

Community Solar: What is success? Where are successes happening? What elements drive success?

Becky Stanfield

Senior Director, Midwest States



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March 20, 2019

About Vote Solar



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Our mission is to re-power the U.S. with clean energy by making solar power more accessible and affordable through effective policy and advocacy.

Programs:

- Utility-Scale Solar
- Rooftop Solar
- Access & Equity
- Community Solar
- Grid Modernization



Americans Want Solar. **Overwhelmingly.**



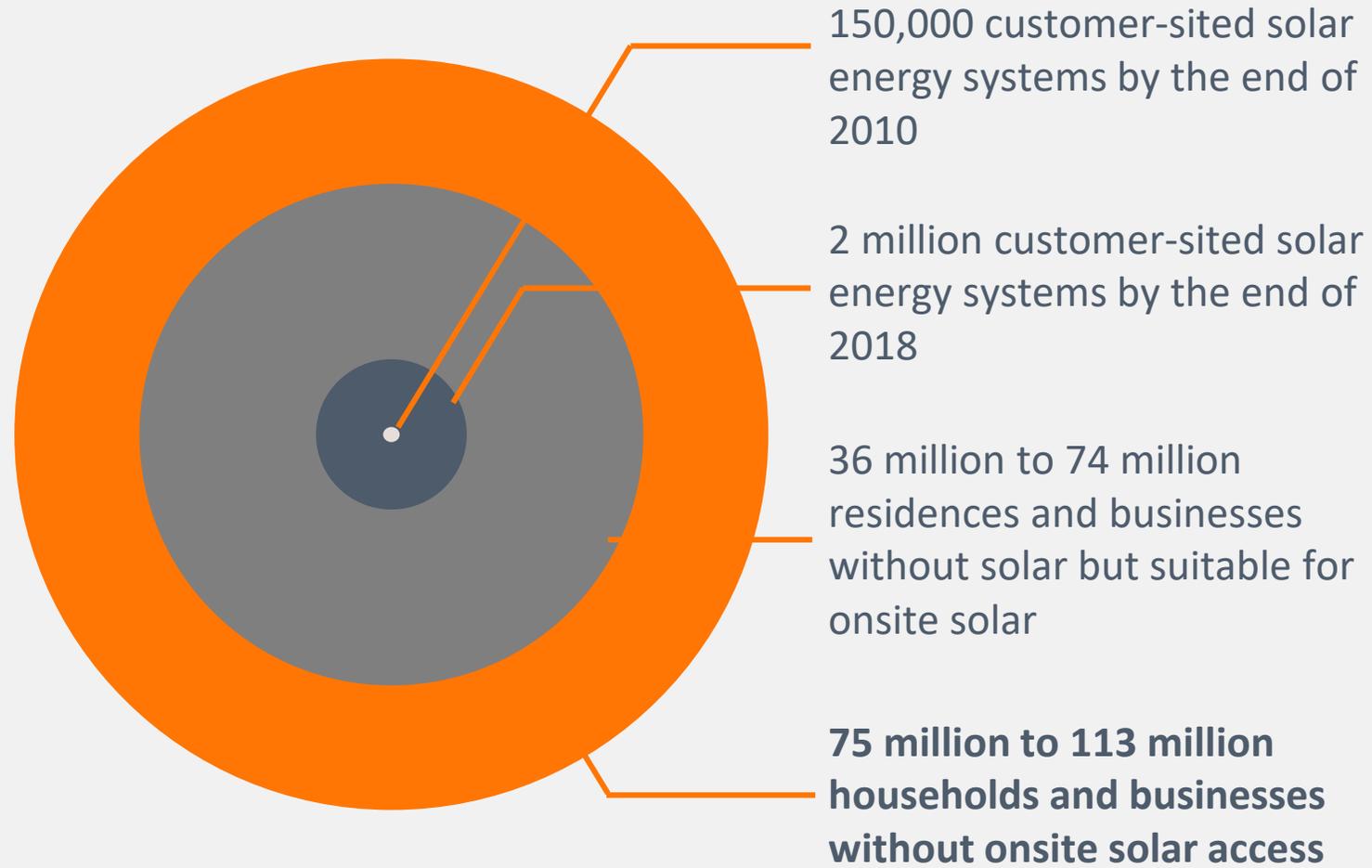
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- » **89%** of Americans favor expanding solar as an energy source
(2018) [Pew Research Center](#)
- » Strong bipartisan support for increased use of solar
- » **71%** of Americans support increasing reliance on renewable energy
(2018) [Pew Research Center](#)
- » Interest in community solar soars from **14% to 47%** when people learn about it
(2016) [SEPA Report](#)



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But Access to On-Site Solar is Limited



150,000 customer-sited solar energy systems by the end of 2010

2 million customer-sited solar energy systems by the end of 2018

36 million to 74 million residences and businesses without solar but suitable for onsite solar

75 million to 113 million households and businesses without onsite solar access



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Key Solution: Community Solar

What is community solar? Community solar refers to local solar arrays shared by individual community members, who receive credits on their electricity bills for their portion of the power produced.





Why is Community Solar a Preferred Option?



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A homeowner may be restricted from installing solar by their homeowners association



The roof may be too shaded or will need re-roofing in the next few years



Some commercial buildings have equipment on the roof, obstructing an installation



The customer is not eligible for standard financing solutions



Renters may be prohibited from installing solar on the property



Drives private investment into a state



Creates local, well-paying solar jobs



Creates new local property tax revenues



The size, type, or orientation of the roof may be improper for on-site solar



A homeowner or business is concerned about maintaining their rooftop system



A homeowner is planning to move in the near to mid-future



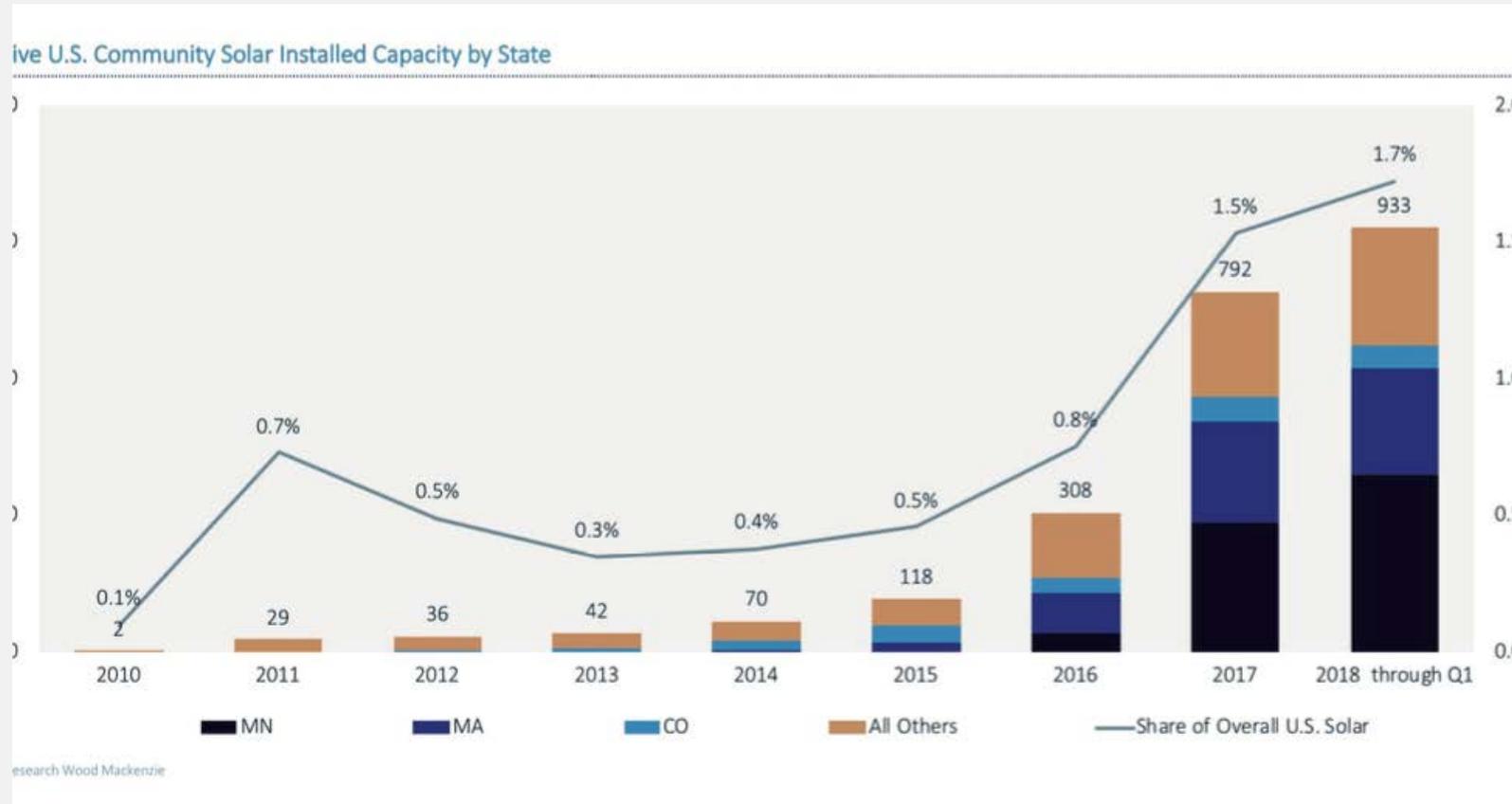
An affordable housing property owner cannot provide on-site solar energy to multiple individually-metered tenants



Multi-tenant dwellings or businesses may not own their rooftop



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Growth of community solar thru Q1 2018



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Why Choose Community Solar?

Customer Benefits

- » **A Tool for Equity.** A properly designed program can help unlock the benefits of solar for LMI communities who have been priced out or have limited suitable rooftop options.
- » **Aligns with values.**
- » **Tangible Economic Savings:** Customers should save money on their electric utility bill, and receive stable energy bills and predictable energy prices
- » **Hassle free clean energy:** Customers can sign up to participate in a community solar project without having to worry about on-site contractors, permits, or maintenance.
- » **Flexibility:** Community solar allows customers to move within the utility territory and still retain their participation in the community solar project, making it an easy, portable energy solution.



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Why Choose Community Solar?

Socio-Economic Benefits

- » **New investments:** Economic development strategy that spurs new development and impacts local economies.
- » **Job creation:** Local workers gain new employment opportunities and in some cases, job training.
- » **Economies of scale:** Larger projects provide a lower cost per watt than other types of solar projects.
- » **Energy burden:** Low-income families, households of color, multifamily and renting households spend a much larger percentage of their income on energy bills than the average family.
- » **Community engagement and ownership:** Community involvement, ownership and participation in local solar

Why Choose Community Solar?

- » **Economic development and jobs**
- » **Utility system benefits**
 - > Defer need for capital investment (Generation, Transmission and Distribution)
 - > Reduce risk from fuel price volatility
 - > Reduce dependence on fossil fuel imports/keep money in state
 - > Enhance reliability and resilience



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Should look familiar ...same benefits widely documented from energy efficiency programs:

DTE Energy Efficiency Potential Study, GDS, 2016, p. 15	Community solar?
Avoided generation costs	Yes
Avoided capacity costs	Yes
Customer bill savings	Yes
Direct job creation	Yes
Indirect job creation	Yes
Induced job creation	Yes
Pollution reduction	Yes
Hedge against fuel price volatility	Yes
Defer need for major capital investments	Yes
Reduce dependence on out of state fuel	Yes

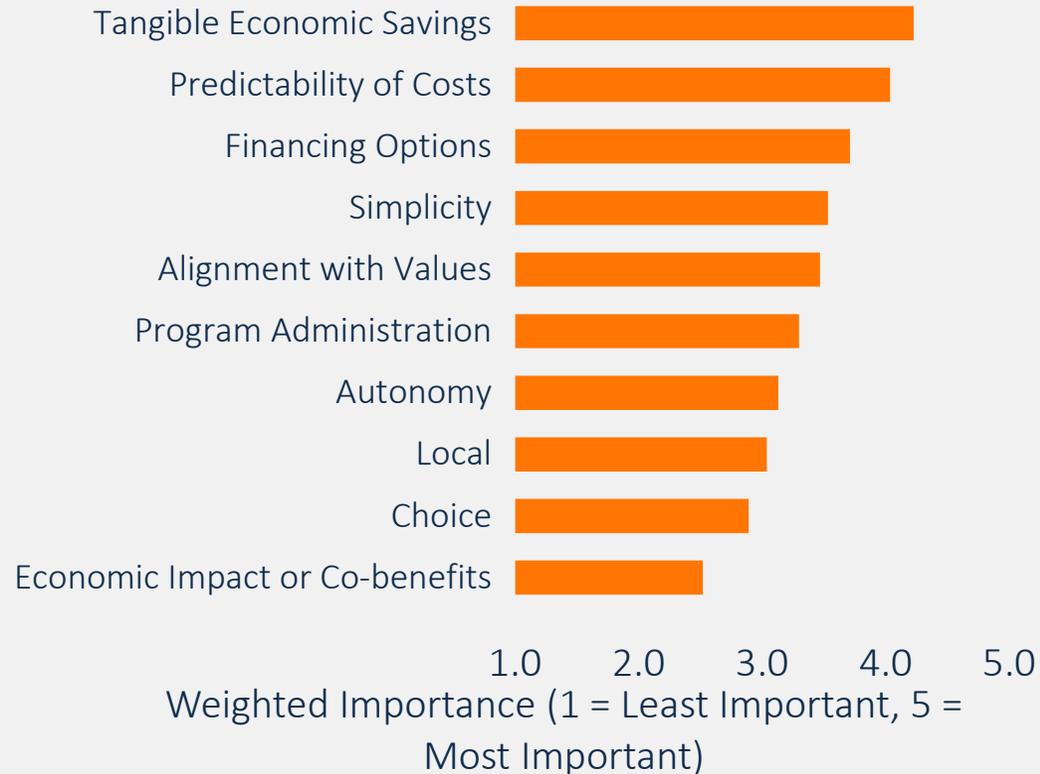


Consumer-focused offerings are key



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Average Response to “Rate the Importance of the Following Attributes to You / Constituencies You Work With”



Subscriber economics generally come first

- Subscribers want tangible bill savings
- LMI customers require higher relative savings than other segments
- Predictability of costs is the most important for non-residential and non-LMI residential subscribers
- Non-economic factors (e.g., alignment with values, the program administrator) are still important



Testimonials



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“It is a big thing to know what our bill costs will be for the next few years. It helps us with budgeting.”

Steve Sidebottom, Delta-Montrose Electric Association Community Solar Subscriber saving 31% of their energy costs (Source: Insights from the Colorado Energy Office Low-Income Community Solar Demonstration Project, December 2017)

“Community Solar is a great way for communities to foster economic growth, realize cost savings, and participate in safe, clean, renewable energy.”

Gary Swenson, Mayor of the City of Starbuck

“I’ve been concerned with global warming for 40 years. This is a way I can fight climate change without having to put a solar system on my house.”

James Fellman, Minneapolis, Customer

“Not only are we contributing to a healthy environment, but every dollar that is saved on electricity is a dollar that families can spend on healthy food, sports programs for their children, and books for their home.”

Sunshare Low-income partner Academy 360’s founder Sally Sorte (1.5 MW project in Colorado)

“Unfortunately, we don’t get enough sun to put solar panels on our roof, so it was exciting to hook into a local solar project and help the planet.”

Iris Arno, Westchester County, NY

“I was surprised we could support a solar project in my neighborhood with no upfront investment. And the best part, we save money each and every month!”

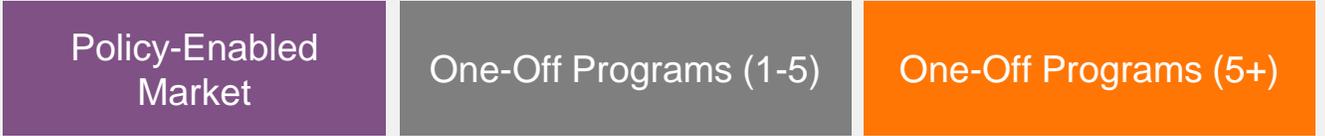
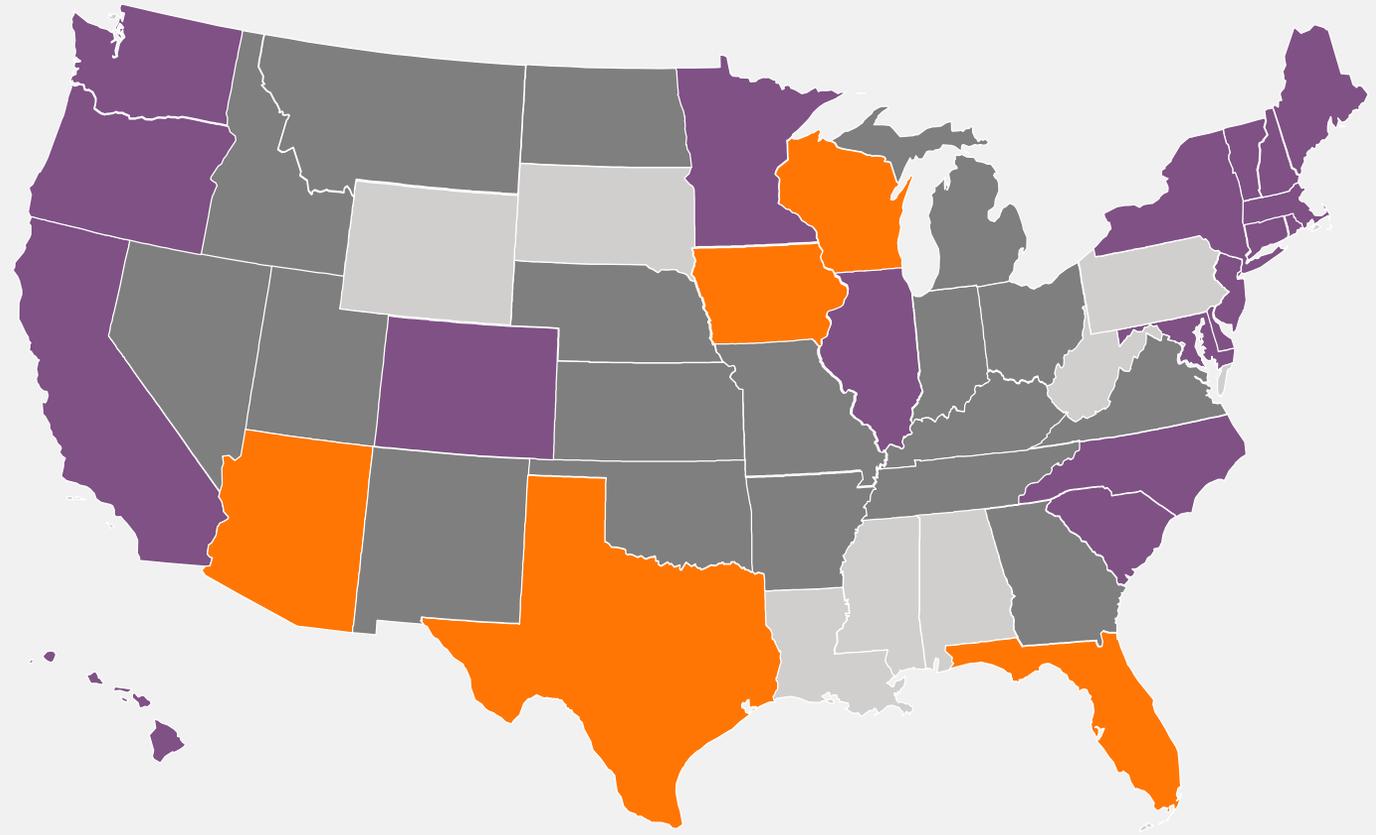
Chrissie O’Leary, Westchester County, MD



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Where is Community Solar?

» 42 states and Washington, D.C. currently have some voluntary community solar projects, **but only 19 states and D.C. have statewide programs that provide an early opportunity for community solar to scale.**

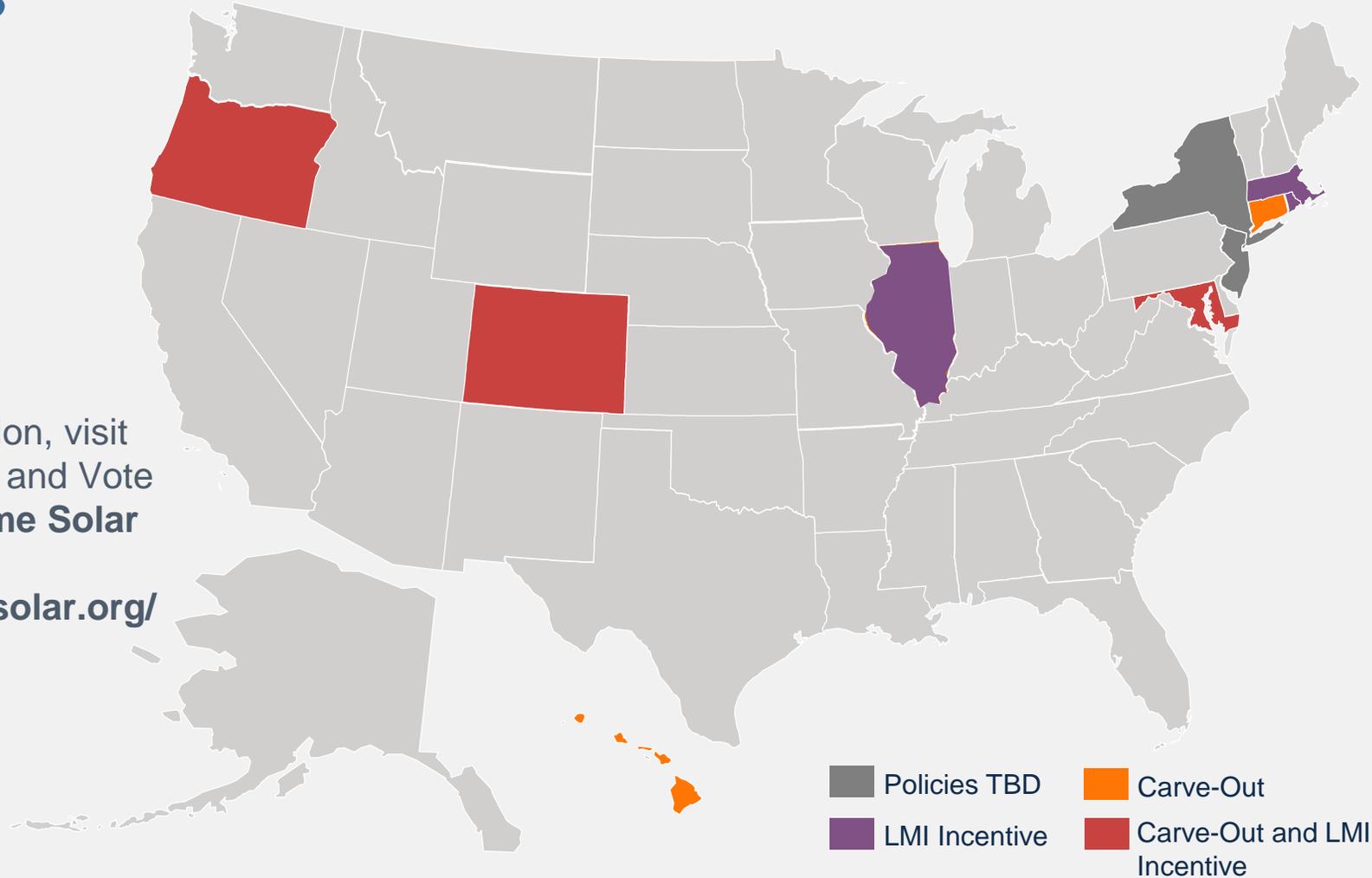




11 states with policies in place or development to support LMI adoption of community solar: Primarily carveouts or incentives



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For more information, visit GRID Alternatives and Vote Solar's **Low Income Solar Policy Guide**: www.lowincomesolar.org/

Policy design dos and don'ts

- » **Challenge:** Scale program to size of market **and** meet customer expectations.
- » **Do**
 - > Create opportunity for community-driven, community-owned projects.
 - > Create an open and competitive market.
 - > Create carve-outs rather than caps to ensure diversity of project types.
- » **Don't**
 - > Create caps that artificially limit opportunities.



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Dos and don'ts, continued

» **Challenge:** Inspire consumer confidence .

» **Do**

- > Provide transparent, stable and fair credit rate reflecting long-term project benefits/avoided costs.
- > Create a standard contract disclosure form and ensure alignment with all applicable consumer protection laws.
- > Partner with trusted organizations for education and outreach.

» **Don't**

- > Repurpose projects built for RPS compliance.
- > Create frequently-shifting and administratively complex process for credit rate.



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Dos and don'ts, continued

» Challenge Expand access and equity

» Dos

- > Mandate Minimum carve-out for LMI customers;
- > Incent low-income, residential and sm. comm. participation through adders;
- > Avoid using credit rate as eligibility requirement;
- > Allow for flexible, short-term subscriptions;
- > Avoid high exit fees;
- > Coordinate with existing energy efficiency and assistance programs;
- > Fund workforce training component of program;
- > Create incentives for siting in environmental justice or economically disadvantaged neighborhoods.



Dos and don'ts, continued

Challenge	Dos	Don'ts
Minimize investor risk	Create backstops, anchors and financing support; streamline interconnection; stable credit rate.	
Capture economies of scale		Set project caps too low.
Capture grid benefits	Use distribution system planning to provide clear direction for optimization of location-specific benefits	

Case Study: Statewide Programs



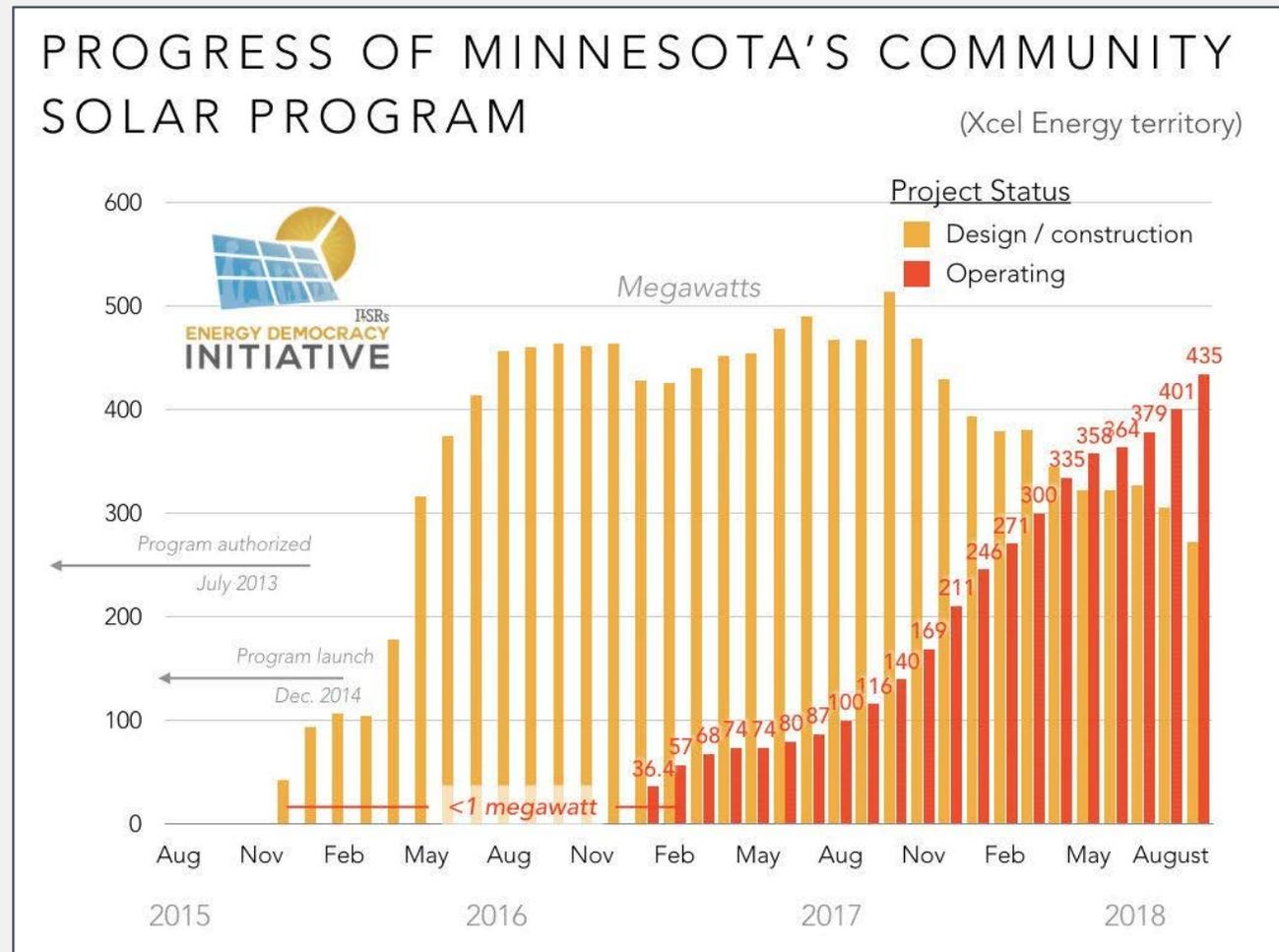
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Case Study: Minnesota



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- » Enacted in 2013
- » Uncapped program that uses value of solar credit rate as opposed to retail rate.
- » Systems have a 1 MW size limit.
- » Over 500 MW deployed so far and continues to grow.



<https://ilsr.org/minnesotas-community-solar-program/>



Case Study: Minnesota (cont'd)



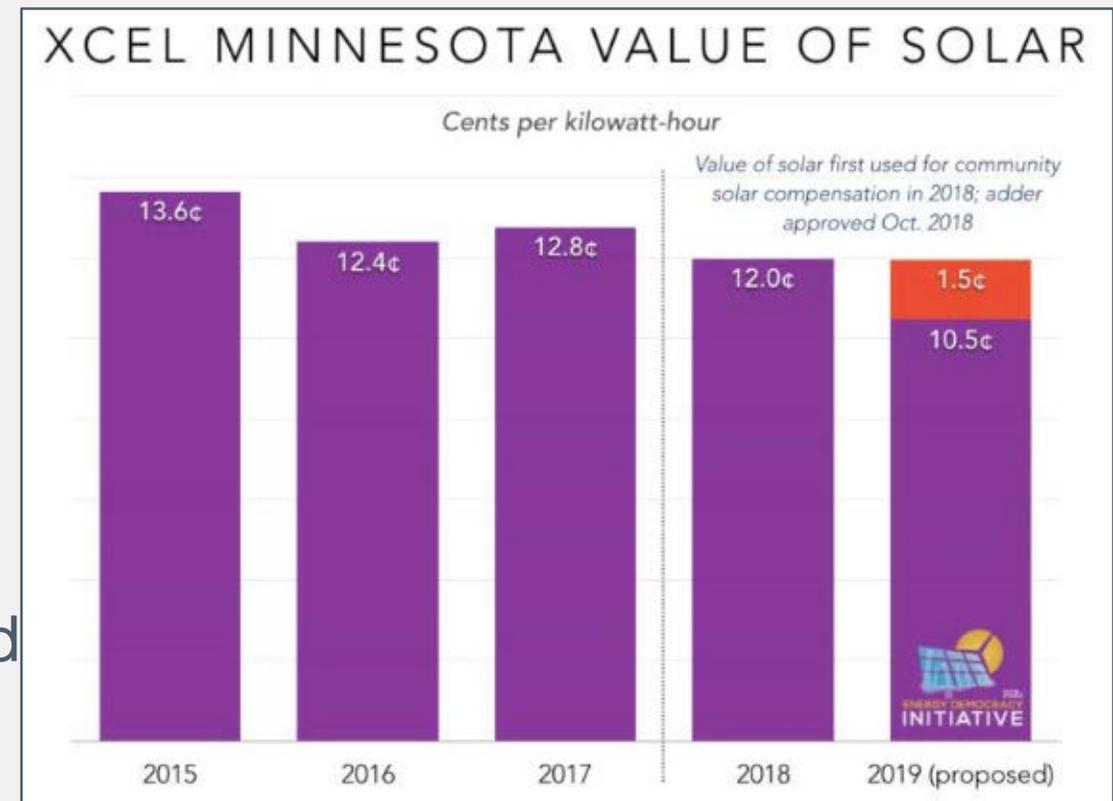
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Pros

- » Uncapped program supports scalable and sustainable development

Cons

- » 1 MW limits economies of scale
- » Strict geographic restrictions limits options for landowners
- » Residential participation has been limited to-date (2016: 11% of capacity)
- » Lacks low-income/equity goals



<https://ilsr.org/minnesotas-community-solar-program/>

Highlight: Cooperative Energy Futures

- » **Non-Traditional Tax Equity Partners:**
- » **Workforce Development:** partnering with Renewable Energy Partners to use our first community solar gardens as on-the-job training for North Minneapolis residents of color.
- » **Transparent, Democratic Operations:** Our subscribers are our member-owners, who elect and run for the Board and share in any excess profits.
- » **Rooted Community Partnership:** We are already working in partnership with a number of community groups across Minnesota.
- » **Seeking Partnership for Low-Risk Repayment Methods for “pay-as-you-save” Community Solar:** We have modeled community solar subscriptions that would be paid on a monthly basis at a lower cost than the electric savings. We are seeking local government, community development, and finance partners to make this viable so that everyone can afford solar.

Shiloh Temple Project



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- » North Minneapolis
- » 200 kW
- » Subscribers are the Temple plus 20 homeowners
- » No minimum credit score
- » Incorporating job training
- » First of 8 similar projects





Case Study: Colorado

Pros

- » Program started with 5% per project for low-income households.
- » Applied lessons learned to improve the program structure.
 - » 13.5 MW of 100% low-income community solar projects (2017 – 2019)
 - » Include "affordable housing" in the definition of low-income
 - » Competitive solicitation evaluates bill savings, coordination with energy efficiency measures, and job training
 - » Funding streams and incentives available through 2% rider on all ratepayers bills

Cons

- » Limited by annual utility solicitations for capacity
- » Restrictive siting criteria



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Case Study: Massachusetts

- » Part of MA's net metering program – no difference between Virtual Net Metered (VNM) facilities and non-VNM facilities
- » Prior State Incentive Program (SREC II applied “factors”)
 - » Up to 25% higher SRECs value for affordable housing projects
 - » Result: 202 MW of solar serving affordable housing, the highest in the country per capita.
- » New incentive program (SMART)
 - » 6 cents / kWh adder for projects serving 50% low-income



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Case Study: New Jersey



- » Legislation passed in 2018 and signed into law by Governor Murphy
- » NJ can expect the following economic benefits if 450 MW of distributed community solar is installed between 2019 – 2021
 - > 1,778 sustained full-time jobs during construction
 - > \$414.7 million in earnings for those employed
 - > \$797.9 million in local economic benefits for the state, excepting local tax revenues
 - > \$3.3 million from property tax revenues in the first year alone

Low Income Solar Policy Guide



LowIncomeSolar.org

LOW INCOME **SOLAR POLICY GUIDE**

WHY ACT GUIDING PRINCIPLES POLICY TOOLS SUCCESSFUL MODELS



WHY LOW INCOME SOLAR?

The growth of solar in the United States provides a tremendous opportunity to address some of the greatest challenges faced by lower-income communities: the high cost of housing; unemployment; and pollution. Solar can provide long-term financial relief to families struggling with high and unpredictable energy costs, living-wage employment opportunities in an industry adding jobs at a rate of 20% per year, and a source of clean, local energy... [\[Read more\]](#)





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Relevant Resources

- » **National Renewable Energy Laboratory State Considerations for Designing Community Solar Policy**
 - » <https://www.nrel.gov/docs/fy18osti/70663.pdf>
- » **Coalition for Community Solar Access Resource and Policy Decision Matrix**
 - > <http://www.communitysolaraccess.org/wp-content/uploads/2016/03/CCSA-Policy-Decision-Matrix-Final-11-15-2016.pdf>
- » **Vote Solar and GRID Alternatives Low Income Solar Policy Guide, Community Solar**
 - > <http://www.lowincomesolar.org/practices/community-solar/>
- » **Interstate Renewable Energy Council (IREC) Guiding Principles & Shared Solar Catalog:**
 - > <https://irecusa.org/regulatory-reform/shared-renewables/>
- » **IREC and Vote Solar's Voluntary Utility-Led Community Solar Program Checklist**
 - > <https://votesolar.org/cschecklist>
- » **The Vision for U.S. Community Solar: A Roadmap to 2030**
 - > <https://votesolar.org/csvision>
- » **Clean Energy States Alliance Bringing the Benefits of Solar Energy to Low-Income Consumers**
 - > <https://www.cesa.org/projects/sustainable-solar/resources/resource/bringing-the-benefits-of-solar-energy-to-low-income-consumers>

Thank you!

Becky Stanfield
Senior Director, Midwest States
becky@votesolar.org
www.votesolar.org
www.lowincomesolar.org



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