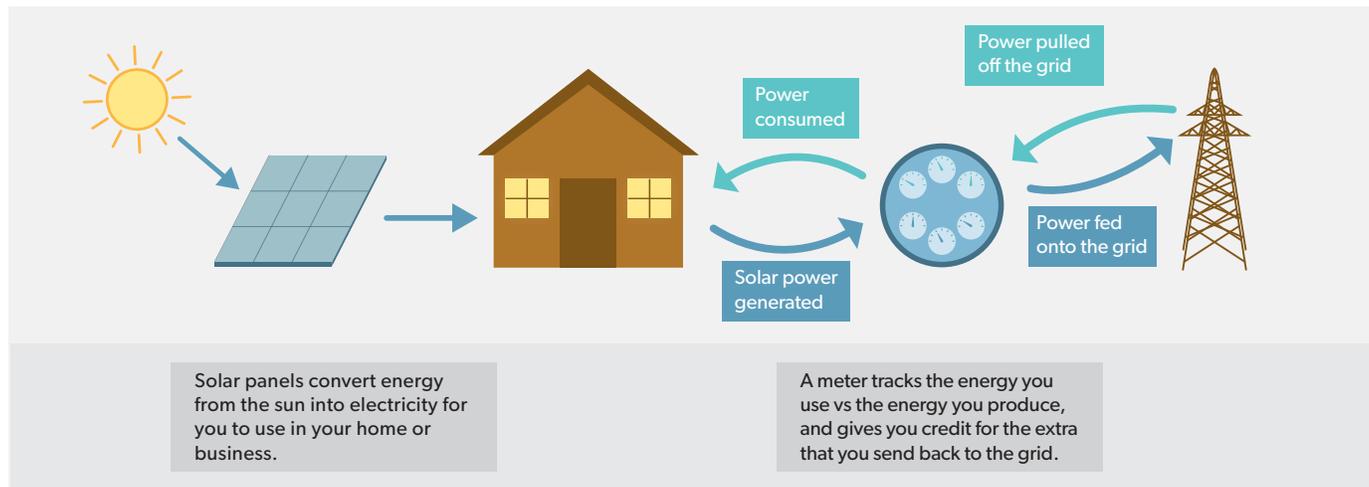


Net Metering in the States

Research
Summary

A primer on reforms to avoid regressive effects and encourage competition

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“That is how **net metering** gets its name — consumers are charged **only** for their **net electricity use.**”

Net metering allows rooftop solar panel owners to participate in the electric grid as a distributed and decentralized energy producer. When the solar panel produces more power than the home is using, the power is sent back onto the grid to be used by other customers. The meter “spins” backwards, subtracting the power sent onto the grid from the total power used by the consumer. That is how net metering gets its name — consumers are charged only for their net electricity use.

Net metering policies encourage consumers to install solar panels to promote their potential benefits. These include the costs the utilities save when rooftop solar allows the utility to avoid generating additional power, the benefits of solar as a hedge against changes in fuel prices for other energy sources, and the reduced carbon and other emissions when solar either replaces existing fossil fuels or avoids their future use. Researchers, however, disagree about whether net metering is an effective and efficient way to achieve these benefits.

Net metering also creates additional costs on the rest of the grid. When those with solar panels do not pay for their share of the grid’s maintenance costs, those costs are shifted onto customers without solar panels. For every rooftop solar owner who consumes zero net energy from the grid, \$45 to \$70 may be shifted onto non-solar customers, according to a 2016 estimate. The problem of cost-shifting has prompted policymakers in various states to attempt to alter how rooftop solar and other distributed generation technologies are compensated. Several of these reforms can avoid the regressive effects of retail rate net metering by altering rate structures to more accurately reflect the cost of electricity. These reforms include:

- Paying rooftop solar owners the wholesale rate instead of the retail rate
- Replacing retail rate net metering with time-of-use rates
- Changing the rate structure by separating out different types of charges
- Restructuring electricity markets to allow retail choice

Although restructuring the electricity market to allow for retail competition is a more ambitious reform, each of the reforms suggested has the potential to improve the performance of electricity markets to the ultimate benefit of consumers through lower electricity rates. Replacing retail rate net metering with the wholesale rate for rooftop solar electricity produced or implementing time-of-use rates are likely to incentivize solar adoption without burdening non-solar ratepayers. Not only are there many other existing incentives for solar at both the federal and state level, but there are still significant private benefits that will draw individuals towards installing solar panels. For states where it is unlikely that restructuring is a possibility, moving away from mandated retail rate net metering and towards these other options may be a more appropriate reform to both avoid cost-shifting and to provide affordable electricity to consumers.