



# SHARED SOLAR: CURRENT LANDSCAPE, MARKET POTENTIAL, AND THE IMPACT OF FEDERAL SECURITIES REGULATION

## Research Highlights

In a recent report, NREL concluded that approximately 49% of households and 48% of businesses in the United States are unable to host a photovoltaic (PV) system. PV business models and regulatory environments have historically not been designed to provide access to a significant portion of potential PV system customers, and as a result, the economic, environmental, and social benefits of distributed PV are not available to all consumers. Shared solar<sup>1</sup> programs open up the market to the other half of businesses and households.

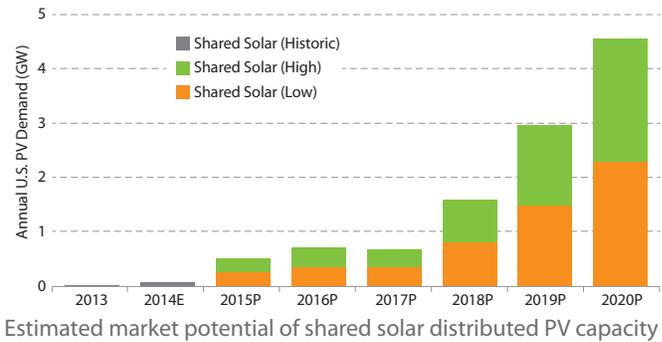
## Market Potential of Shared Solar

If federal, state, and local policies can institute a supportive regulatory environment, shared solar presents an area of tremendous potential growth for solar PV, since it would expand the potential customer base to 100% of homes and businesses. The report provides an estimate of the customer market expansion potential that shared solar could provide to the distributed PV market from 2015–2020. Key findings include:

- 49% of U.S. households are currently unable to host a PV system when excluding renters, those without access to roofspace (e.g., multi-unit housing), and/or those living in buildings with insufficient roofspace with good solar exposure.
- 48% of U.S. businesses are currently unable to host a PV system when excluding those operating in a building without access to roofspace (e.g., malls), and/or those that have insufficient roofspace with good solar exposure to host a PV system capable of supplying a sufficient amount of their energy demand.

<sup>1</sup>For this report, we define “shared solar” PV systems to include only those that allocate the electricity of a jointly owned or third-party-owned (TPO) system to offset multiple individual businesses’ or households’ consumption. Shared solar projects are sometimes referred to as “community shared solar” and “solar gardens.”

- When accounting for the development necessary for shared solar market growth, as well as state-limiting factors (such as net-metering caps) it is estimated that shared solar could lead to additional U.S. PV deployment of 5.5-11.0 GW between 2015 and 2020.



There are several factors that may cause shared solar deployment to be significantly higher than these estimates, including a higher adoption rate than traditional on-site PV systems due to easier and less restrictive participation, a better value proposition through economies of scale, and the ability to service a much higher share of customer load. That said, without proper legislative support from federal, state, and local authorities as well as further business innovation and expansion, shared solar may have difficulty reaching these deployment levels.

## Benefits of Shared Solar

There are several potential benefits of shared solar programs. Examples include expanding the PV market, taking advantage of economies of scale, and creating innovative opportunities for collaboration.

Potential Benefits of Shared Solar		
Market Expansion	Economies of Scale	Opportunities for Innovation
<ul style="list-style-type: none"> <li>• Access to solar for those without space</li> <li>• Lower barriers to entry</li> <li>• Easy, engaging, potentially transferable</li> </ul>	<ul style="list-style-type: none"> <li>• Lower soft costs</li> <li>• Siting flexibility</li> <li>• Focused interconnection efforts</li> </ul>	<ul style="list-style-type: none"> <li>• Community support</li> <li>• Collaboration across sectors</li> <li>• Entrepreneurship</li> </ul>

Potential Challenges of Shared Solar			
Customer Adoption	Rate Design	Program Structure	Added Challenges
<ul style="list-style-type: none"> <li>No standard contract</li> <li>Need for consumer education</li> </ul>	<ul style="list-style-type: none"> <li>Need energy credit mechanism</li> <li>Clarity on T&amp;D costs</li> </ul>	<ul style="list-style-type: none"> <li>Applicability of securities laws</li> <li>Uncertainty for tax credit</li> </ul>	<ul style="list-style-type: none"> <li>More infrastructure may be necessary</li> <li>More complex arrangement</li> <li>Site costs may be higher</li> </ul>

## Challenges to Shared Solar

Despite the many potential benefits of shared solar programs, there are also potential challenges to successful implementation of these programs. Customer adoption practices, additional rate design implementation, and further clarity and uniformity on how to structure a shared solar program must all be addressed if shared solar is to achieve its full potential.

As of February 2015 there were 9 states with shared solar legislation. State policies related to shared solar programs typically come in three forms:

- **Group or virtual net metering (VNM)** which enables the allocation of benefits from an electricity-generating source that is not directly connected to a customer's meter
- **A statewide shared energy program** which establishes a comprehensive shared renewable energy program in the state (including VNM or value-of-solar provisions)
- **Incentives** which provide additional financial incentives for shared renewable energy programs.

Although legislation that sets statewide rules is helpful, it is not always necessary. According to a set of reports produced by SEPA and IREC (Campbell and Passera 2014; Campbell et al. 2014), 31 of the 57 utility-offered shared solar programs are located in states that have community solar legislation.

Campbell, B.; Chung, D.; Venegas, R. (2014). *Expanding Solar Access Through Utility-led Community Solar: Participation and Design Trends from Leading U.S. Programs*. Washington, DC: Solar Electric Power Association.

Campbell, B.; Passera, L. (2014). *SEPA/IREC Resource: SEPA/IREC Community Solar Program Catalog*. Washington, DC: Solar Electric Power Association.

## Potential Impact of Federal Securities Regulations on Shared Solar Programs

The U.S. Department of Energy's (DOE's) SunShot Initiative hosted two separate stakeholder meetings to identify, evaluate, and help resolve some of the current challenges to shared solar. One of the top concerns raised among stakeholders at the first workshop was the uncertainty about the applicability of Securities and Exchange Commission (SEC) requirements for registration and disclosure of shared solar projects. The second DOE Stakeholder meeting was primarily focused on the discussion of a single no-action letter request made to the SEC by CommunitySun, LLC. Some of the main take-aways from this meeting are as follows:

- Shared solar offerings that are marketed and structured as reducing customers' retail electricity bills are less likely to be treated as a security than those marketed primarily as profit-generating programs.
- Shared solar programs whose offerings are classified as a security may still avoid federal securities regulations by qualifying for an exemption, though they may still be subject to state securities laws. However, even without an exemption, shared solar offerings classified as a security can still be offered and sold, so long as they are registered with the SEC.

Download *Shared Solar: Current Landscape, Market Potential, and the Impact of Federal Securities Regulation* at [www.nrel.gov/docs/fy15osti/63892.pdf](http://www.nrel.gov/docs/fy15osti/63892.pdf).

Banner photos on front page (from left to right): Photo from iStock 13737597; by Dennis Schroeder, NREL 19893; Photo from iStock 12123595; Photo by Toyota Motor Sales, USA, NREL 16933; by Debra Lew, NREL 20528, Photo by Dennis Schroeder, NREL 19163

## National Renewable Energy Laboratory

15013 Denver West Parkway  
Golden, CO 80401

303-275-3000 • [www.nrel.gov](http://www.nrel.gov)

NREL is a national laboratory of the U.S. Department of Energy Office of Energy Efficiency and Renewable Energy  
Operated by the Alliance for Sustainable Energy, LLC

NREL prints on paper that contains recycled content.

NREL/FS-6A20-64139 • May 2015