

**Governor's Committee on Energy
Choice:
Technical Working Group on
Innovation, Technology, &
Renewable Energy**

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Agenda

1. Community solar and a comparison to other solar energy offerings
2. Benefits of community solar
3. Community solar in restructured markets
4. Key recommendations

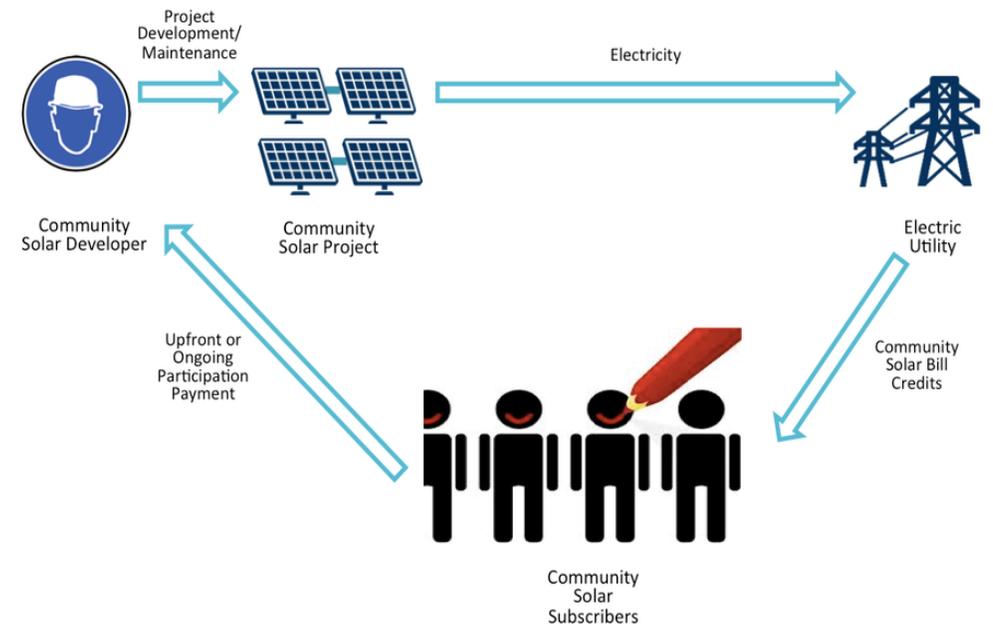


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What is Community Solar?

- » Community solar refers to local solar facilities shared by multiple community members who receive credits on their electricity bills for their share of the energy produced.
- » Community solar differs from other customer-focused offerings such as community choice aggregation and green tariff programs (e.g.: “subscription solar”)

How does community solar work?



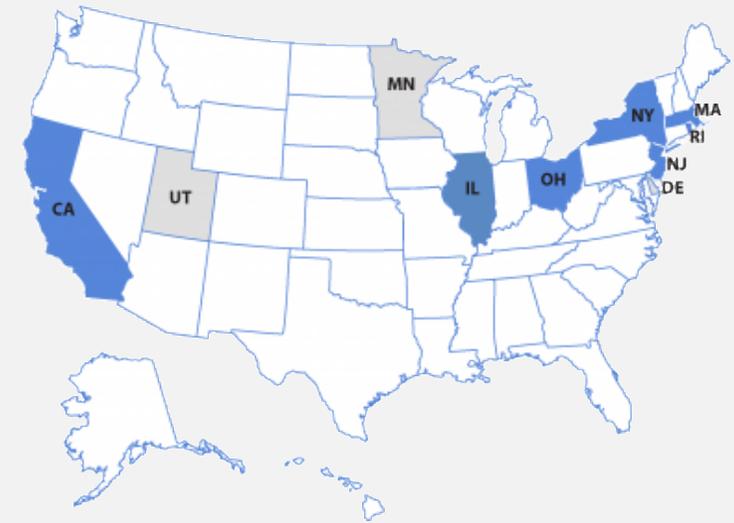


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Community Choice Aggregation (CCA)

- » A program that allows cities and counties to buy and/or generate electricity for residents, businesses and government electricity users within its jurisdiction.
 - > Aggregated buying power
 - > CCAs enter contracts with alternative suppliers or large generators connected to the transmission system
 - > Utility retains ownership and management of transmission and distribution.

Community Choice Aggregation must be legislatively enabled.



Legal in 7 States: CA, IL, MA, NJ, OH, RI and NY

Under consideration: UT, DE, MN

Image source: <http://www.leanenergyus.org/cca-by-state/>

Green Tariff Programs (e.g. “subscription solar”)



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- » Involve the sale of Renewable Energy Credits (RECs) from a renewable energy facility to individual subscribers.
- » **Pros**
 - > Flexible contract terms
 - > Allows subscribers to meet individual and corporate sustainability goals
 - > Allows utilities to maintain the customer relationship
- » **Cons**
 - > Subscribers pay a premium
 - > Renewable energy generating facilities are typically not sited locally
 - > Do not provide the energy from the generating facility on subscriber bills
 - > Do not offer the opportunity to reduce energy expenditures

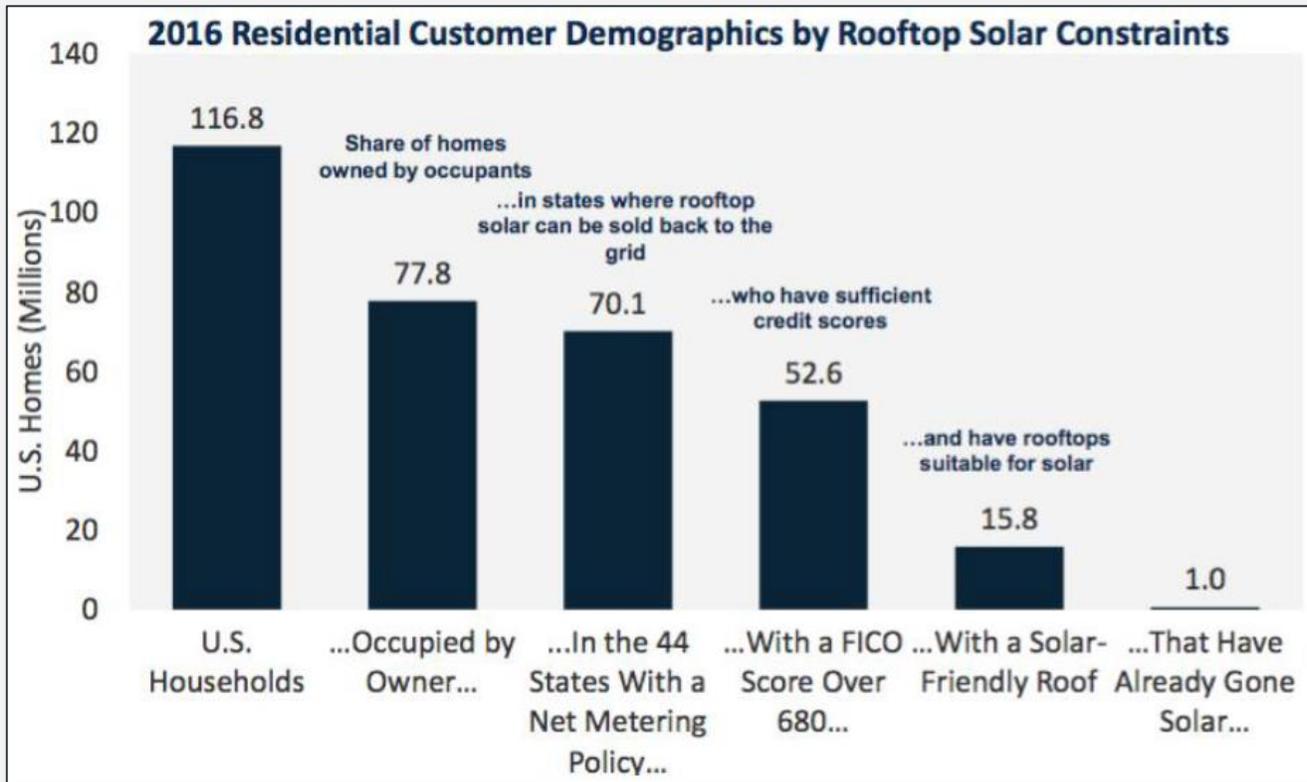
Utility-Scale Solar and Large-Scale Commercial Solar



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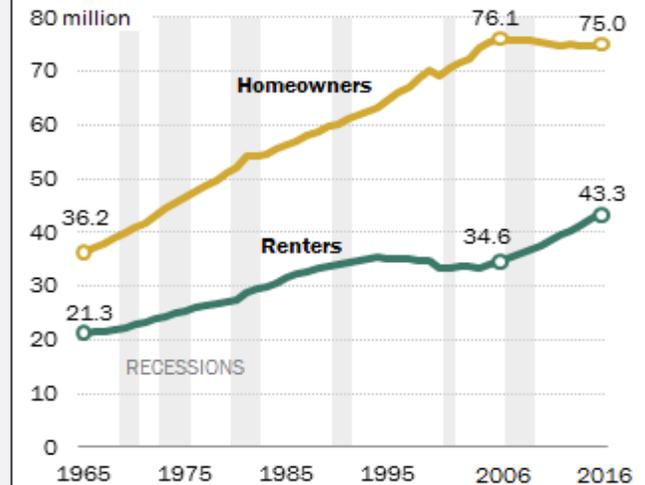
- » Designed for a single off-taker.
 - > In contrast, community solar allows individuals including renters, condominium owners, and businesses the opportunity to directly participate in and receive the benefits of solar.
- » Typically sell power directly to utilities, who receive the benefits of solar power.
 - > In contrast, community solar provides individuals and commercial entities the opportunity to directly participate in a generating facility and receive the benefits from their subscription.
- » Utility-scale and large-scale are typically connected at the transmission level.
 - > In contrast, community solar facilities are connected to the local distribution system.

Community solar solves the physical and homeownership barriers of solar

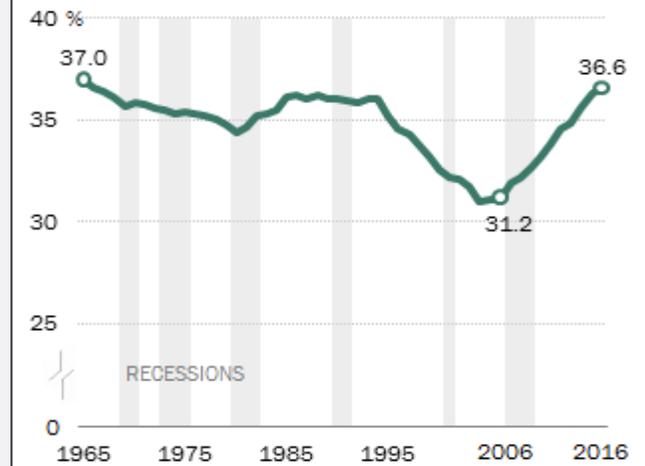


Significant growth in the number and share of households renting their home since 2006

Number of household heads, in millions



% of household heads who rent their home



Note: Data labels are for 1965, 2006 and 2016. Figures for 1979, 1981, 1989, 1993 and 2000-2016 reflect revised estimates. Source: Pew Research Center analysis of U.S. Census Bureau estimates of housing inventory.

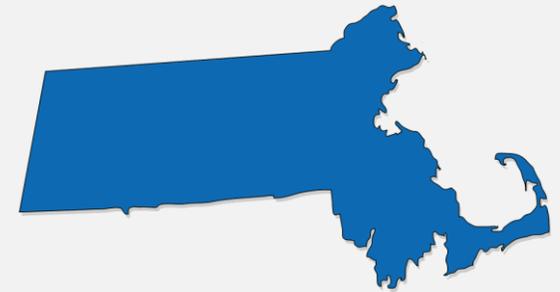
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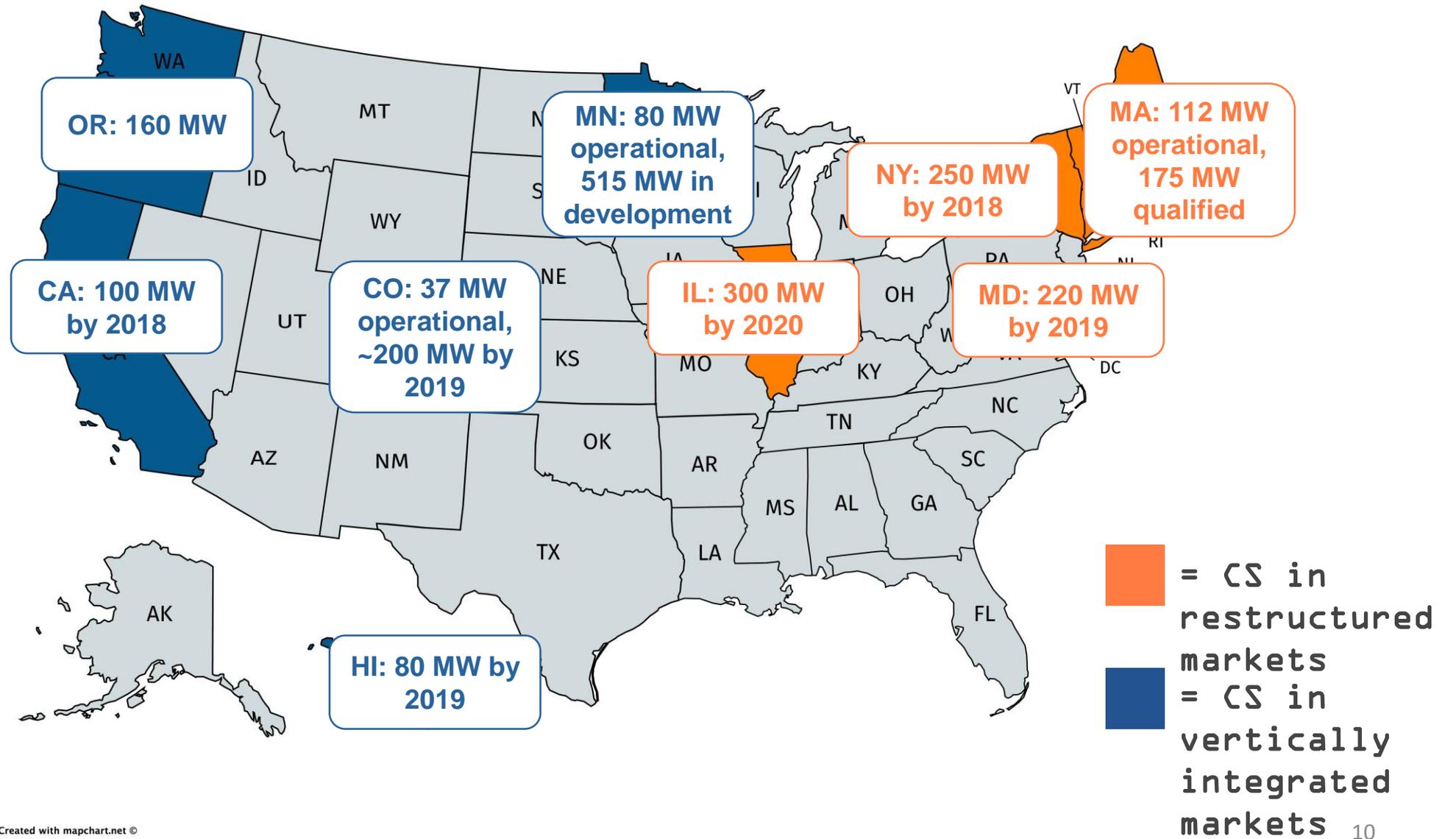
Benefits of Community Solar

- » Promotes competition to create low-cost customer focused offerings.
- » Expands access to local renewable energy for entities that cannot install rooftop solar (e.g., homeowners, small businesses, businesses that lease space, commercial and industrial facilities, renters, apartment complexes, local governments).
- » Allows subscribers to directly benefit from offsite community solar installations.
- » Provides opportunity for customer savings and re-investment in the local economy.
- » Drives economic development and private investment.



Massachusetts: In 2016, 63 MW of community solar resulted in over \$154,000,000 in the Commonwealth.

Community solar is legislatively enabled in 16 states and the District of Columbia.



Community Solar in Restructured Markets



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- » Community solar fits in all market types.
 - > 6 vertically integrated markets: CO, MN, HI, WA, OR, CA
 - > 11 restructured markets: MA, NY, MD, IL, RI, VT, NH, ME, CT, DE and DC
- » Maryland Register, Proposed Action on Regu

E(1). Developers of solar facilities will benefit from the ability to construct and manage community solar energy generation systems. Retail suppliers of electricity will be unaffected by these regulations because a member of a Subscriber organization may continue as a retail customer.

Community Solar in Restructured Markets



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- » Community solar ownership:
 - > A Subscriber Organization shall be any for-profit or not-for-profit entity permitted by state law that:
 - + (A) owns or operates one or more community solar facility(ies) for the benefit of subscribers, or
 - + (B) contracts with a third-party entity to build, own or operate one or more community solar facilities.
 - > In restructured markets, this includes third party providers, customer owned facilities, and retail suppliers.
- » Electric distribution utility responsible for administering the credits.
- » Community solar credit rates are consistent for all end-users, regardless of the competitive retail supplier.

Community Solar in Restructured Markets



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» Interconnection

- > Community solar facilities are interconnected at the local distribution system.
- > Community solar system owners are responsible for all maintenance up to the point of interconnection.
- > Project interconnection is governed by a set of safety standards and regulations that apply to all distributed solar energy projects.
- > Clear rules and regulations for project interconnection and queue management.

Community Solar: 5 Guiding Principles



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- » Expand consumer access
- » Provide tangible economic benefits
- » Put consumers first
- » Promote fair market competition
- » Complement existing programs





Key Recommendations

- » Create a statewide community solar program to provide all customer types the opportunity to access solar energy through off-site solar installations.
- » Allow for multiple subscribers to directly benefit from a single off-site solar installation.
- » Enable subscribers to receive a bill credit for their share of production from an off-site facility.
- » Encourage competition to create low-cost community solar offerings and expand access to all customer types.

Thank you!

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Resources

- » Interstate Renewable Energy Council Guiding Principles:
 - > <http://www.irecusa.org/publications/guiding-principles-for-shared-renewable-energy-programs/>
- » Coalition for Community Solar Access Policy decision matrix:
 - > <http://www.communitysolaraccess.org/wp-content/uploads/2016/03/CCSA-Policy-Decision-Matrix-Final-11-15-2016.pdf>
- » Links to authorizing legislation and/or regulations
 - > Massachusetts: Virtual Net Metering, Chapter 169,
<https://malegislature.gov/Laws/SessionLaws/Acts/2008/Chapter169>
 - > New York: PSC Order Establishing a Community DG Program,
<http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={76520435-25ED-4B84-847>
 - > Maryland:
 - + Chapter 347,
http://mgaleg.maryland.gov/2015RS/Chapters_noln/CH_347_hb1087e.pdf
 - + Title 20 Public Service Commission, Subtitle 62 Community Solar Energy Generating Systems,
http://www.dsd.state.md.us/COMAR/subtitle_chapters/20_Chapters.aspx#Sub