

The Economics of Community Solar:

A Net Benefit to All Ratepayers

Introduction

Utilities often oppose customer-driven, third-party owned energy projects like community solar because they threaten shareholder profits. They use “cost-shift” — the idea that when one ratepayer benefits, the others bear the cost — as a false flag. And because utility ratemaking is complicated and often happens in a black box, it’s hard for legislators to know the truth.

In reality, extensive research and real-world data show that the benefits of community solar and other distributed generation reduce long-term costs for all ratepayers. That’s because small projects placed on the distribution system closer to customers make more efficient use of existing infrastructure, leverage private capital to upgrade the system, and allow utilities to reduce and avoid certain costs that ratepayers would otherwise incur.

This document explains why the benefits of community solar outweigh its costs and creates a stronger, more affordable and resilient energy future for all ratepayers.



1. Understanding Why Community Solar Reduces Costs for Everyone

Community solar installations are larger than rooftop systems but smaller than utility-scale projects, interconnecting at the local distribution level. Their placement on schools, brownfields, parking lots, fallowed agricultural land, and farmland reduces grid congestion, improves reliability, offsets utility investments, and brings to communities. Some of the specific values that community solar brings to the system — and that are typically captured in the bill credit that subscribing customers receive — include:

- **Energy** – Community solar delivers the same energy value as utility power, and during peak summer demand, its value often exceeds average retail energy costs.
- **Capacity** – Distributed solar paired with storage is dispatchable, while standalone solar reliably delivers power during peak demand hours. Both provide valuable capacity to the grid—just as utilities account for other renewable resources when setting retail rates.
- **Transmission Capacity** – Distributed generation alleviates transmission congestion and avoids associated capacity costs — reducing how many multi-billion-dollar transmission projects the utilities need to build.

- **Transmission Line Losses** – Community solar reduces transmission losses, avoiding the 4%–5% energy waste and additional costs incurred when power travels long distances.
- **Distribution Capacity and Grid Modernization** – In order to interconnect their facilities, community solar developers utilize private capital to upgrade the aging distribution system — often to the tune of hundreds of thousands of dollars per facility.
- **Additional Values** – Energy and capacity reserve requirements, ancillary services, reliability-related costs, voltage regulation and power quality, general and administrative costs, environmental compliance costs, local economic benefits, and more.

2. A Growing Body of Evidence Shows Benefits Outweigh Costs

Numerous cost-benefit analyses from around the country calculate these values and determine the benefits smaller projects bring to the entire electric grid categorically reduce long-term costs for all ratepayers.

- **Maine:** A cost-benefit analysis by the ME Public Utilities Commission found that the state’s Net Energy Billing (NEB) program—including community solar—delivers **\$1.23 in benefits for every \$1 invested**.¹
- **Massachusetts:** A study found that optimal deployment of 1,766 MW of storage and distributed solar would generate **\$2.3 billion in savings** for ratepayers, primarily from avoiding peak energy costs and reducing the need for new infrastructure.²
- **New Hampshire:** *Value of Distributed Energy Resources* study by Dunskey Energy found that distributed solar, including community solar, provides net avoided cost **values of \$0.11 to \$0.18 per kWh**.³
- **Virginia:** A study by Dunskey Energy found that the state’s shared solar program generates **system-wide savings** by reducing transmission and distribution costs.⁴
- **Ohio:** A study by former Texas Utility Commissioner Karl Rabago found that expanding community solar and other distributed energy resources could save Ohio ratepayers **up to \$3 billion**.
- **National:** A study by Vibrant Clean Energy found that expanding local solar and energy storage—including community solar—could save U.S. ratepayers up to **\$473 billion by 2050**.⁵

¹ Maine Public Utilities Commission, *2023 Cost-Benefit Analysis of Net Energy Billing*, https://www.maine.gov/mpuc/sites/maine.gov/mpuc/files/inline-files/NEB-Y2023_CBA-LD%201986.pdf

² U.S. Department of Energy. *State of Charge: Massachusetts Energy Storage Initiative*. September 2016. <https://www.mass.gov/doc/state-of-charge-report/download>

³ New Hampshire Public Utilities Commission, *Value of Distributed Energy Resources Study*, <https://www.energy.nh.gov/sites/g/files/ehbemt551/files/inline-documents/sonh/nh-vder-report.pdf>

⁴ Dunskey Energy + Climate Advisors, *Value of Shared Solar: A Framework for Understanding the Cost-Effectiveness of Community Solar Programs* (2023), https://www.dunskey.com/wp-content/uploads/Value-of-Shared-Solar-Report_Dunskey_CCSA.pdf

⁵ Vibrant Clean Energy, *Local Solar Roadmap: Press Release* (2020), https://vibrantcleanenergy.com/wp-content/uploads/2020/12/LocalSolarRoadmapPressRelease_FINAL.pdf

3. Utilities Use “Cost Shift” as a False Flag to Oppose Customer- driven, Third-party Owned Energy Projects

- **The utility business model is at odds with competitive markets:** Utility business models rely on spending capital to fund infrastructure projects in order to make a regulated rate of return. Every megawatt of community solar built, is one megawatt of energy that they can’t earn a profit for their shareholders.
- **Utility rate structures are built on cost shifting:** Regulated utilities are built on cost shifts, from grid infrastructure for central power plants to utility-funded generation and upgrades, all shared across customers regardless of individual benefit. Rate structures also absorb the high costs of peaker plants that run just a few days a year but drive up rates, along with low-income assistance and unpaid bills—all standard utility practices.
- **Costs and lost revenues for the utilities are two different things:** Lowering utility costs isn’t a cost—it reduces the price of service. The “cost shift” argument wrongly assumes utilities can always charge customers, even when alternatives provide benefits that offset the need for certain grid investments. Regulators must ensure these benefits are reflected in utility long-term plans to prevent unnecessary or misdirected spending.

A Useful Analogy

It’s like a county deciding to use taxpayer funds to repair or build a road. Not everyone in the county will use the new road directly; however, all drivers benefit from reduced congestion and better access, not just those who live and work alongside that road. Community solar operates in much the same way, with long-term benefits for the grid and all ratepayers.

