How Solar Panel Owners are Metered and Why Net Metering is Fair

You may be hearing false statements about solar panel owners not paying their fair share. In reality solar panel owners give reliability to the grid and contribute energy to the whole system particularly in times when the grid is stressed by heavy loads during the summer. Their panels add resilience to the system. They need to be compensated fairly for the power that is sent to the grid.

**Excess energy – when solar panels generate more electricity than is being used by a homeowner or business**

When a homeowner or business installs solar panels on their homes or businesses, sometimes the solar panels generate more electricity than the homeowner or business uses. That excess energy can be sent to the grid, where the electric company can sell the energy to other customers.

**Back-up power – when a customer with solar panels needs more electricity than the solar panels are generating**

On the other hand, sometimes the homeowner or business uses more electricity than the solar panels are generating. The electric company will then supply the electricity to the customer, called back-up power.

**Metering keeps track of it all**

For those of us who do not have solar panels, our electric meter runs one-way, keeping track of the electricity we are using. The customer pays for all of the electricity that is used.

For those entities with solar panels, net metering is used. Think of it as the meter running forward and keeping track of the electricity that is being purchased from the electric company; the meter runs backwards if the entity has excess energy and is delivering it to the grid. When the customer bills are generated, the customer pays for the net amount of electricity that the electric company delivers to the home or business. If the customer uses more power than he or she generates, the customer pays for the power that the utility delivers. However, if the customer generates more power than he or she uses, then the customer is given a credit on their bill or the customer is paid for that power by the utility.
Customers and electric companies both benefit when solar energy is delivered to the grid.

Solar panels are most efficient on sunny days, during the summer. During those same hot sunny days, the demand for electricity is at its highest, as air conditioners and fans are in the greatest use. In order to keep up with the increased demand for electricity, the electric company has to run its peaking power plants, which are the most expensive to run. The electricity costs the customers the most. By supplying excess power to the grid, the owners of solar panels reduce the need for the electric company to run the peaking power plants. That saves all customers money.

Excess solar power reduces the need to build more power plants.

By reducing the peak energy that has to be created by large power plants, the need to build more power plants is reduced, expensive power plants that the customers must pay for. By avoiding the need for new power plants to be built, customer bills are lower.

Locally produced and used electricity is more efficient than electricity transmitted large distances.

As electricity travels over power lines, some of the electricity is lost - customers have to pay for the lost electricity, even if they don’t get to use it.

Solar panels do not create harmful pollution.

Further, solar panels reduce the need for fossil fuels, a benefit to folks living near the coal-fired power plants and their emissions.

Net metering benefits everyone.

There is great value for the excess energy to be delivered to the electric company. When solar panels deliver excess energy to the grid, the electric company gets to sell that power. That power has great benefit to the utility, including reduced line losses and reduced peak load. That is why the owner of the solar panels should be fairly and justly compensated for generating that power.

Why are the utility companies complaining about net metering?

Your electric company doesn’t want you to have solar panels on your rooftop. Why? It cuts into their profits. When you generate your own power, you buy less of their electricity. And, therefore, their profits are lower. And so they will try to find any way they can to stop you from having your own solar panels.

That’s where the attack on net metering comes in. Lately they have been claiming that people with solar panels don’t pay their fair share - to support the grid, to support the other functions provided by the electric company – and they falsely claim that the rest of the customers are subsidizing those with solar panels.

A study by Galen Barbose of the Lawrence Berkeley National Laboratory points out that “For the vast majority of states and utilities, the effects of distributed solar on retail electricity prices will likely remain negligible for the foreseeable future. At current penetration levels (0.4% of total U.S. retail electricity sales), distributed solar likely entails no more than a 0.03 cent/kWh long-run increase in U.S. average retail electricity prices, and far smaller than that for most utilities. Even at projected penetration levels in 2030, distributed solar would likely yield no more than roughly a 0.2 cent/kWh (in 2015 $) increase in U.S. average retail electricity prices, and less than a 0.1 cent/kWh increase in most states, where distributed solar penetration is projected to remain below 1% of electricity sales.” Further the report states, “For states or
utilities with particularly high distributed solar penetration levels, retail electricity price effects may be more significant, but depend critically on the value of solar and underlying rate structure. . . Thus, for a utility with electricity prices otherwise equal to the national average, this would equate to a ±0.5 cent/kWh effect. Under rate structures with fixed charges or demand charges – as are already common, particularly for commercial customers – this rate would be shifted downward.” The paper also points out “Natural gas prices impose substantial uncertainty on future electricity prices.” Additionally, “Future capital expenditures in the electricity industry will put upward pressure on retail electricity prices. Capital expenditures (CapEx) in the electric industry have been on the rise, increasing by roughly 6% per year in real terms (8% nominal) since 2000, despite relatively flat load growth.”

Studies of several state utility boards have conducted studies of net metering, including Vermont, Nevada, Mississippi, Minnesota, and Maine. They have determined that distributed solar and net metering do not result in cost-shifting to those without solar panels and that distributed solar contributes benefits to the grid.2

**Iowa is part of a nationally coordinated attack on solar panels and net metering**

Iowans are finding themselves in center of a nation-wide coordinated attack to prevent people from installing solar panels on their own rooftops and benefitting from selling their self-generated electricity back to the grid. This attack is led by Americans for Prosperity, the American Legislative Exchange Council (ALEC), and the Consumer Energy Alliance.3 The campaign is also assisted with the utility trade group, Edison Electric Institute.4

Early in 2019, this campaign included MidAmerican Energy who pushed a bill in the Iowa legislature that would penalize owners of solar panels with extra charges on their utility bills. The campaign included false claims that the owners of solar panels were not paying their fair share and that others were subsidizing them, in other words cost-shifting. In fact, MidAmerican, hiding behind the REAL Coalition, spent $1.25 million in a media buy on television, spent an additional $11,000 on Facebook ads, and spent money to mail a flyer, all with the purpose of misleading Iowans about solar panels and net metering.5 MidAmerican was trying to justify its actions in attempting to reduce the number of solar panels on rooftops.

**Iowa Utilities Board is proper forum for determining rates for customers owning solar panels.**

The Iowa Utilities Board (IUB) has the responsibility for approving rates for Iowa’s investor-owned utilities – MidAmerican Energy Company and Alliant Energy. Through a hearing process, the IUB ensures that the

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1 Galen Barbose, “Putting the Potential Rate Impacts of Distributed Solar into Context”, Executive Summary, Lawrence Berkeley National Laboratory, 2017
rates are fair and reasonable for all parties. Utility regulation is complex. It requires a significant review of the historical numbers and future plans.

**Policy Position**

The Iowa Chapter opposes any effort to add a surcharge to the bills of customers who own solar panels or wind turbines. Further the Chapter opposes utility companies creating tariffs (pricing tables and rate structures) that would penalize those customers for their use of their solar panels and wind turbines.

As a state, we should be encouraging the use of renewable energy such as solar panels and wind and reducing the use of fossil fuels and nuclear power.

Electric companies do not penalize a customer who initiates practices to conserve energy and who installs energy efficiency measures that reduce the amount of electricity the customer uses. These measures include purchasing a smaller and more energy efficient refrigerator, unplugging appliances when they are not in use, switching lightbulbs to LED bulbs, drying laundry on a clothesline.

Likewise, a customer who reduces energy purchases because they are generating their own electricity should not be penalized through surcharges and higher rates on the electricity that they do purchase.

Rather than a legislative mandate on how solar owners are billed for the power they use and are compensated for the excess power they generate, the IUB should be determining if the charges that are being proposed by MidAmerican in this bill are fair and reasonable.

Furthermore, the Iowa Utilities Board has a pilot project in place to review distributed generation (including solar panels on top of homes, farms, and businesses). That pilot project has not been completed. So MidAmerican and Alliant are jumping ahead of the process. Once the pilot project results are available, the IUB will be able to work with the utilities and stakeholders to set fair and reasonable rate structures.

**Ask your legislators to protect net metering**

When you pull back the curtain, the argument isn’t about shifting costs, it’s about the utility company wanting to protect their profits. That’s why you need to ask your legislators to protect net metering.