#) which provides a tax credit of 26% the cost of the solar array in the year it was installed. Storage, if installed with PV, counts towards the total cost. Starting in 2021, the amount steps down to 22% and steps down to 10% starting in 2022 and continues at that rate.

Many states have tax credits for distributed renewable energy development.⁴² In New York, the [Refundable Clean Heating Fuel Tax Credit](#) is for biomass, but can provide an example of how a refundable tax credit may function for solar energy generation here in Montana, where we currently have several alternative energy tax credits that are discussed below.

Opportunities and Challenges in Montana

⁴¹ National Conference of State Legislatures, "Community Choice Aggregation."

⁴² DSIRE, "Programs: Tax Credits," 2020, <https://programs.dsireusa.org/system/program..>

Since the federal tax credits continue to decrease, and potentially expire in the near future, customers should be encouraged to use these benefits while they exist. In Montana, we also have several tax credits for distributed solar:

[15-32-201](#) - Montana Alternative Energy Systems Income Tax Credit that provides \$500 tax incentive (\$1,000 for joint filings) for the installation of a renewable energy system in primary residence and the incentive can be carried over for 4 years.

[15-6-224](#) - Renewable energy systems exemption which authorizes that a portion of the assessed value of renewable energy generation equipment (\$20,000 for a single-family residential dwelling or \$100,000 for all other structures) are exempt from property taxes for 10 years following installation.

[15-6-225](#) - Property tax exemption for renewable generating facilities under 1 MW which authorizes that renewable energy generation facilities of less than 1MW of nameplate capacity are exempt from property taxes for 5 years.

[15-24-3101](#) - Property tax abatement for renewable energy generating facilities provides tax abatement of 50% on renewable energy facilities or equipment for 19 years.

[15-32-401](#) - Alternative energy investment tax credit authorizes up to 35% tax credit on the income generated by a commercial or net metering alternative energy investment of \$5,000 or more.

While tax credits can offset the total cost of a project, LMI customers may not have the upfront finances to cover costs and await offsets. LMI customers also may not be in a qualified tax bracket to reap the benefits of these tax credits. It may be possible to make Montana tax credits refundable so LMI residents who do not have a high tax burden can still receive financial offsets for the costs of array installation. It may also be beneficial to allow the state tax incentives in Montana to be immediately dispensable upon qualification, so customers do not have to wait for their tax refund at a later time.

Relevant Stakeholders

Stakeholders involved in implementation, and adjustment, of these programs in Montana include legislators, the Department of Revenue, and the Department of Environmental Quality (DEQ).

To learn more about out of state programs, consider contacting the New York Department of Taxation and Finance which provides the [Refundable Clean Heating Fuel Tax Credit](#).

Regulatory Strategies

While many Strategies may need enabling legislation, this section describes Strategies that once enabled, would need to be implemented at a regulatory level, such as through the actions and rulemaking of agencies or departments or by IOUs and electric cooperatives. Some of these

Strategies could be enabled by state or local policy or through regulatory processes and are included here to depict that flexibility.

Renewable Energy Cooperatives

Goals: *Community Engagement*

Challenges: *Education and Outreach*

Renewable Energy Cooperatives can be implemented according to a variety of models, and the main focus is on cooperative ownership and purchase of renewable energy. They often are non-profit, consumer and working owned electric cooperatives, including distribution, generation, or transmission cooperatives, with an emphasis on renewable energy generation.

Impact for Rural and LMI Customers

Renewable Energy Cooperatives enable community members, including customers, workers, and investors, to collectively own renewable energy projects and reap the economic benefits of the energy they generate.

Pertinent Programs in Other States, Nationally in the U.S., and in Other Countries

California has a renewable energy cooperative, the [Solidarity Cooperative](#), which is an organization of consumers, workers, and community investors that develop and own renewable energy projects. Ohio similarly has the [Evergreen Cooperatives of Cleveland](#) which supports employee owned business development focused on sustainability issues, like urban farming and renewable energy.

Opportunities and Challenges in Montana

We have 25 electric coops in Montana, but they are all primarily distribution cooperatives with little economic incentive to generate their own energy since they each purchase relatively small amounts from their energy suppliers and thus already fall into the lowest rate.⁴³ Similar to crowdfunding, this could be an opportunity for highly interested communities to mobilize around renewable generation.

Relevant Stakeholders

Stakeholders involved in implementation, and adjustment, of these programs in Montana include the 25 electric cooperatives in Montana and non-profits or other community members or organizations interested in cooperative project and program implementation.

To learn more about out of state programs, consider contacting Evergreen Cooperatives (216-268-5399) to learn from their model.

⁴³ Bonneville Power Administration, "Current Power Rates," 2020, <https://www.bpa.gov/Finance/RateInformation/Pages/Current-Power-Rates.aspx>.

Remunicipalization

Goals: *Affordability and Access, Community Engagement*

Challenges: *Cost*

Remunicipalization of the energy sector is a Strategy that involves some version of public ownership of the electricity sector and requires transparency and public engagement.

Impact for Rural and LMI Customers

This Strategy, similar to CCAs, allows communities to have a more active role in determining the sources of their energy generation, and can make it easier for communities to push for distributed generation and programs that serve rural and LMI households. Remunicipalization can also empower communities to invest in more innovative and adaptable energy infrastructure to create greater resilience in the energy grid, which can be particularly beneficial to rural communities that may face more frequent disruptions to their energy supply through a centralized utility system.⁴⁴

Pertinent Programs in Other States, Nationally in the U.S., and in Other Countries

In Colorado, the City of Boulder re-municipalized through their program [Local Power](#), passed by voter ballot initiative in 2013, to increase control over energy investments and move towards a renewable energy future.⁴⁵ The program plans to move forward under this new ownership model in 2020.

Opportunities and Challenges in Montana

Remunicipalization requires approval from the PSC and substantial capacity to administer the energy utility.

Relevant Stakeholders

Stakeholders involved in implementation, and adjustment, of these programs in Montana include local municipalities, utilities, the PSC, and the state legislature.

To learn more about out of state programs, consider contacting City of Boulder Energy Futures (energyfuture@bouldercolorado.gov).

Feed-in Tariffs

Goals: *Accessibility and Affordability*

Challenges: *Cost*

⁴⁴ Andrew Cumbers, “Remunicipalization , the Low-Carbon Transition , and Energy Democracy,” in *State of the World* (Washington: Worldwatch Institute, 2016), 275–90, <https://doi.org/10.5822/978-1-61091-756-8>.

⁴⁵ City of Boulder, “Local Power,” accessed May 8, 2020, <https://bouldercolorado.gov/local-power>.

Feed-in tariffs offer a fixed credit value per kW of energy that customers generate and feed back onto the grid. Similar to net metering, this approach compensates customers for the value of the solar energy they contribute to the grid, but unlike net metering, this approach involves two separate meters to monitor consumption and generation, and often assign different values to energy consumed compared to the energy produced with solar.

Impact for Rural and LMI Customers

The fixed credit value for solar energy generated and fed into the grid can help LMI communities, who may struggle to secure financing, demonstrate the financial benefits of their solar projects. If this credit value is greater than, or equal to, the value of energy they would traditionally purchase from the grid, then customers can more easily pay back the cost of solar development with the value of their solar generation. However, if the energy produced by customers is valued less than the value of energy provided by largescale generators this can extend the pay-back period of a solar installation and impede expansion of distributed solar markets.

Pertinent Programs in Other States, Nationally in the U.S., and in Other Countries

There are statewide programs in California, Hawaii, Massachusetts, Maine, Oregon, Vermont, and Washington.⁴⁶ The Massachusetts [Solar Mass. Renewable Target \(SMART\)](#) program includes a way to calculate the value of the energy produced from a given system, based on project type, size, distribution company service territory, customer rate class, and capacity block.⁴⁷ There are also numerous programs offered by electricity providers.⁴⁸

Opportunities and Challenges in Montana

The current net metering programs in Montana serve the purpose of compensating customers that generate solar energy for the value of that energy. In Montana, net metering for most energy suppliers currently provides credits at the full retail value. As of 2016, total electricity production from solar in the state was only 0.04%, with plenty of potential for growth. Feed-in tariffs introduce the idea of basing the credit value of distributed solar energy on multiple attributes, including the value of emissions reductions compared to fossil fuel energy sources and the value of distributed generation on the grid, which is something that may be interesting to consider when revisiting the credit value assigned through net metering policies here in Montana.

Relevant Stakeholders

⁴⁶ U.S. Energy Information Administration, “Feed-in Tarrifs and Similar Programs,” 2013, https://www.eia.gov/electricity/policies/provider_programs.php.

⁴⁷ Executive Office of Energy and Environmental Affairs, “Solar Massachusetts Renewable Target Program: Guideline on Establishing SMART Compensation Rates” (Commonwealth of Massachusetts, 2020), <https://www.mass.gov/doc/guideline-on-establishing-smart-compensation-rates/download>.

⁴⁸ U.S. Energy Information Administration, “Feed-in Tarrifs and Similar Programs.”

Stakeholders involved in implementation, and adjustment, of these programs in Montana include the PSC, the legislature, and IOUs and electric cooperatives.

To learn more about out of state programs, consider contacting the Massachusetts Solar Mass. Renewable Target (SMART) Program (MA.SMART@clearesult.com)

Sustainable Energy Utilities

Goals: *Accessibility and Affordability, Compatibility and Integration*

Challenges: *Cost, Access to Financing, Complexity*

A Sustainable Energy Utility (SEU) is a community focused, institutional Strategy intended to coordinate and deliver programs on energy conservation, efficiency, and renewable energy development, and operate as the point of contact for those efforts.^{49, 50} SEUs are designed to operate on a third party management model, be publicly accountable, and utilize a variety of revenue streams and funding sources to provide programs and services related to funding, financing, and education.

Impact for Rural and LMI Customers

SEUs can reduce complexity by being the main point of contact for energy efficiency and renewable generation, and they also can provide funding, financing, and education programs to make solar installations more accessible and affordable.⁵¹

Pertinent Programs in Other States, Nationally in the U.S., and in Other Countries

Delaware was the first state to enact an SEU in 2007 called [Delaware Sustainable Energy Utility \(DESEU\)](#) through their Energize Delaware initiative. Washington DC also implemented the [District of Columbia Sustainable Energy Utility \(DCSEU\)](#) in 2011, and both the DESEU and DCSEU provide grants, financing, and educational and technical assistance for solar development. Similar programs include California's [Sustainable Energy Bond Program](#) run by The California Statewide Communities Development Authority (CSCDA) and the Foundation for Renewable Energy and Environment (FREE) and the [Pennsylvania Sustainable Energy Finance](#) program (PennSEF) run by the Pennsylvania Treasury and FREE.

Opportunities and Challenges in Montana

SEUs operate as a community utility and could be enacted at the level of a town, city or state, but statewide legislation can authorize SEUs to utilize financial resources, such as in Delaware where the DESEU can issue tax-exempt bonds, invest Regional Greenhouse Gas Initiative (RGGI)

⁴⁹ Jason Houck, "The Sustainable Energy Utility (SEU) Model for Energy Service Delivery," *Bulletin of Science, Technology, and Society* 29, no. 2 (2009), <https://doi.org/10.1177/0270467608330023>.

⁵⁰ John Byrne, Cecilia Martinez, and Colin Ruggero, "Relocating Energy in the Social Commons: Ideas for a Sustainable Energy Utility," *Bulletin of Science, Technology, and Society* 29, no. 2 (2009): 81–94.

⁵¹ Houck, "The Sustainable Energy Utility (SEU) Model for Energy Service Delivery."

funds, and bank solar renewable energy credits (SRECS).⁵² Passing statewide legislation can be difficult without a legislature that favors renewable energy.

Relevant Stakeholders

Stakeholders involved in implementation, and adjustment, of these programs in Montana include legislators and the Foundation for Renewable Energy and Environment (FREE).

To learn more about out of state programs, consider contacting Energize Delaware (302-883-3048) or the DCSEU (202-479-2222, info@dcseu.com) to learn about how their SEU programs were enacted and how they have evolved.

Carbon Tax-and-Invest / Cap-and-Trade

Goals: *Affordability and Accessibility, Sustainability and Flexibility*

Challenges: *Cost, Market Disincentive*

Carbon tax-and-invest programs tax carbon emissions and use revenues to invest in renewable energy development and emissions reductions projects with the end goal of disincentivizing fossil fuel consumption. Cap-and-trade programs set a limit on carbon emissions and then allow emission allowances to be auctioned and the revenues to be reinvested in renewable energy development and other emission reductions projects.

Impact for Rural and LMI Customers

Carbon tax-and-invest, or cap-and-trade programs, penalize large polluters and often direct the economic resources from those industries toward revitalizing communities. These programs can provide the resources, such as grants, rebates, and affordable financing that can make solar development feasible in LMI communities, which can incentivize solar installers to expand their markets into these communities that may not have been likely customers without this added support.

Pertinent Programs in Other States, Nationally in the U.S., and in Other Countries

Programs vary substantially across states, from placing caps on a specific sector of the economy to placing caps across all sectors. Carbon tax-and-invest programs have been adopted in 12 states and DC as part of regional initiatives or on their own.⁵³ Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont are members of the Regional Greenhouse Gas Initiative (RGGI), the first mandatory cap-and-trade program in the United States covering the power sector. Virginia and Pennsylvania are in the process of joining RGGI, while California, DC, Washington have implemented their own

⁵² Energize Delaware, "Delaware Sustainable Energy Utility," accessed April 8, 2020, <https://www.energizedelaware.org/home/deseu/vision/>.

⁵³ Center For Climate and Energy Solutions, "Market Based State Policy," accessed May 8, 2020, <https://www.c2es.org/content/market-based-state-policy/>.

programs.⁵⁴ In California the [California Climate Investment Fund](#) sets a cap on emissions across all sectors that reduces by 3% each year to incentivize the overall decrease in emissions and uses the proceeds from this program to implement renewable energy development projects and other emission reductions programs.⁵⁵ In Washington, the Washington Clean Air Rule was adopted by the Department of Ecology in 2016 and would have required certain entities to begin reducing their emissions by 1.7% annually but is still being processed through the court system after several businesses filed suit.⁵⁶

Opportunities and Challenges in Montana

There is no carbon tax-and-invest program currently in place in Montana. Attempts have been made to qualify ballot initiatives in Montana using the concept of funds collection to support an energy transition toward renewable generation, in part by enabling distributed generation. While these initiatives have not qualified for the ballot here in Montana, this type of strategy could be used to increase financial resources for programs that support development of renewable energy, which is especially important when considering that financial constraints can be the key reason that LMI communities may not be able to access solar development.

Relevant Stakeholders

Stakeholders involved in implementation, and adjustment, of these programs in Montana include legislators, Citizens Climate Lobby groups, local governments with taxation authority, and the Montana Energy Office.

To learn more about out of state programs, consider contacting California Climate Investment Fund (info@caclimateinvestments.ca.gov).

Carbon Cap-and-Dividend

Goals: Affordability and Accessibility

Challenges: Cost

The cap-and-dividend approach sets a limit on carbon emissions, that declines gradually overtime, and authorizes a set limit of pollution permits that are auctioned off. Unlike tax-and-invest programs, cap-and-dividend programs frame the atmosphere as a common property resource and the revenue generated from auctioning emissions allowances are distributed as basic income or as direct green subsidies to residents on an equal per capita basis.⁵⁷

Impact for Rural and LMI Customers

⁵⁴ Center For Climate and Energy Solutions.

⁵⁵ California Climate Investments, "Cap and Trade Program," accessed May 8, 2020, <http://www.caclimateinvestments.ca.gov/about-cci>.

⁵⁶ Center For Climate and Energy Solutions, "Market Based State Policy."

⁵⁷ Catherine M Kunkel and Daniel M Kammen, "Design and Implementation of Carbon Cap and Dividend Policies," *Energy Policy* 39, no. 1 (2011): 477–86, <https://doi.org/10.1016/j.enpol.2010.08.046>.

In contrast to the tax-and-invest Strategy, this approach ensures each resident receives their share of economic resources to invest how they see fit. For residents who may have their money invested in assets or LMI residents who may have less disposable income, this program provides them increased economic resources that they could potentially invest in solar energy generation.

Pertinent Programs in Other States, Nationally in the U.S., and in Other Countries

Cap-and-dividend programs are currently less pursued than carbon tax-and-invest programs, though the [Energy Innovation and Carbon Dividend Act](#) was introduced as H. R. 763 in 2019 through congress. The bill proposes a low fee on carbon emissions that grows over time. The money would then be distributed to the American people in equal shares to be spent at their own discretion.

Opportunities and Challenges in Montana

There is currently no cap-and-dividend program in Montana, and it may be difficult to pass one without a legislature that is favorable towards renewable energy. This policy could distribute wealth among Montanans in a way that may provide LMI and rural communities with more financial resource that they could use towards solar projects.

Relevant Stakeholders

Stakeholders involved in implementation, and adjustment, of these programs in Montana include legislators, Citizens Climate Lobby groups, local governments with taxation authority, and the Montana Energy Office.

To learn more about out of state programs, consider contacting the legislators who sponsored the Energy Innovation and Carbon Dividend Act.

Financial Mechanisms

This section focuses on Strategies that provide financial resources to support customers in affording and financing the cost of a solar array. Many of these Strategies may require enabling legislation, but their practical use is as a financial mechanism and are thus included in this section of the report.

Green Grants and Rebates

Goals: *Accessibility and Affordability, Community Engagement, Compatibility and Integration*

Challenges: *Cost (Offsets upfront and total cost)*

Grants and rebates provide financial resources to offset the total cost of installation and/or support capacity for project development.

Impact for Rural and LMI Customers

Direct financial incentives like grants and rebates reduce the overall cost of solar installation projects, which can be a critical part of making distributed solar available for customers with limited disposable income.

Pertinent Programs in Other States, Nationally in the U.S., and in Other Countries

Nationally, there are several programs that provide grants or rebates for renewable energy generation. The U.S. Department of Agriculture's [Rural Energy for America Program \(REAP\)](#) provides grants of 25% the cost of a renewable energy project, up to \$500,000. Similarly, the U.S. Department of Housing and Urban Development's [Community Development Block Grants \(CDBGs\)](#) are also a flexible grant that has been used for solar. Another resource available at the national level are the Department of Energy's SunShot Initiative [Solar Market Pathways Cooperative Grants](#) which invest in organizational and technical capacity to implement community solar projects.

The Department of Energy's [Weatherization Assistance program \(WAP\)](#) first authorized inclusion of renewable energy generation in 2005 Energy Policy Act. Colorado was the first state to get rooftop solar approved as part of the program, since the decreasing cost of installation has made the savings-to-investment ratio (SIR) equal to 1 or greater, as required by WAP. National Renewable Energy Lab has a spreadsheet to calculate this SIR for each installation, and the program covers up to \$3,545 per home.

Several state programs also provide direct financial incentives for solar development. In California, the [Single Family Affordable Solar Homes \(SASH\)](#) program provides a \$3.00 per watt incentive for solar installation, the [Multifamily Affordable Solar Homes \(MASH\)](#) program provides \$1.10 to 1.80 per Watt incentive, and the [LMI Weatherization Program \(LIWP\)](#) provides an upfront rebate in tandem with SASH. In Washington D.C. and Illinois, the Solar for All Programs covers up-front costs and ensures ongoing costs and fees do not exceed 50% of the value of energy generated by the system.^{58,59} In New York, the [Affordable Solar Predevelopment and Technical Assistance](#) program financially supports the development of multifamily or shared solar development.

For indigenous communities with federal recognition, the Bureau of Indian Affairs offers the [Energy and Mineral Development Program \(EMDP\)](#) grant and the [Tribal Energy Development Capacity \(TEDC\)](#) grant to support development of energy resources. The Office of Indian Energy Policy and Programs also has an Energy Development Assistance Tool that filters through several more grants that can aid in energy development by tribes and tribal members.⁶⁰

Opportunities and Challenges in Montana

⁵⁸ D.C. Department of Energy and Environment, "Solar for All," n.d., <https://doee.dc.gov/solarforall>.

⁵⁹ Illinois Power Agency, "Illinois Solar for All," accessed May 8, 2020, <https://www.illinoisifa.com/>.

⁶⁰ Department of Energy Office of Indian Energy Policy and Programs, "Energy Development Assistance Tool," n.d., <https://www.energy.gov/indianenergy/energy-development-assistance-tool>.

In Montana, there are several programs that provide grants or rebates for renewable energy development. The [Universal System Benefits \(USB\)](#) obligation in Montana requires all utilities and cooperatives in the state collect USB funds and distribute them as incentives for energy efficiency and renewable energy. NorthWestern meets its USB obligation primarily by implementing their E+ Renewable Energy Program which offers a limited amount of USB funds for solar installations serving non-profit or government/public buildings. Electric cooperatives differ in how they meet their USB obligation, but many meet their obligation through their normal purchase of energy from generators who include a comparable universal system benefits charge and provide comparable programs, meeting cooperative's USB obligation here in Montana.

Another program supporting renewable energy in Montana is the [Montana Beginning Farm/Ranch Loan Program](#) which offers low interest loans, subsidized by tax-exempt bonds for the production of energy from alternative energy sources to be used within the agricultural operation.

Like Colorado, Montana could also appeal to have the WAP program expand to offset the cost of renewable energy generation. However, this program may struggle to expand services without an expansion of its financial capacity.

Relevant Stakeholders

Stakeholders involved in implementation, and adjustment, of these programs in Montana include Department of Energy (DOE) and local Human Resources Council for the WAP program. For the USB program, stakeholders would be NorthWestern Energy (406-497-2329), Montana-Dakota Utilities, and the Utility Division of the Public Service Commission (406-444-6199). For the E+ Renewable Energy Program contact should be made with Northwestern Energy. For the Montana Beginning Farm/Ranch Program, contact the Community Food and Agriculture Association (CFAC), and the Department of Agriculture. To learn more about opportunities for indigenous communities, contact the Bureau of Indian Affairs Energy and Mineral Development Program, IEEDGrants@bia.gov.

To learn more about out of state programs, consider exploring the online materials available for each program and contacting GRID Alternatives, who served as a project partner for the SASH program.

On-bill Recovery/ On-bill Financing (OBR/OBF)

Goals: *Accessibility and Affordability, Compatibility and Integration, Sustainability and Flexibility, Consumer Protection*

Challenges: *Access to Financing, Complexity*

On-bill recovery or on-bill financing allows customers to pay for the cost of solar installations in payments as a separate line item on their regular energy bill. Either the utility or a third party will incur the upfront costs, and the savings or credits are paired with the repayments on the

same bill. Also, the OBF/OBR is tied to the house so if residents move, they do not carry that debt with them. This payment method can also base eligibility on bill payment history rather than credit score.

Impact for Rural and LMI Customers

This Strategy offers numerous benefits to customers. Including the project payments as a line item on the regular energy bill reduces complexity for customers, and allows eligibility to be based off of bill payment history rather than credit score, which helps those who may have difficulty accessing financing because of low credit scores. This strategy also binds the project cost to the property energy bill rather than the customer, which allows customers more flexibility if they move. Lastly, this approach allows customers to pay off the costs of their projects with the energy savings from the installation with one process that allows them to clearly see the financial benefits of their investment.⁶¹

Pertinent International, National, and State Programs

At the national level, [The Rural Energy Savings Program \(RESP\)](#) helps rural utilities and electric cooperatives to institute OBR/OBF programs by providing zero interest loans. The application process is first come first serve and opened for [application](#) April 2020, with \$120 M available.⁶² Utilities and electric cooperatives across the country provide their own [OBR/OBF programs](#), though not all of them specifically offer on-bill financing for distributed solar.⁶³ Some focus specifically on energy efficiency, but still provide models on how an OBR/OBF program can work.

States can also enact enabling legislation for these programs, and this has been done in several states including California, Connecticut, Georgia, Hawaii, Illinois, Kentucky, Massachusetts, Maine, Minnesota, New York, Oregon, and South Carolina.⁶⁴ Colorado and New York each provide examples of [OBR/OBF best practices](#) for financing solar installation.⁶⁵ In Colorado, the Grand Valley Power electric cooperative implemented a low income community solar project in 2015, allowing on-bill payment of 2 cent/kWh subscription fee while crediting energy savings to same bill. In New York, the Green Jobs-Green New York (GJGNY) program created by legislature provides on-bill financing of loans for energy efficiency upgrades and solar projects.

Opportunities and Challenges in Montana

⁶¹ GRID Alternatives, Vote Solar, and Center for Social Inclusion, “Low-Income Solar Policy Guide.”

⁶² Federal Register, “Announcement of Funding Availability, Loan Application Procedures, and Deadlines for the Rural Energy Savings Program (RESP),” 2020, <https://www.federalregister.gov/documents/2020/04/02/2020-06341/announcement-of-funding-availability-loan-application-procedures-and-deadlines-for-the-rural-energy>.

⁶³ Environmental and Energy Study Institute, “Interactive Map of Utilities with On-Bill Financing Programs,” accessed May 8, 2020, <https://www.eesi.org/obf/map>.

⁶⁴ National Conference of State Legislatures, “On-Bill Financing: Cost-Free Energy Efficiency Improvements,” 2015, <https://www.ncsl.org/research/energy/on-bill-financing-cost-free-energy-efficiency-improvements.aspx#chart>.

⁶⁵ GRID Alternatives, Vote Solar, and Center for Social Inclusion, “Low-Income Solar Policy Guide.”

In Montana, the Flathead Electric Cooperative (FEC) offers the [Residential Energy Fixed Loan Program](#) which adds the loan payment as a line item on member's energy bills, and cannot exceed a total of \$7500. At this time, the FEC Residential Energy Fixed Loan Program does not currently include solar installation. One benefit of this Strategy is that it can be implemented directly by rural electric cooperatives and IOUs rather than needing to move through the legislature. The RESP program may be able to provide support for interested cooperatives in Montana to create and implement OBR/OBF programs.

Relevant Stakeholders

Stakeholders involved in implementation, and adjustment, of these programs in Montana include the USDA Rural Utilities Service and [Environmental and Energy Study Institute \(EESI\)](#) which can provide application assistance for RESP at no cost. For energy provider programs, stakeholders include Northwestern Energy, rural electric cooperatives, GRID Alternatives as a potential partner, and the Montana Energy Office as a potential funder.

To learn more about out of state programs, consider contacting Colorado Energy Office, [Low-income Community Solar Demonstration Project](#) to learn more about Grand Valley Power's work.

Property Assessed Clean Energy (PACE)

Goals: Accessibility and Affordability, Compatibility and Integration, Sustainability and Flexibility

Challenges: Access to Financing, Complexity

This program allows homeowners to spread the cost of a project out across 20-30 years, to be paid as a special line item on their property taxes. This payment method allows the loan to be tied to the property rather than the individual customer, so it stays with the property if a customer changes residence.

Impact for Rural and LMI Customers

PACE programs can be a more accessible financing options for LMI residents who are homeowners because the eligibility requirements can be based on other factors besides credit scores and the liability remains with the property, not the customer, such that when the customer moves that debt with not be their personal burden.

Pertinent Programs in Other States, Nationally in the U.S., and in Other Countries

There is enabling legislation for Property Assessed Clean Energy (PACE) programs in 37 states, and active programs in 22 states.⁶⁶ These PACE programs are often enabled by the state legislature and then private and public partnerships provide the funds lent to homeowners. California passed PACE enabling legislation, AB811, in 2007 and currently has [15 PACE programs](#) in effect for residential and/or commercial properties, such as the [CaliforniaFIRST](#) program that

⁶⁶ PaceNation, "Pace Programs," accessed May 8, 2020, <https://pacenation.org/pace-programs/#>.

provides zero down, low fixed rate loans that can be paid back over longer time periods (30 yrs.) and do not depend on a credit rating.⁶⁷

Opportunities and Challenges in Montana

In Montana, the City of Helena authorized the [Residential Energy Efficiency and Renewable Energy Loan Program](#) which provides zero interest loans for purchasing and installing renewable energy systems. The loans are paid back over 10 years as an annual property assessment through their property taxes. While cities and towns may be able to enact these policies at a local level for those in their jurisdiction, many rural Montanan's may benefit from statewide enabling legislation that can expand the opportunity more effectively and evenly across the state. [Property Assessed Clean Energy \(PACE\)](#) enabling legislation for residential and commercial customers has not passed in Montana, though it was proposed in the 2017 and 2019 legislature.

PACE could be a useful way to enable homeowners to access solar, but great care is needed to ensure [consumer protection](#) for this program to provide long term support for distributed solar development.⁶⁸

Most land owned by a tribal community or by tribal members is designated as trust lands and is not assessed for property taxes. However, some tribal members may own allotments designated as fee lands and these are subject to property taxes, which would enable them to participate in any available PACE programs.⁶⁹

Relevant Stakeholders

Stakeholders involved in implementation, and adjustment, of these programs in Montana include [PACENation](#), an advocate for PACE programs, and the legislators that proposed legislation to enable PACE in 2017 and 2019 in Montana. Other stakeholders include local governments and the Sustainability Coordinator for the City of Helena, who can expand on the Residential Energy Efficiency and Renewable Energy Loan Program.

To learn more about out of state programs, consider contacting Renew Financial, which administers the CaliforniaFIRST program.

Green Public Service Banks

Goals: Affordability and Accessibility, Community Engagement, Compatibility and Integration

Challenges: Cost, Access to Financing

⁶⁷ PaceNation.

⁶⁸ National Consumer Law Center, "PACE Energy Efficiency Mortgages Still Risky Despite New Department of Energy Guidelines," 2016, <https://www.nclc.org/media-center/pace-energy-efficiency-still-risky.html>.

⁶⁹ Montana Budget and Policy Center, "Policy Basics: Property Taxes in Montana," n.d., <https://montanabudget.org/report/policy-basics-property-taxes-in-montana#:~:text=The Montana Department of Revenue,values to calculate property taxes.>

Green Public Service Banks are non-profits that invest in renewable energy development in communities and are often partially or fully funded state financial institutions that partner with private organizations.

Impact for Rural and LMI Customers

Green Public Service Banks provide financial opportunities for LMI customers interested in developing solar, such as performance-based incentives (PBIs) and low interest loans and can also implement loan guarantees or loan-loss reserves that can reduce the risk associated with financing projects for customers with lower credit scores or high debt-to-income-ratios that otherwise can have trouble securing financing.

Pertinent Programs in Other States, Nationally in the U.S., and in Other Countries

In Connecticut there is the [Connecticut Green Bank](#), which was the first green bank when it was established by the state legislature in Public Act 11-80 in 2011. The Bank provides several programs, such as the [Residential Solar Investment Program](#), the [Solar for All Program](#) delivered in partnership with the installer PosiGen, and the [Smart-E Loan Program](#). The Residential Solar Investment Program offers a performance-based incentive (PBI) of 11 cents per kWh for LMI customers. This incentive couples with Solar for All program through which the installer, PosiGen, owns the system and leases to LMI customers, monetizing the federal tax credit and reducing the price of the system. Smart-E loans, offered through partnerships with local credit unions, provide no-money down, low-interest financing for a variety of energy upgrades, including solar PV.⁷⁰

There are similar models of green banking systems applied in [California](#), [New York](#), [New Jersey](#), [Rhode Island](#), and [Montgomery County Maryland](#).

Opportunities and Challenges in Montana

There is currently no Green Bank in Montana. It could be challenging to pass enabling legislation without a legislature that supports renewable energy. Non-profits may be able to partner with local credit unions and solar installers to create comparable low interest loans for solar installation.

Relevant Stakeholders

Stakeholders involved in implementation, and adjustment, of these programs in Montana include credit unions, such as Clearwater Credit Union, legislators, and solar installers.

To learn more about out of state programs, consider contacting [Coalition for Green Capital](#), which advocates for and helps establish green banks across the United States.

⁷⁰ GRID Alternatives, Vote Solar, and Center for Social Inclusion, "Low-Income Solar Policy Guide."

Revolving Loan Funds

Goals: *Accessibility and Affordability, Sustainability and Flexibility*

Challenges: *Access to Financing*

Provides long-term financing options for customers interested in developing renewables. When loans are repaid, all or part of the repayment is used to sustain and grow the fund for subsequent customers.

Impact for Rural and LMI Customers

Revolving loan funds provide a long-term source of financing, rather than one-time subsidies, for solar installations. Rural residents often have much of their financial resources invested in assets, while LMI residents often have minimal disposable income. This means that financing options that distribute upfront costs into smaller payments to be made over time can help make solar installation projects more affordable for households in these communities.

Pertinent Programs in Other States, Nationally in the U.S., and in Other Countries

Revolving Loan programs are present in 40 states and operate by funneling part or all of the funds from repaid loans goes back into new loans for subsequent residents.⁷¹ In Washington, the [Clean Energy Fund](#) provides \$25 million, approved by the state legislature, for commercial and residential energy efficiency and renewable energy retrofits.

Opportunities and Challenges in Montana

Here in Montana we have the [Alternative Energy Revolving Loan Program \(AERLP\)](#) which was established by statute in 2001. AERLP is Funded by air quality penalties collected by DEQ and the loan funds cover alternative energy development for homes and businesses by providing a fixed, low interest rate. Revolving loan funds can provide sustained financial resources for solar financing, but grants or other incentives may be necessary, in addition to loans, to offset total project costs and make solar installation more affordable for LMI households.

Relevant Stakeholders

Stakeholders involved in implementation, and adjustment, of these programs in Montana include DEQ, which administers the AERLP.

To learn more about out of state programs, consider contacting Washington Department of Commerce and non-profit partners Craft3, Puget Sound Cooperative Credit Union, and the Housing Finance Commission for their work on the Clean Energy Fund.

Other Loans

Goals: *Accessibility and Affordability, Sustainability and Flexibility*

⁷¹ State Policy Opportunity Tracker, “Revolving Loan Funds,” accessed May 8, 2020, <https://spotforcleanenergy.org/policy/revolving-loan-funds/>.

Challenges: Access to Financing

Loan programs provides financing for the cost of solar projects, helping to distribute the total cost over time.

Impact for Rural and LMI Customers

Rural residents often have much of their financial resources invested in assets, while LMI residents often have minimal disposable income. This means that financing options that distribute upfront costs into smaller payments over time can help make solar installation projects more affordable for households in these communities.

Pertinent Programs in Other States, Nationally in the U.S., and in Other Countries

Many states have loan programs for distributed solar.⁷² Solar loans are implemented in other states by legislation or by local governments. One example of an effective solar loan program is the Massachusetts [Mass Solar Loan](#) program which provides low interest, fixed-rate loans for income qualified residents. The REAP program, mentioned in the section on Green Grants and Rebates, also provides loans and loan-grant combinations.

In addition to these programs, the Office of Indian Energy Policy and Programs also has an Energy Development Assistance Tool that filters through several more loans that can aid in energy development by tribes, tribal members, and tribal organizations.

Opportunities and Challenges in Montana

In Montana, the Clearwater Credit Union provides an unsecured [Home Solar Loan](#) with low interest rates. Other financial institutions may offer such loans, but to date MREA is not aware of other entities that specifically offer renewable energy loans. Loan programs can help with upfront costs, but many LMI customers may not be able to afford the overall cost of a solar installation project, even in payments. LMI customers may also be limited in accessing loans because of low credit scores, and other programs may be needed to reduce the total cost of projects and to make financing available so solar installation projects are more accessible.

Relevant Stakeholders

Stakeholders involved in implementation, and adjustment, of these programs in Montana include the Clear Water Credit Union which provides a [guide for homeowners](#) interested in solar loans.

To learn more about out of state programs, consider contacting the Massachusetts Clean Energy Center and Massachusetts Department of Energy Resources which administers the Mass Solar Loan program (solarloan@masscec.com).

⁷² DSIRE, "Loan Programs," accessed May 8, 2020, <https://programs.dsireusa.org/system/program>.

Public Bonds

Goals: *Compatibility and Integration*

Challenges: *Access to Financing*

Public bonds are used frequently in the United States to finance large public infrastructure projects and could likewise stimulate development of public solar projects. While they often are not used for projects of less than \$5 million due to high transaction costs, public bonds can be used to fund a loan pool for smaller projects.⁷³

Impact for Rural and LMI Customers

Public bonds are a debt free financing option available to states and local governments, public utilities, and community members interested in developing larger projects. This can help finance community solar scale projects at a lower total cost, making it more affordable for LMI customers to participate in purchasing, leasing, or subscribing to a share of the project.

Pertinent Programs in Other States, Nationally in the U.S., and in Other Countries

At the national level, the [New Clean Renewable Energy Bonds \(CREBs\)](#) authorized by Energy Policy Act of 2005, provided zero interest financing and the revenue from energy generation was used to pay back the bond. Bonds were available for electric cooperatives, government entities, tribal governments, and by certain lenders. The Tax Cuts and Jobs Act of 2017 repealed this program, but CREBs have been used in several states by electric cooperatives and government bodies.⁷⁴ [Arizona, Florida, Oregon, Virginia](#) electric cooperatives have used CREBs on solar power projects totaling over \$69 M.⁷⁵ This could be an important option for project financing if the program is reinstated, especially since public buildings such as schools and libraries could use this funding and be an introduction to solar for some communities.

Opportunities and Challenges in Montana

CREBs were not used in Montana, but this program could be an important option for project financing if it is reinstated. Public buildings such as schools and libraries could use this funding and be an introduction to solar for some communities, operating as an educational demonstration project.

Relevant Stakeholders

Stakeholders involved in implementation, and adjustment, of these programs in Montana include the Internal Revenue Service (IRS) Office of Associate Chief Counsel which administered

⁷³ DOE Energy Efficiency and Renewable Energy, "Public Bonding Options," accessed May 8, 2020, <https://www.energy.gov/eere/slsc/public-bonding-options>.

⁷⁴ Internal Revenue Service, "New Clean Renewable Energy Bonds - 2009 Allocations," 2009, https://www.irs.gov/pub/irs-tege/ncrebs_2009_allocations_v1.1.pdf.

⁷⁵ Internal Revenue Service.

the CREBs program or the DOE Energy Efficiency and Renewable Energy Office which provides information on currently available public bonds.⁷⁶

To learn more about out of state programs, consider contacting the National Renewable Energy Laboratory (NREL) which wrote an analysis of the use of CREBs (2009)⁷⁷ or the DOE Energy Efficiency and Renewable Energy Office which provides information on currently available public bonds.

Cooperative Financing

Goals: *Accessibility and Affordability, Community Engagement*

Challenges: *Access to Financing*

Cooperative financing is an umbrella term for a broad range of funding options, such as crowdfunding, where contributors provide the funds for a project.

Impact for Rural and LMI Customers

The opportunity to cooperatively finance solar development projects, at little to no interest, could enable communities to pool their resources to implement shared solar projects as a community benefit.

Pertinent Programs in Other States, Nationally in the U.S., and in Other Countries

Nationally, several crowdfunding platforms have been used to fund distributed solar projects such as shared solar, including [Mosaic](#), [RE-volv](#), and the CollectiveSun [SolarForAll loan program](#).

Opportunities and Challenges in Montana

In Montana, the Community Food and Agriculture Coalition has facilitated the use of Kiva loans for small food producers. Kiva is an international non-profit that provides a crowdfunding platform for small businesses to receive 0% interest loans up to \$15,000. They have not been made for distributed solar generation. The Kiva program, and cooperative financing more broadly, relies on community participation and its efficacy may depend on education and outreach campaigns. Cooperative financing could make shared solar projects more feasible, whether implemented by an electric cooperative or another community group. Other Strategies, such as virtual net metering, could provide additional synergies to cooperative financing and ensure the most benefit is received from solar installation.

Relevant Stakeholders

⁷⁶ DOE Energy Efficiency and Renewable Energy, "Public Bonding Options."

⁷⁷ National Renewable Energy Laboratory, "Financing Public Sector Projects with Clean Renewable Energy Bonds (CREBs)," 2009, <https://www.nrel.gov/docs/fy10osti/46605.pdf>.

Stakeholders involved in implementation, and adjustment, of these programs in Montana include [Community Food and Agriculture Coalition \(CFAC\)](#) to learn more about the Kiva process.

To learn more about out of state programs, consider contacting Mosaic (support@joinmosaic.com).

Community Based Programs

The Strategies described in this section focus on community organizing and community participation and ownership of energy resources. Some Strategies emphasize partnerships between community organizations and local governments or businesses.

Community Purchase Programs (CPPs) / Solarize

Goals: *Accessibility and Affordability, Community Engagement*

Challenges addressed: *Cost, Market Disincentive, Education and Outreach, and Complexity*

Often facilitated by an NGO, local government, or other community organization, CPPs implement education and outreach programs to encourage customers to participate in a group installation offer. CPP organizers then competitively price bids from contractors to secure a good price for solar installation and provide this bid to the group. If interested, customers can partake in the group bid and move forward with installations.

Impact for Rural and LMI Customers

Through competitive pricing, Solarize efforts often can secure good prices for customers. By sharing a single price with interested customers, Solarize efforts also reduce the complexity of comparing bids and reduce the number of decisions that customers have to make on their own. Solarize efforts can also introduce solar to communities, and generally include an education and outreach component that helps demonstrate that solar installation is accessible and can be a simple process.

Pertinent Programs in Other States, Nationally in the U.S., and in Other Countries

Solarize programs have been implemented in Washington DC, Rhode Island, Connecticut, Oregon, Montana, and New York. In Washington DC, the [51st State Solar Co-op](#) began with 130 participants and ended with 50 installations.

Opportunities and Challenges in Montana

Solarize programs have been implemented in Red Lodge, Missoula, and Livingston. In Red Lodge, a city with a population of around 2,300 people, the solarize program led to 111 site assessments with 25 contracts signed for solar projects, indicating how the program provides ample educational opportunities for potential customers while stewarding others through all

the way to contracting a project.⁷⁸ Organizers of these efforts in Montana have indicated that education and outreach campaigns are necessary to ensure community members are aware of the programs, and often require a designated organizer. Non-profits and other community groups could use expertise and solar installer connections to facilitate CPPs. Grant funding can aid in covering the education and outreach efforts.

Relevant Stakeholders

Stakeholders involved in implementation and adjustment of these programs in Montana include those involved in the previous and current solarize efforts in the state. To learn more about Solarize Missoula, contact the Montana Renewable Energy Association, Clearwater Credit Union (previously known as Missoula Federal Credit Union), Climate Smart Missoula, the City of Missoula, and the Montana Department of Environmental Quality. To learn more about the Solarize Red Lodge program, contact the City of Red Lodge, and involved installer Sundance Solar. To learn more about Solarize Livingston, contact Yellowstone Bend Citizens Council and the involved installers: Harvest Solar, OnSite Energy, and Independent Power Systems.

To learn more about out of state programs, consider contacting National Renewable Energy Laboratory or reading their Solarize report referenced by the DOE.⁷⁹

Community Benefit Agreements (CBAs)

Goals: Accessibility and Affordability, Community Engagement

Challenges: Cost

CBAs are legal measures designed to distribute the benefits of a project throughout the community and can be required by state or local renewable energy policies or by certain grant or tax incentive programs that the project may be utilizing. CBAs ensure certain beneficial conditions from a project, such as fair compensation for workers and assurances that local community members can benefit from the job opportunities from the project through training and professional development opportunities. By engaging communities to reach mutually agreeable project terms, the local governments and involved industry can avoid litigation that can often occur when communities take issue with a project after implementation has begun. By avoiding this litigation and other conflicts, these approaches can save tax-payers money on legal expenses and can also reduce overall project costs.⁸⁰

Impact for Rural and LMI Customers

CBAs often are for larger scale projects, such as community shared solar, and typically involve stipulations that benefit the local community and workforce, such as wage standards, union

⁷⁸ Robin Adams, "Solarize Post Project Report" (Red Lodge, 2019), <http://cityofredlodge.net/wp-content/uploads/2020/02/Solarize-Post-Project-Report.pdf>.

⁷⁹ National Conference of State Legislatures, "Community Choice Aggregation."

⁸⁰ Edward W De Barbieri and C Ommunities, "Research Papers Do Community Benefits Agreements Benefit Communities?," no. 462 (2016).

jobs, community ownership, etc. This Strategy can create opportunities for communities to advocate for the benefits they aim to receive from project implementation and ensure that solar development in their communities directly benefits them.

Pertinent Programs in Other States, Nationally in the U.S., and in Other Countries

CBAs are less commonly used for renewable energy in the United States, but in Europe they have been used considerably for wind farm developments. In New York, the Green Jobs — Green NY program incentivizes renewable energy development and includes a statewide CBA that partners with local organizations to ensure that the work is done by companies providing high quality jobs and providing workforce development.⁸¹ Similarly, policy options presented for the offshore wind industry in California noted that CBAs could be utilized to ensure development provided high-quality jobs and workforce development opportunities for economically struggling communities.

Opportunities and Challenges in Montana

There are no examples of CBAs used in Montana for renewable energy projects, but their use could ensure community shared solar development projects benefit the communities in which they're located and may meet requirements of grants or tax incentives that emphasize public needs. By qualifying projects for certain kinds of financial support, and reducing conflicts that can lead to litigation, CBAs could also help keep project costs low.

Relevant Stakeholders

Stakeholders involved in implementation, and adjustment, of these programs in Montana include community organizations, IOUs and electric cooperatives, and legislators.

To learn more about out of state programs, consider contacting the DOE Office of Economic Impact and Diversity or reading their 2017 Guide to Advancing Opportunities for Community Benefits Through Energy Project Development.⁸²

Partnering with Community Development Institutions

Goals: Accessibility and Affordability, Compatibility and Integration, Community Engagement

Challenges: Cost

Community Development Financial institutions (CDFIs) and Community Development Institutions (CDIs) are financial institutions, corporations, or partnerships that address the needs of communities. By building partnerships with CDIs and CDFIs, those interested in

⁸¹ The Next System, "Community Benefit Agreements," 2016, <https://thenextsystem.org/learn/stories/community-benefit-agreements>.

⁸² Robert Collier, "High Road for Deep Water: Policy Options for a California Offshore Wind Industry," 2017, <https://laborcenter.berkeley.edu/pdf/2017/High-Road-for-Deep-Water.pdf>.

developing solar could leverage their knowledge and experience with affordable financing, government programs, grants, and tax incentives for more effective project implementation.

Impact for Rural and LMI Customers

CDFIs or CDIs are often already sited in the communities where they work and have methods of engaging with their community, as well as a wealth of knowledge about the resources available for their community. By building relationships with these organizations, those interested in developing community shared solar or solar for multifamily housing may be able to more effectively use funding or financing options, and may have more effective outreach efforts which could enhance the accessibility and affordability of solar development.

Pertinent International, National, and State Programs

Many states have Community Development Corporations (CDCs) or Community Development Financial institutions (CDFIs).⁸³ One example is the [Mountain Association for Community and Economic Development \(MACED\)](#) in Kentucky, which partnered with electric cooperatives to provide on-bill financing of energy efficiency upgrades.

Opportunities and Challenges in Montana

In Montana, there are numerous local community development organizations, including [Saunders County](#), [Lake County](#), [North Missoula](#), [Southeast MT](#), [Montana Community Foundation](#), [Great Falls](#), [Community Action Partnership](#), [Snowy Mountain](#), [Northern Rocky Mountain Economic Development District](#), [Butte Local](#), [RCAC](#), and [Phillips County](#). They have often led the effort to create affordable housing and they may also be familiar with incentives for financial institutions to provide more economic support for LMI communities, such as the Community Reinvestment Act, New Market's Tax Credit, and CDFI Fund.⁸⁴ The partnership in Kentucky between MACED and local electric cooperatives could be an example for the kinds of partnerships we could establish here in Montana.

Relevant Stakeholders

Stakeholders involved in implementation, and adjustment, of these programs in Montana include community development organizations and the agencies responsible for administering any pertinent grants, tax incentives, or other programs that could be used to support development of distributed solar.

To learn more about out of state programs, consider contacting MACED at info@maced.org.

⁸³ Democracy Collective, "Community Development Financial Institutions (CDFIs)," 2017, <https://community-wealth.org/strategies/panel/cdfis/index.html>.

⁸⁴ GRID Alternatives, Vote Solar, and Center for Social Inclusion, "Low-Income Solar Policy Guide."

Particularly Impactful Strategies

This section describes our initial list of Strategies that may be most impactful and feasible in Montana based on their application and success in other states and because of the extent that they address the needs of rural, and especially LMI, Montanans: Cost, Access to Financing, Physical Barriers, Homeownership Status, Education and Outreach, Complexity, and Market Disincentive. As we move through the second phase of this project, we will continue to refine and expand on our understanding of impactful Strategies based on the perspectives, priorities, and interests of Montanans. Each strategy is listed with notes on which barriers it aims to address along with a brief description of the Strategy, its anticipated impact, and action items to implement or enhance the Strategy in Montana.

Virtual and Aggregate Net Metering Legislation

Cost, Physical Barriers, Homeownership Status

Net metering is already mandated in Montana, but the statutory language precludes virtual net metering and aggregate net metering. Virtual net metering allows residents to purchase or lease shares of 'off-site' solar generation and can help renters, or homeowners without suitable roofs, to access distributed generation. Aggregate net metering allows customers with multiple meters to site solar at the best location on their property, and then use net metering credits across all of their meters to more fully offset their energy use. There have been previous bills proposed to introduce virtual and aggregate net metering into Montana, but no enabling legislation exists at this time.

Action – Relevant Stakeholders: legislators, IOUs, electric cooperatives, PSC.

- *Pass legislation to enable virtual and aggregate net metering in legislative session.*
- *Pass legislation to remove the 50kW cap on net metering systems to enable development of larger arrays, like community shared solar.*

Community Purchase Programs (CPPs) / Solarize

Cost, Market Disincentive, Education and Outreach, and Complexity

Well known as the Solarize program, CPPs help facilitate installation of solar. One way they do this is through competitive pricing, allowing organizers to secure a specific price for the interested community members. This reduces the complexity for community members and helps overcome distrust of 'deals' or 'savings' that are often promised by scams that target LMI households. These efforts can also work as educational and outreach opportunities to further inform the surrounding residents of the opportunity of solar and the process of installation. Solarize programs have been conducted in Missoula, Red Lodge, and Livingston. These programs rely on community organizations and partnerships. Since Solarize programs do not require

enabling legislation, it is a model that can be implemented in any community where there is interest and organizational capacity.

Action – Relevant Stakeholders: Cities and Counties, local installers, local renewable energy organizations.

- *Identify communities that may be interested in a Solarize campaign and work to establish the resources to implement the programs.*

Green Tax Incentives

Cost

Montana currently has several tax incentives that help offset the cost of renewable energy development through credits or abatements. While these credits can reduce the total cost of a project, they provide the offset at a later date and do not benefit LMI residents who are often not in a qualified tax bracket to receive the incentives. Adjustments to make these tax incentives refundable can ensure that regardless of tax burden, residents can receive the offset. It may also be beneficial to enable tax refunds to be paid at the time of qualification rather than waiting until the tax season. These adjustments can enable LMI residents to receive economic incentives at the time they are needed.

Action – Relevant Stakeholder: legislators.

- *Pass legislation to make Montana’s alternative energy tax incentives refundable.*
- *Pass legislation to make Montana’s alternative energy tax incentives immediately dispensable upon qualification.*

Green Grants and Rebates

Cost

Programs that supply direct financial assistance can help lower the total cost of installation to a more manageable amount for LMI households. These programs, in union with alternative financing options such as on-bill financing and compensation mechanisms such as net metering, can help reduce the total cost of a project such that when paid over time, and offset by the energy savings from solar, the solar installation is much more affordable for LMI customers.

Action – Relevant Stakeholders: DEQ, Human Resource Council.

- *Work with key stakeholders, including DEQ and Human Resource Council, to discuss the impacts of expanding to allow renewable energy to qualify for grants and rebates through the Weatherization Assistance Program.*

On-bill Financing/Recovery

Access to Financing, Complexity

Many LMI residents may not have the financial resource to cover the upfront costs of installation and on-bill financing can distribute this cost into smaller monthly payments which can be made on the customer's energy bill. An added benefit of this program is that customers can see these payments and their energy savings at the same time and see how their savings offset the initial cost of installation. These programs can also base eligibility on bill payment history rather than credit scores, which can enable greater access for LMI residents who may have lower credit scores and difficulty securing other types of financing. Utilities can institute their own on-bill financing options and the Flathead Electric Cooperative offers on-bill financing for energy efficiency improvements, though this program does not currently include solar.

Action – Relevant Stakeholders: IOUs, electric cooperatives, USDA Rural Utilities Service and Environmental and Energy Study Institute (EESI), community organizations dedicated to education around renewables.

- *Contact electric cooperatives with on-bill financing programs, such as Flathead Electric Cooperative, to discuss resources for their on-bill financing program and the potential for expanding it to include renewable energy development.*
- *Create educational material regarding the Rural Energy Savings Program (RESP) to ensure cooperatives are aware of resources to support on-bill financing and the potential benefits for their members.*

Property Assessed Clean Energy (PACE)

Access to Financing

PACE programs allow residents to pay back the upfront costs of installation through property assessments. The payments typically stay with the property, providing more flexibility to LMI residents. While PACE does not currently have enabling legislation in Montana, enabling legislation has been proposed both in 2017 and 2019 but has not passed. Programs that have a similar structure to PACE programs can be enabled at the level of cities or towns, such as the zero interest revolving loans program in Helena that recoups the loan cost through property tax assessments.

Action – Relevant Stakeholders: Legislators, local government, PACENation.

- *Advocate that cities and towns across Montana make similar programs to the one in Helena available to their residents.*
- *Support efforts to pass statewide enabling PACE legislation.*

Special Improvement Districts (SIDs) / Rural Improvement Districts (RIDs)

Cost, Access to Financing

Similar to the PACE program, SIDs and RIDs enable the cost of a project to be paid off over time as a line item on participants' property taxes, which provides an alternate financing option than

traditional loans. Significantly different from PACE, these are community-based efforts that rely on public participation, and the costs of the project can be allocated according to a variety of factors, such as property size or property value. This approach could support community financing of neighborhood shared solar projects and may be a progressive approach to cost distribution in situations where LMI community members own less property or own property of lower value. In rural communities, residents can establish a RID if all participants agree to the district. In these cases, the RID process may need to be navigated to ensure cost distribution among members is equitable in case property size and value are not the best indications of residents' financial capacity to support the project.

Action – Relevant Stakeholders: city and town councils, county commissioners, and residents interested in community shared solar.

- *Utilize SIDs and RIDs for community shared solar projects.*
- *Support education and outreach programs to inform interested customers about this opportunity and the potential benefits.*

Appendix A: Virtual Net Metering

This resource was created by the Institute for Local Self Reliance.

State	Eligibility
California	Multi-tenant properties, local governments
Connecticut	Municipal, state, or ag. customers only
Dist. of Columbia	All customers
Maine	All customers
Maryland	Allowed for agricultural customers, non-profit organizations, and municipal governments or their affiliates
Massachusetts	All customers
New Hampshire	All customers
Pennsylvania	All customers, within 2 miles
Rhode Island	Local and state governments
Vermont	All customers
SOLAR ONLY	
Colorado	IOU customers; solar only

Delaware	All customers; solar only
Minnesota	Xcel Energy customers only
New York	Launched October 2015
Wisconsin	NSP customers only

OPTIONAL

<i>Illinois</i>	<i>Utility choice to offer</i>
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Appendix B: State Aggregate Net-metering Policies

This resource was created by the National Conference of State Legislatures.

States with Meter Aggregation Policies			
STATE	ENABLING STATUTE, CODE OR ORDER	ESTABLISHED	SUMMARY
Arkansas	Order No. 7 in Docket No. 12-060-R	2013	Customers with multiple meters located within a single utility's service territory are allowed to offset those meters using a single net metering system or multiple systems. Customers must designate the additional meter or meters to be offset when requesting meter aggregation.
California	Senate Bill 594	2012	A single customer is allowed to aggregate the electric load of their multiple meters on the same or adjacent properties and apply the generation credits from a renewable energy system located on adjacent property to all meters.
Colorado	4 CCR 723-3, Rules 3664	2012	A customer with multiple meters located on the same or adjacent property is allowed to offset the load measured at more than one meter. Customers must request meter aggregation, give the utility a 30-day notice and specify the order in which to apply net metering credits at the multiple meters.
Connecticut	House Bill 6360	2013	Allows municipal, state or agricultural customers to aggregate all electric meters billable to the customer.
Delaware	Senate Bill 267	2010	Individual customers with multiple meters are allowed to aggregate all meters located within the electric company's service area. The capacity of the offsetting energy generating facility is limited to 120 percent of the customer's aggregate electrical use of the individual meters. Customers must provide a list of the individual meters to be aggregated

			and identify a rank to follow for offsetting the meters.
Maine	Me. Rev. Stat. Ann. tit. 35-A, §3210-A	2003	Allows small generators to aggregate meters for a total capacity of 5 MW or less.
Maryland	COMAR 20.50.10.07	2011	Meter aggregation is allowed for agricultural, non-profit and municipal or county government customers. Customers must provide details on how to distribute excess generation credits when they request meter aggregation.
Minnesota	Minn. Statute §216B.164	2015	Customers are allowed to aggregate meters located on the same or adjacent properties owned by the same customer. The customer must designate the rank order for meters for applying net metering credits. Utilities may charge administrative fees for meter aggregation. The capacity of all aggregated meters is limited to 1 MW.
Nevada	Assembly Bill 359	2011	Meter aggregation is allowed for hydropower facilities with a generating capacity up to 1 MW. Meters offset by hydropower facilities must be located on adjacent properties. Wind energy devices installed during 2012 on property owned or leased by an institution of higher learning and used for research and workforce training are also eligible for meter aggregation.
New Jersey	Senate Bill 1925	2012	Public entities including state and local governments, local agencies and school districts are eligible for meter aggregation of solar facilities. All meters must be located within the customer's territorial jurisdiction, and for state projects, all facilities must be located within five miles of one another. The host meter receives credit for excess generation at the retail rate and all other meters are credited at the wholesale rate.
New York	Assembly Bill 6270	2011	Farm-based and non-residential customer generators are eligible for remote net

			metering of solar, wind, farm-based biogas and micro-hydroelectric
Oregon	Or. Admin. Code R. 860-039	2007	Aggregate net metering is allowed for all net metering facilities located on the same property or adjacent properties. When requesting meter aggregation, customers must designate the rank order of meters for applying net metering credits.
Pennsylvania	PA Code Chapter 75	2008	Meter aggregation is allowed for all meters located within two miles of the boundaries of the individual's property and within the same electric distribution company's service territory. Customers are responsible for the cost of meter aggregation.
Rhode Island	R.I. Gen. Laws §39-26.4	2011	Aggregate net metering is allowed for meters located on an individual customer's property. Meter aggregation is allowed for public entities and special provisions exist for farm-based systems.
Utah	Rule R746-312	2010	Meter aggregation is allowed for meters located on a customer's adjacent properties. Customers must identify the meters to be aggregated and a ranking order for applying net metering credits to meters at the time of request for aggregation.
Washington	Rev. Code Wash. §80.60.030; House Bill 1140	2007	All meters on property owned by a customer within a single utility's service territory are eligible for meter aggregation. Customers are limited to 100 kW in capacity. Generated electricity is first used to offset the electricity provided by the utility to the customer and any excess kilowatt-hours are credited equally to the customer's remaining meters.
West Virginia	General Order No. 258	2010	All of a customer's meters located within two miles of the point of generation are eligible for meter aggregation. Customers are responsible for the cost of meter aggregation.

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