

NET-METERING POLICIES

So-called “Net-metering” policies give customers using solar energy generation systems a credit at the full retail electric rate for excess electricity they generate. That total retail rate includes the costs of generating power as well as the fixed costs associated with the transmission, distribution, and capital and maintenance costs of the electric grid that all electric consumers rely on.

While solar customers do not shoulder any of these fixed costs, they benefit from being connected to these features of the electric grid when they sell excess power to the utility. And when electric companies are forced to buy back this excess power at the premium retail rate (instead of a lower wholesale rate), the fixed costs rolled into that retail rate are essentially shifted to non-solar utility customers. For example, currently in Wisconsin the average retail price of electricity paid by utilities under net-metering policies is “400 percent more” than the wholesale price would be (1). In essence, this windfall for solar customers is being paid for by non-solar utility customers who typically have much lower incomes.

HISTORY OF NET-METERING IN THE U.S.

Net-metering began in the 1980’s as a way to allow consumers with either small wind turbines or solar panels to obtain “credits” for power they generated. For instance, in Minnesota, which passed the first net-metering law in 1983, qualifying consumers were allowed to “roll over” energy credits or be paid for excess generation (2). Minnesota later amended the net-metering law to mandate compensation be paid at the “average retail utility energy rate.” Similar policies began taking effect in states across the U.S. during the late 1990’s and early 2000’s, requiring net-metering compensation be paid at the retail rate.

There are now 44 U.S. states with net-metering policies, two that have utility-run net-metering and four that have not enacted any net-metering provisions (3). Most of the net-metering states are now experiencing issues with cost-shifting and increased rates for non-solar consumers as a result of these inequitable, market-distorting policies.

COST-SHIFTING

Cost-shifting is the most widespread problem inherent in net-metering policies. The cost-shifting problem arises when electric utilities are forced to buy excess energy generated by solar customers at the average retail utility energy rate. The average retail rate paid by utilities includes fixed capital costs such as the price of generating power, costs associated with transmission and distribution, and maintenance of the electric grid. When utilities are forced to buy “excess” solar power at the retail rate, solar-customers receive a rebate for the fixed capital costs paid by the utilities for maintaining the grid, generating power, transmission, distribution and so on, even though they aren’t bearing those costs.

Although solar-customers produce their own power, they must remain connected to the grid to buy power when their systems are not producing. Solar-customers are often simultaneously selling electricity to electric utilities on the grid and receiving electricity from the grid. As such, solar-customers benefit from the grid at a rate almost double that of non-solar customers. The result is solar-customers avoid paying their fair share of the fixed capital costs, even though they benefit from the grid the most. In turn, those fixed capital costs are shifted onto non-solar

QUICK FACTS

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- Customers of California utilities who don’t install net-metering devices will pay an extra \$1.1 billion in shifted costs each year by 2020.

customers, who incur these shifted costs in the form of higher utility bills.

This the fixed capital costs paid by utilities are shifted onto non-solar customers – effectively a subsidy to solar customers that is paid for by those customers who do not have solar panels on their homes and businesses.

NET-METERING POLICIES LEAD TO INCREASED PRICES FOR NON-SOLAR CONSUMERS

The negative effects of residents and utilities in states with net-metering policies are similar across the country. One recent study found customers of California utilities who don't install net-metering devices "will pay an extra \$1.1 billion" in shifted costs each year by 2020 (4). Non-solar customers of Pacific Gas & Electric— California's largest utility—will pay "an additional \$700 million per year" because of the cost-shifting effects (5). In Arizona, the amount paid by solar-customers is "actually below the utilities" costs of serving those customers (6)

NET-METERING POLICIES HURT THE POOR

One of the most harmful and unanticipated effects of net-metering is that a large portion of the increased prices falls disproportionately on low-income customers. Low-income energy consumers may find it difficult to afford expensive solar generation systems and the associated installation costs, and they are therefore less likely to have the ability to install such technology. A typical low income household spends roughly 37 percent of the household income on basic energy costs (7). This percentage of household income is likely to increase for lower-income Americans as cost-shifts from solar customers expand.

NET-METERING RATES PAID BY UTILITIES DO NOT REFLECT THE CURRENT MARKET

Net-metering policies were originally enacted to encourage growth in state solar industries at a time when solar energy costs were high and the industry was less established. Advocates of net-metering claim the high rates utilities are charged for buying back excess solar energy from solar customers is still justified. However, given recent trends, it is increasingly apparent state solar industries are capable of standing on their own without special government treatment.

For instance, solar generation installations have almost quadrupled since 2011 alone and the average price has dropped nearly 36 percent (8). The average compound annual growth rate for solar installations has been at 65 percent in recent years (9). Thus it's time to reassess the special treatment solar receives under state net-metering policies, and a good starting point is to reduce the artificially high rates utilities – and by extension non-solar customers – are forced to pay under net-metering structures.

Endnotes:

1. National Center for Policy Analysis, Reforming Net Metering (April 2014) (online at http://www.ncpa.org/sub/dpd/index.php?Article_ID=24318)
2. Dsire Solar, Database of State Incentives for Renewables and Efficiency: Minnesota (online at http://www.dsireuse.org/solar/incentives/incentive.cfm?Incentive_Code=MNO1R&re=1&ee=1)
3. National Conference of State Legislatures, Net Metering: Policy Overview and State Legislative Updates (June 2014) (online at <http://www.ncsl.org/research/energy/net-metering-policy-overview-and-state-legislative-updates.aspx>)
4. National Center for Policy Analysis, Reforming Net Metering (April 2014) (online at http://www.ncpa.org/sub/dpd/index.php?Article_ID=24318)
5. Pace EnergyFairness.org, Net Metering in Arizona (online at <http://energyfairness.org/wp-content/uploads/2013/08/Net-Metering-in-Arizona.pdf>)
6. National Center for Policy Analysis, Reforming Net Metering (April 2014) (online at http://www.ncpa.org/sub/dpd/index.php?Article_ID=24318)
7. Atlanta Black Star, Net Metering and Its Potential Impact on Low-Income Consumers (July 2014) (online at <http://atlantablackstar.com/2014/07/02/net-metering-and-its-potential-impact-on-low-income-consumers/>)
8. Business Day, Is Solar Power Worth It? (online at <http://www.atuff.co.nz/business/money/9755423/Is-solar-power-worth-it>)
9. Clean Technica, Solar-Power Growth 2011 (online at <http://cleantechnica.com/2011/11/10/about-solar-energy-why-solar-energy/solar-power-growth-2020/>)

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