



Rooftop Solar Creates Benefits for ALL Californians



Customer-sited solar generates many kinds of benefits for all Californians. Some of the most important are listed below. As storage becomes a more standard component of customer-sited solar, many of these benefits will increase in value.

Utilities who oppose the growth of customer-sited solar routinely ignore most of its benefits when assessing cost-benefit impacts. A wide range of studies across the country that have used comprehensive cost-benefit accounting have found that **rooftop solar customers do not create net costs, but instead provide net benefits to non-solar users.**

Benefits of Rooftop Solar Include:



Utility System Benefits

- ✓ **Avoided transmission & distribution costs** Avoided grid upgrades due to lower demand for energy from the grid ●
- ✓ **Avoided energy costs & avoided capacity costs** Market energy purchases avoided & market capacity purchases avoided
- ✓ **Avoided energy losses** Less energy lost when electricity travels shorter distances over the grid
- ✓ **Energy market price effects & fuel price hedge savings** Reduced demand lowers market prices and reduces exposure to volatile fuel prices ●
- ✓ **Ancillary services** Services provided for grid reliability, including including maintaining correct voltage and frequency



Savings For All

CAISO reported in 2018 that it had cancelled **\$2.6 billion in transmission projects** due to local solar and energy efficiency



Savings For All

Approx. **\$350 million saved by Californians in 2019** by lowering exposure to volatile natural gas prices¹



Savings For All

Approx. **\$215 million saved by Californians in 2019** in health benefits and reduced water use alone²



Broader Social Benefits

- ✓ **Local economic benefits including jobs & tax revenue** Rooftop solar creates local economic activity that cannot be outsourced
- ✓ **Public health benefits** Reduced mortality and improved health due to lower emissions
- ✓ **Environmental benefits including water & land use** Lower emissions of greenhouse gases, reduced water consumption in gas-fired power plants, and avoided greenfield development for large power plants ●

“ **Energy efficiency has had, and is likely to continue to have, a far greater impact on electricity sales than distributed solar...** Utility energy efficiency programs and federal appliance efficiency standards together reduced U.S. retail electricity sales in 2015 by an amount 35-times larger than that of distributed solar.³ ”

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“ A significant body of cost-benefit research conducted by PUCs, consultants, and research organizations provides substantial evidence that **net metering is more often than not a net benefit to the grid and all ratepayers.**⁴ ”

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VOTE SOLAR For more information, contact Susannah Churchill at susannah@votesolar.org

¹ Quantifying the Fuel Price Hedge and Energy Market Price Benefits of California's Distributed Solar PV Fleet, Clean Power Research 2015. 7900 MW of customer-sited solar * 1700 MWh/MW * \$26/MWh = \$349 million saved in 2019 | ² 7900 MW of customer-sited solar * 1700 MWh/yr * \$16/MWh = \$214,880 million saved in 2019 | ³ Putting the Potential Rate Impacts of Distributed Solar Into Context, LBNL 2017. <https://emp.lbl.gov/sites/all/files/lbnl-1007060-es.pdf> ⁴ Rooftop Solar: Net Metering Is a Net Benefit, Brookings Institution 2016. <https://www.brookings.edu/research/rooftop-solar-net-metering-is-a-net-benefit>