Third Party Solar: overview, landscape, pros/cons

NCSL Legislative Summit
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Increase the understanding of the current and future characteristics, roles, and interactions of governments markets and technology; and to use that understanding to inform technology, program, policy and market decisions with respect to renewable energy technologies.
Overview of discussion

1. What is third party ownership?
3. Regulatory challenges, recent changes
4. Pros and Cons
Current state of the distributed solar

Decline in PV prices  Increase in solar adoption

What is third party ownership?

Third party ownership refers to the financing mechanism for residential or commercial solar where the host (rooftop owner). Takes the form of leases or PPAs:

1) **Leases** – customers lease the equipment for a fixed monthly charge, typically includes a production guarantee.

2) **PPAs** – customers pay for the energy provided by the system, typically include an escalator.
History of third party ownership

• The actual inventor of the residential lease/ppa remains somewhat contentious, but it became widely available in 2007.

• This financial innovation essentially removed the upfront cost barrier for solar and providing a simplified, easy-to-understand value proposition: monthly bill savings.
Growth in Third Party Ownership

- In certain solar markets, third party ownership has been responsible for 70-90% of new installations in recent years.
- Many states (Arizona, California, Colorado) have seen TPO level off) recently.
Regulatory barriers
Where is TPO permitted?

- In last year, both South Carolina and Georgia have legalized third party ownership
- Florida has a ballot initiative up for vote
- North Carolina considering legislation to permit third party ownership
Regulatory Barriers to Third Party Ownership

Typically, the determining factor to allowing third-party ownership is the state's definition of a "utility" in statute. Particular verbiage related to following definition components:

- Definition of provider of electric services
- Definition of whether power generation equipment is included in definition of utility

Pros and Cons of Third Party Ownership
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<th>PRO</th>
<th>Counterpoint/caveat</th>
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<td><strong>Reduce upfront capital cost</strong></td>
<td>Affordable low interest loan options are becoming much more common. System costs have dramatically decreased, facilitating cash purchase</td>
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<td>As originally conceived, provided the only avenue for potential customers to overcome the high upfront cost barrier</td>
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<td><strong>Potentially lower prices, net of incentives</strong></td>
<td>Lower system prices now increase likelihood that customers will fully be able to monetize ITC.</td>
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<td>Leases can be provided at cheaper prices as financers and institutional owners are better equipped to fully monetize tax incentives, particularly for customers that do not have sufficient tax liability to fully monetize MACRs depreciation and the 30% ITC.</td>
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<td><strong>No Operations and Maintenance</strong></td>
<td>Not intractable with a purchased system—this could be sold as a service with system ownership.</td>
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<td><strong>Reduced Technology Risk</strong></td>
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<td>Homeowners do not have to pay if the system is not producing due to equipment failure, soiling, etc.</td>
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<td><strong>Simplifies a complex decision</strong></td>
<td>Monthly bill savings are based on an estimated value proposition, sensitive to assumptions with respect to utility rates, net metering and escalation over 20 years</td>
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<td>Reduces decision to monthly bill savings</td>
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<td>Handle all incentive and interconnection paperwork</td>
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<td><strong>Reduces SREC Risk</strong></td>
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<td>Installer/Financer bears SREC risk</td>
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## Cons of Third party Ownership

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<td><strong>Incentives were originally designed with host-owned systems in mind</strong>&lt;br&gt;This is an issue relating to designing optimal policy.</td>
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<td><strong>Consumer protection concerns</strong>&lt;br&gt;Third party owned systems often require a 20 year contract. Like any product, if consumers do not understand what they are committing to, they can be financially hurt. Given the high monetary value of contracts, this cost can be high.</td>
<td>Also a potential issue for loans and purchased systems</td>
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<td><strong>Value proposition dependent on unknowns</strong>&lt;br&gt;Bills savings based on installer-defined assumptions with respect to escalation rates and future electricity rates</td>
<td>Also a potential issue for loans and purchased systems</td>
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What the future holds...one forecast

National Trends in Ownership Type

Residential TPO Penetration and Installations by Ownership Type

Source: GTM (2015)
Additional resources

National Renewable Energy Laboratory
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Database of State Incentives for Renewable Energy:
www.DSIRE.org
Supplementary Slides – Cost Host v. Lease

Chart showing the average system price (nominal $/Wc) from Q4 '10 to Q2 '15 for different locations and ownership models.

Bar chart for Vivint Solar, SolarCity, and SunRun in Q1 '15, Q1 '15, and Q1 '15 respectively, with breakdowns for G&A, sales, and installation costs.
Installed Capacity by State