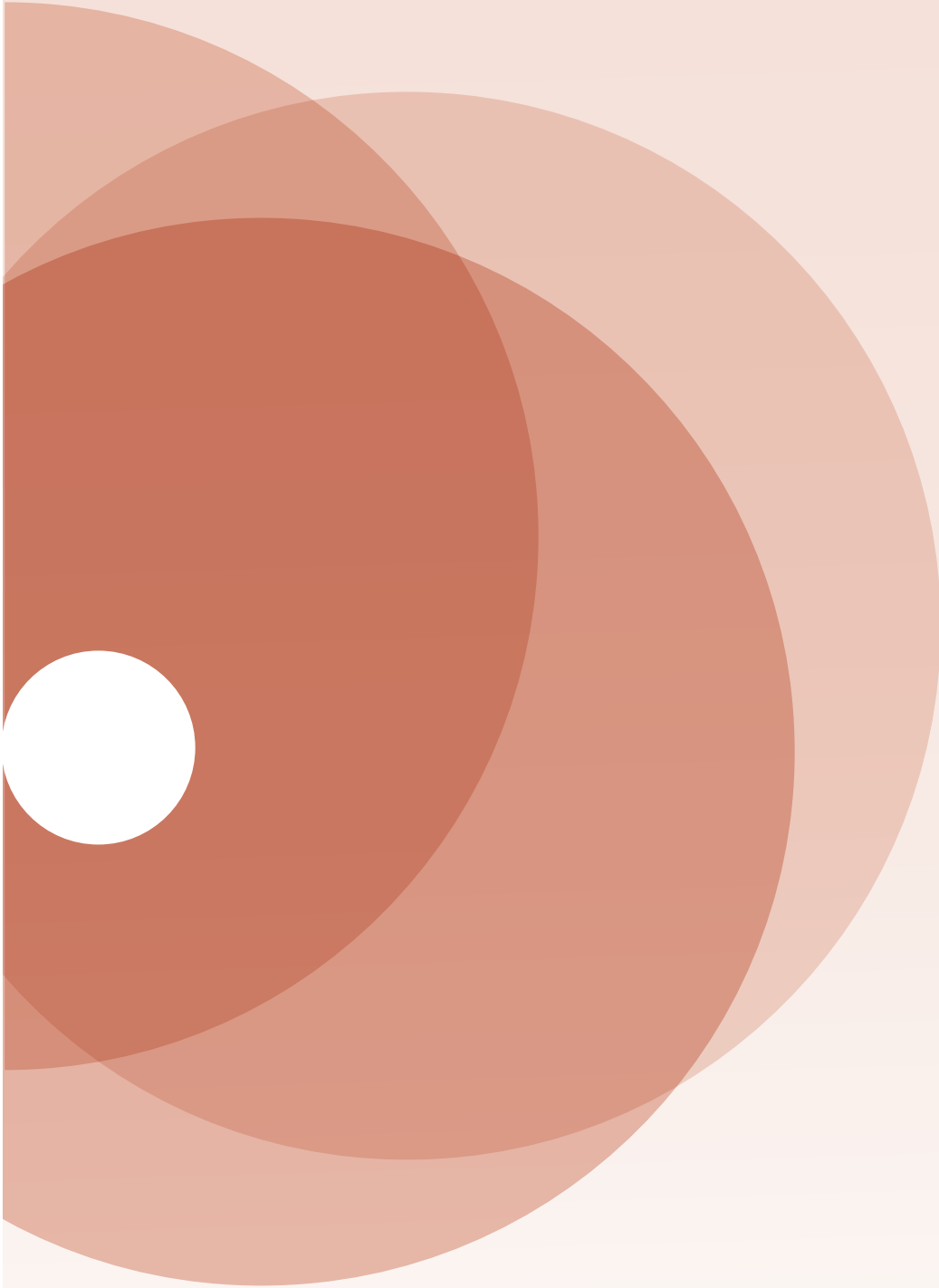


SOLAR WAVE



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There’s a quiet revolution underway in on-site solar and batteries. What it is and why commercial real estate investors should pay attention.

When most commercial real estate investors think about on-site solar and batteries, they typically think about offsetting electric utility expense at a property. Historically, the “split-incentive challenge,” whereby tenants own their legal and financial relationship with a utility, has hindered the widespread deployment of solar.

High power prices in many utility jurisdictions—now soaring even higher because of AI-induced demand—can yield healthy savings when offset through on-site solar production. But bringing landlords and tenants together in a legal contract to share in such savings (e.g., through a power purchase agreement) has been a challenge.

There is now a quiet revolution underway in on-site clean energy that avoids the split-incentive challenge entirely. That revolution is community solar.¹

Through community solar, commercial real estate owners can garner meaningful new lease income—up to high six-figures per year per property for larger industrial buildings—for leasing underutilized space like rooftops and parking lots to host essential community infrastructure under state community solar programs.

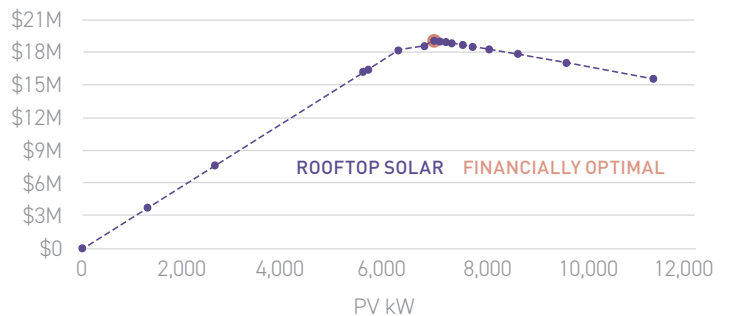
BEHIND-THE-METER (BTM) VERSUS FRONT-OF-THE-METER (FTM)

The physical distinction is exactly as it sounds, whether an on-site clean energy system like a solar array or a battery is in front of (FTM) or behind (BTM) a utilities’ electric meter. It’s the economic and legal distinction between the two that matters much more.

Many commercial real estate properties in the United States utilize NNN lease structures whereby utilities are the financial and legal obligations of tenants. Landlords can offset house electric expenses with solar, but the bulk of electricity consumption at most properties—and thus the opportunity to garner savings through solar—comes from tenants.

On-site clean energy systems that are installed behind-the-meter must be carefully optimized for both the building’s total energy load (total kWh consumed) and load profile (when that kWh is consumed), as well as for net-metering regimes (i.e., compensation that utilities provide for excess power sent to the grid). For many buildings, there is a risk both to constructing a system that may be too large or too small for the building. Finding the right size system for a building One of Lumen Energy’s earliest endeavors was a software product that performs such optimizations in a fully automated manner.

EXHIBIT 1: OPTIMIZING SYSTEM SIZE FOR NPV OF NET CASH FLOW



Note: Sample optimization for NPV optimal solar system size performed by Lumen Energy for a 1,500,400sf warehouse in Baltimore, Maryland for a behind-the-meter system purchased with cash by the building owner.

In contrast to BTM, FTM systems like community solar provide one of the few avenues in which commercial solar arrays can compensate building owners for “feeding the grid;” historically impossible under the dominant monopoly system for investor-owned electric utilities in the US. Community solar programs typically involve solar developers setting up entirely new service that does not interact with the building’s utility infrastructure, and which can often be installed without formal tenant consent.

Unlike with BTM systems, lease income from FTM or community solar systems generally scale linearly with installed system size. This linear relationship typically provides an incentive for property owners to maximize excess rooftop and parking lot space for solar or batteries (e.g., by leaving only space necessary for future rooftop units through designated reserve area).

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WHAT IS COMMUNITY SOLAR?

According to the Coalition for Community Solar Access, “community solar refers to local solar facilities shared by multiple community subscribers who receive credit on their electricity bills for their share of the power produced.”²

Community solar, sometimes referred to as shared solar, exists inherently as a policy tool that is employed at the state level under state specific legislation. Examples of such legislation include the CSEP program in New Jersey, the Shines program in Illinois, and the SMART program in Massachusetts. Common policy objectives achieved through community solar programs include:

- 1. Discounted electricity for renters or income qualifying individuals.** Many state programs, such as those in New Jersey or Massachusetts, require that at least 50% of solar production credits generated by community solar arrays be provided to low or moderate incomes individuals at a substantial discount (often at least 10%) to their current retail utility rates.³ Renters who do not have access to install rooftop solar on the homes in which they live can also receive meaningful savings benefits from subscribing to community solar.
- 2. Avoided cost to transmission and distribution grid infrastructure.** By providing a framework to encourage the deployment of meaningful clean energy production close to consumption, these programs can reduce the need for significant transmission and distribution grid spending, which would otherwise increase consumer bills. Programs like Massachusetts’s SMART further encourage resilience through requirements to integrate distribution storage.⁴
- 3. Economic and workforce development.** Many programs are set up to benefit local workforces with requirements for prevailing wages or equity eligible contractors. More than 50% of program capacity in the Illinois Shines program is reserved for such Equity Eligible Contractors or through an alternate program that encourages local community participation (Community Driven Community Solar).⁵

EXHIBIT 2: HOW COMMUNITY SOLAR WORKS



- 1 A community solar developer installs solar panels on a rooftop
- 2 The community solar developer subscribes eligible customers to purchase the electricity from an array at a discount to what the utility charges
- 3 Subscribers pay for the solar power and receive discounts on their bill
- 4 Solar developer pays building owner quarterly or annual roof rent for hosting the community solar project

Source. Lumen Energy graphic providing a simplified overview of community solar mechanics.

WHY IS COMMUNITY SOLAR GROWING NOW?

For the first-time in decades, electricity consumption is rising sharply. Much of this rise is the result of AI-induced demand. This rapid growth in consumption has caught both utilities and state regulatory bodies like Public Utilities Commissions in a lurch, with widespread shortages of key equipment that can help utilities meet such demand. Some large-scale natural gas-turbines have five-to-seven-year waitlists according to E-Cubed Policy Associates.⁶ By contrast, many community solar installations can achieve time to power in approximately two years, or potentially even faster.

This mismatch of supply and demand for power is resulting in meaningful increases in real prices. In July, PJM, which manages the wholesale electricity market and reliability for thirteen states and Washington D.C., procured energy supplies as part of its annual capacity auction at a 22% increase compared to the prior year.⁷ Prices obtained through such capacity auctions has only just begun to bleed into retail customer utility bills. And yet, from the beginning of the pandemic in March 2020 through September 2025, per kWh rates in the US increased from 13.4 cents/kWh to 18.8 cents/kWh, a 40.3% increase.⁸

EXHIBIT 3: ELECTRICITY PER KILOWATT HOUR IN US CITY; AVERAGE



Source: US Bureau of Labor Statistics

Community solar programs are a key policy tool for lawmakers to provide direct utility bill relief to consumers while also providing for system-wide benefits in the form of avoided cost to transmission and distribution grids. In many cases, community solar programs also enable access to clean energy resources that are otherwise infeasible because of inadequate transmission infrastructure.

This was made apparent with the Trump Administration's cancellation of a loan guarantee enabling the 804-mile Grain Belt Express, the largest privately funded transmission line (\$11 billion) in US history, meant to move wind power from Kansas to population centers across the Midwest.⁹ Community solar enables deployment of quasi-utility scale renewable energy closest to where it is actually demand.

Many community solar installations can achieve time to power in approximately two years, or potentially even faster.

WHAT DOES THIS ALL MEAN OR BUILDING OWNERS?

Community solar developers rely on commercial and industrial building owners to serve as hosts for the essential community infrastructure that is deployed under these programs. This means that owners can lease underutilized space like rooftops and parking lots (for carport solar) on your assets to new tenants in the form of commercial solar arrays. The leases for these commercial solar arrays provide long-term, durable sources of income, typically 20 to 25 years, that scale in a linear fashion with installed system size. These leases are typically fully turn-key with \$0 CapEx borne by the building owner and with all obligations for development, maintenance, and operation of the solar array undertaken by the solar developer.

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EXHIBIT 4: INDICATIVE LEASE RATES FOR COMMUNITY SOLAR AND FEED-IN-TARIFF PROGRAMS BY STATE.

STATE	LEASE RATE PER MW INSTALLED	LEASE RATE PER 100,000 FT ²
MARYLAND	\$60,000-\$80,000/yr	\$60,000-\$80,000/yr
ILLINOIS	\$20,000-\$40,000/yr	\$20,000-\$40,000/yr
NEW JERSEY	\$80,000-\$105,000/yr	\$80,000-\$105,000/yr
PENNSYLVANIA	\$15,000-\$25,000/yr	\$15,000-\$25,000/yr
MASSACHUSETTS	\$55,000-\$85,000/yr	\$55,000-\$85,000/yr

Crucially, all tax incentives associated with the array (e.g., the 30% investment tax credit, which provides a dollar-for-dollar tax credit against eligible project basis) are effectively monetized by the community solar developer, typically through tax equity facilities, with the value indirectly passed to the building owner in the form of higher rents than otherwise would be provided.

While the future is uncertain, the policy environment that benefits these systems grows stronger every day. It's no wonder that community solar legislation has been introduced to states such as Michigan, Ohio, and Wisconsin.¹⁰

Community solar is a wave, is your portfolio ready to catch it?

ABOUT THE AUTHOR

Michael Sanduski is Head of Business Development for Lumen Energy, modern solar broker that partners with leading real estate owners to turn their rooftops into revenue, modeling every property's returns, securing the most competitive bids, and providing white-glove service throughout.

NOTES

¹ The U.S. Department of Energy defines community solar as any solar project or purchasing program, within a geographic area, in which the benefits flow to multiple customers such as individuals, businesses, nonprofits, and other groups. In most cases, customers benefit from energy generated by solar panels at an off-site array. Community solar customers typically subscribe to—or in some cases own—a portion of the energy generated by a solar array, and receive an electric bill credit for electricity generated by their share of the community solar system. Community solar can be a great option for people who are unable to install solar panels on their roofs because they are renters, can't afford solar, or because their roofs or electrical systems aren't suited to solar.

² "Community Solar 101." Coalition for Community Solar Access, n.d., accessed December 8, 2025, <https://communitysolaraccess.org/community-solar-101>.

³ Exploring Community Solar – Illinois Shines, n.d., accessed December 8, 2025, <https://illinoisshines.com/exploring-community-solar/>.

⁴ "SMART 3.0 Program Details | Mass.Gov," accessed December 8, 2025, <https://www.mass.gov/info-details/smart-30-program-details>.

⁵ Block Capacity Dashboard – Illinois Shines, n.d., accessed December 8, 2025, <https://illinoisshines.com/project-status-and-capacity-dashboard/>.

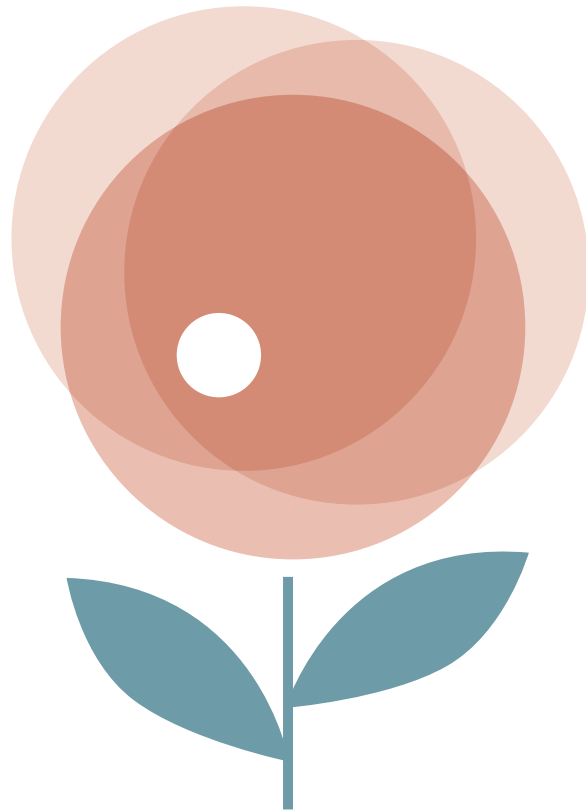
⁶ Jinjoo Lee, "Rushing to Meet AI's Energy Needs: Oil-Field Servicers," Markets, Wall Street Journal, September 11, 2025, <https://www.wsj.com/business/energy-oil/rushing-to-meet-ais-energy-needs-oil-field-servicers-865e94e1>.

⁷ Martha Muir, "AI Demand Drives Record Electricity Supply Costs in Largest US Market," US Economy, Financial Times, July 22, 2025, <https://www.ft.com/content/f1bed674-5ce4-4bcd-a3a5-4c35649add1b>.

⁸ "Average Price: Electricity per Kilowatt-Hour in U.S. City Average," October 24, 2025, <https://fred.stlouisfed.org/series/APU000072610>.

⁹ "A Power Line for Clean Energy Was in the Works. Now, an Investigation Looms. - The New York Times," accessed December 8, 2025, <https://www.nytimes.com/2025/07/02/climate/grain-belt-express-missouri-power-line.html>.

¹⁰ "Wisconsin Lawmakers Look to Break Utility Grip on Community Solar," Canary Media, November 19, 2025, <https://www.canarymedia.com/articles/solar/wisconsin-community-energy-bill-utility-pushback>; Stephen Cortes, "Bipartisan Bills Introduced to Expand Community Solar Access in Michigan," Coalition for Community Solar Access, September 4, 2025, <https://communitysolaraccess.org/news/bipartisan-bills-introduced-to-expand-community-solar-access-in-michigan>; "Ohio Senate Moves to Unleash Community Energy in Bid to Power Rising Demand and the State Economy | Coalition for Community Solar Access," accessed December 8, 2025, <https://communitysolaraccess.org/news/ohio-senate-moves-to-unleash-community-energy-in-bid-to-power-rising-demand-and-the-state-economy>.



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