

# Community Solar

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# Energy

U.S. Utility Solar PPA Prices versus Average Natural Gas Prices, ¢/MWh



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## Levelized Cost of Energy Comparison—Unsubsidized Analysis

Selected renewable energy generation technologies are cost-competitive with conventional generation technologies under certain circumstances

Renewable Energy

Conventional



Source: Lazard

# 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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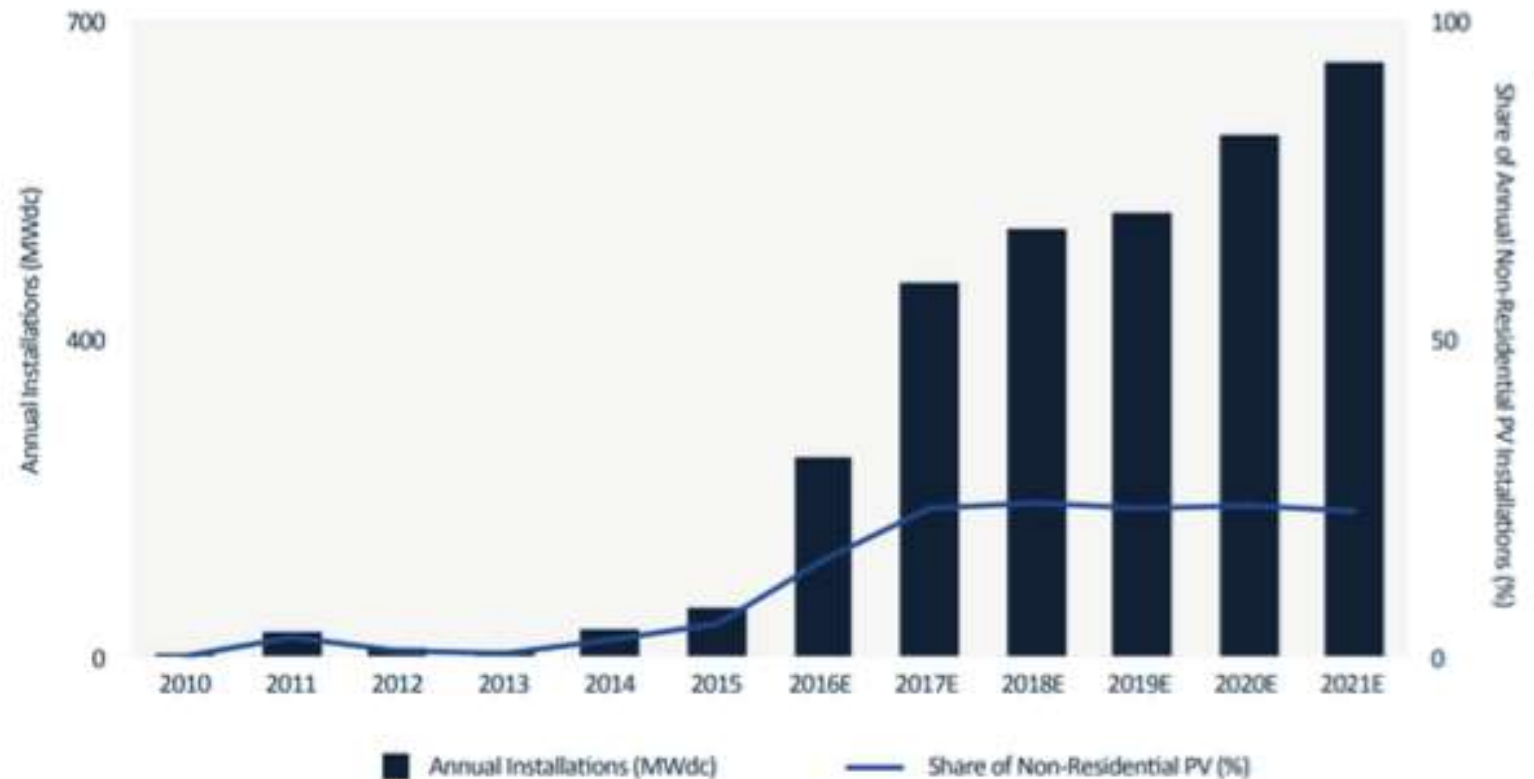
# U.S. Community Solar Nears 1 GW of Total Capacity Operating Nationwide

## Cumulative U.S. Community Solar Installed Capacity

U.S. community solar is growing at a quicker pace than the overall U.S. solar deployments

Driven in large part by policy commitments in Minnesota and Massachusetts, new deployments of community solar have grown at a rapid pace, achieving a five-year compound annual growth rate of 53% (vs. 26% for all solar).

Still, community solar represents less than 2% of all operating U.S. solar to date. As we explore further, most barriers to community solar stem from program design and market maturity rather than the inherent model.



Source: GTM Research Wood Mackenzie



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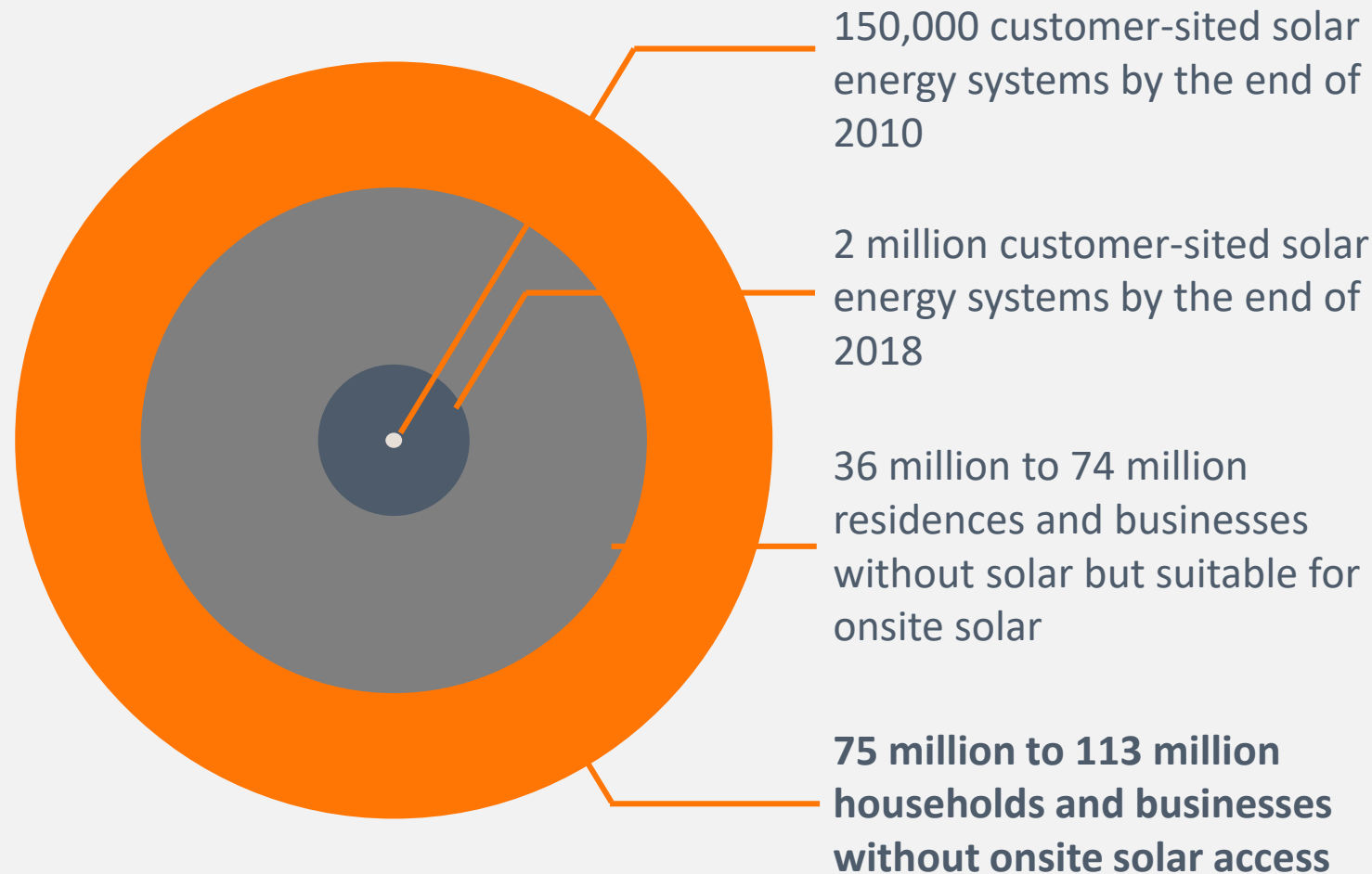
# Ownership Options

- » **Third-party owned:** A developer owns a project and allows participation on a voluntary basis. Third-party owned projects are typically only allowed in states that have created a statewide community solar program.
- » **Utility-owned:** A utility owns a community solar project and allows participation on a voluntary basis. Utilities are able to create their own community solar program on a voluntary basis, or can be required to do-so through a statewide community solar program.
- » **Community-owned:** In a community-owned solar projects, individuals, nonprofits, and other community-based organizations can come together to own a community-solar facility.



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# But Access to On-Site Solar is Limited



Source: GTM Research / SEIA, EIA, U.S. Census





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# The 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.





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# Community Solar 101





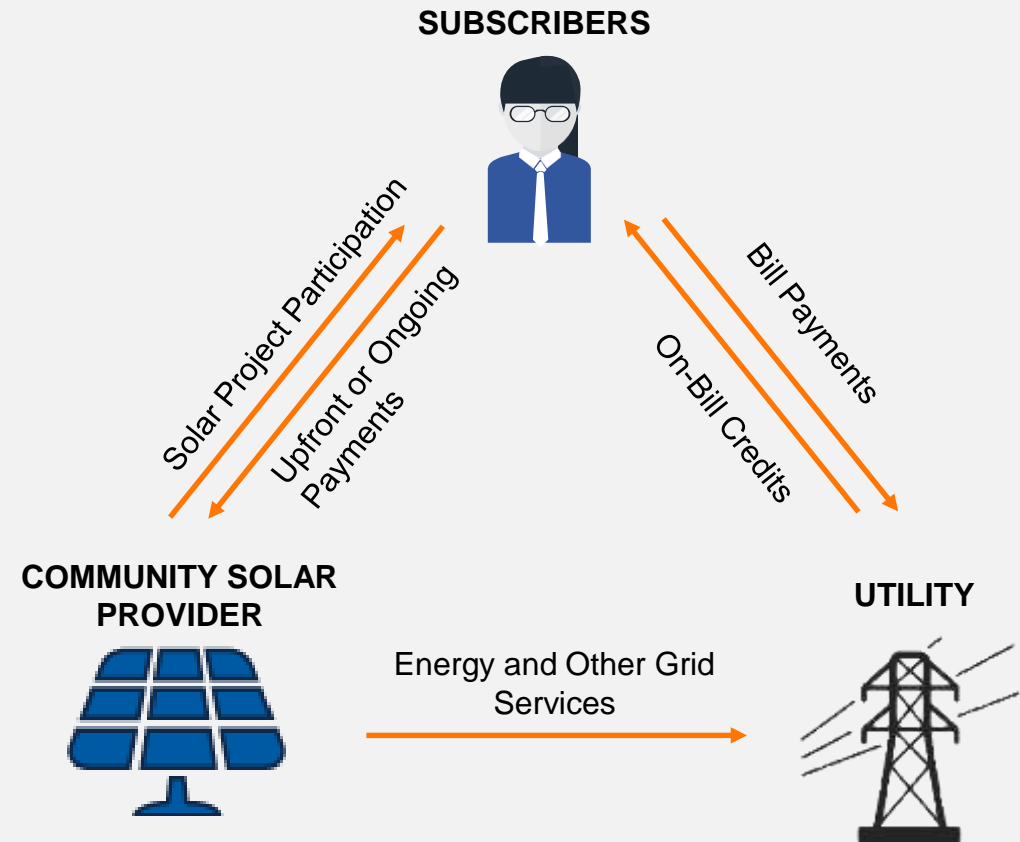
# Defining Community Solar



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Over the years, many projects have been labeled community solar, but we define community solar as a solar project with multiple subscribers that receive on bill benefits directly attributable to the community solar project.

## The Typical Community Solar Model



- Subscribers receive a credit on their electric bill for their share in a community solar
- Subscribers must be tied to a specific solar project

# Community Solar Guiding Principles



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- » Develop new solar assets
- » Expand consumer access
- » Offer tangible economic benefits
- » Put consumers first
- » Promote fair market competition
- » Complement existing programs





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# How do community solar customers pay for their clean energy?

Participants can subscribe to a portion of a local community solar facility and get a share of the electricity that system produces. There are generally two ways to sign up:

1. **Upfront per-panel payment:** This model allows participants to pay a one-time fee for panels that make up part of a larger solar project. In exchange, participants receive all of the electricity produced by their panels (or share) and see that as a credit on their normal electricity bill.
2. **Ongoing “pay-as-you-go” subscription payment:** This model eliminates the upfront cost to going solar. It allows individuals to pay a lower price for the electricity they receive from a community solar facility. The end result is a percent-reduction in a customer's monthly electricity expenditures.

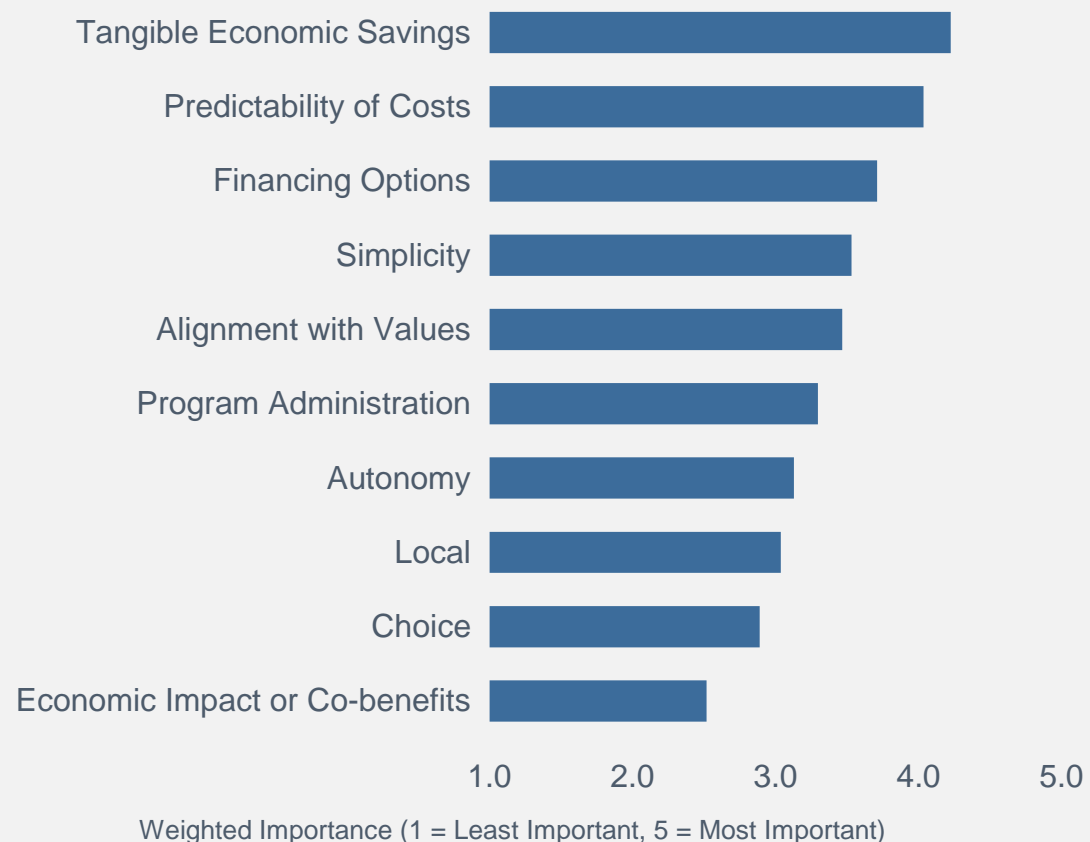
The “pay as you go” subscription option is becoming the dominant model, and as community solar continues to scale, the product offerings are becoming more and more user friendly -- with the goal of becoming as easy as ordering a product on Amazon, or purchasing Netflix or Direct TV.



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# Community Solar Subscribers Value a Breadth of Financial and Non-Financial Benefits

Average Score to “Rate the Importance of the Following Attributes to You / Customer Constituencies You Work With”—All Subscriber Segments



## From a survey of over two dozen community solar operators and subscriber organizations, we find that: Community solar economics are important...

- » Subscribers overwhelmingly chose community solar due to financial options and benefits:
  - > Over 60% of responses ranked “tangible economic savings” as the most important factor of a community solar subscription
  - > The second and third most important factors were, respectively, a predictable cost of electricity and compelling finance options (e.g., zero-down leases and pay-as-you-go models)

## ...but non-financial benefits need to be included

- > Simplicity is the highest rated non-financial benefit identified, referencing an easy-to-subscribe and intuitive process to procure solar energy
- > Subscribers also care about *who* is administering the program, meaning trust is important. But that can mean local organizations, private developers or a local utility, depending on the party.
- > While subscribers may not universally value economic co-benefits highly (e.g., workforce development), other stakeholders, such as community leaders, policymakers and regulators, will.

Source: GTM Research Wood Mackenzie



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# Why is Community Solar a Preferred Option?



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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# Why Choose Community Solar?

## Customer Benefits

- » **Equal Access:** Gives ALL consumers equal access to solar energy, regardless of housing type or income level.
- » **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?

## Grid and Environmental Benefits

- » **Environmental goals:** Community solar allows multiple people to benefit from clean energy, helping to expedite the transition away from fossil fuel.
- » **Local and Resilient Grid Resource:** community solar is clean and reliable resource located directly within communities, with opportunities to pair with community storage solutions

# Community Solar: BARC Electric Cooperative



**16,000,000 kWhs**  
**180 Homes / 25 Businesses**  
**11,000 Metric Tons of CO2 Avoided**



## **BARC Electric Cooperative Community Solar**

**\$1.3 million project**

**550 kilowatts**

**3 acres**

**20 Years**

[www.barcelectric.com](http://www.barcelectric.com)

Subscribe up to 25% of your energy needs

Fix a quarter of your electric bill for the next 20 years for just \$1 per block more than you pay today. For the average BARC customer, that is just \$5 more per month.

By subscribing you are also supporting future growth. A portion of the revenue from every subscription will be set aside for project expansion.

# Resources



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- » **Interstate Renewable Energy Council Guiding Principles:**
  - > <http://www.irecusa.org/publications/guiding-principles-for-shared-renewable-energy-programs/>
- » **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>
- » **Low Income Solar Policy Guide, Community Solar**
  - > <http://www.lowincomesolar.org/practices/community-solar/>
- » **Shared Renewables HQ**
  - > <http://www.sharedrenewables.org/>