



# NET METERING: A NICE OPTION, BUT NOT WITHOUT CHALLENGES

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As more and more residential and small business customers are becoming involved in distributed generation (DG), they are able to take advantage of a concept called net metering. The most popular DG technology for residents and small businesses is rooftop solar. However, some customers have also installed energy storage devices, fuel cells, microturbines, small wind, and combined heat and power (CHP) systems.

While net metering legislation varies from state to state (and from utility to utility in states that don't have net metering legislation on the books), customers who have DG systems are usually credited at the full retail electric rate for any excess electricity that they generate and sell back to their local electric utilities.

One problem with being required to purchase the electricity back from DG customers at retail rates is that it would actually cost less for the utilities to produce that same amount of electricity themselves (if they have their own generating capacity) or to purchase the power on the wholesale market from other electricity providers.

In addition, when a utility charges customers "full retail" for electricity, the price includes not only the actual power being sold, but other fixed costs, such as infrastructure (poles, wires, meters, substations, etc.), labor costs, and other operating expenses.

For these reasons, more and more utilities are expressing concern that they are losing money by having to reimburse customers at "full retail."

First, by having to reimburse DG customers "full retail" for excess power they are selling back to the utilities, the utilities are losing money, because, again,

they could be generating their own electricity less expensively or purchasing it from other providers at wholesale costs.

Second, DG customers are not having to pay their fair share of the fixed costs that utilities are forced to incur. That is, despite the fact that DG customers may use less power than neighbors without DG technologies, DG customers still rely on the grid to receive, and sell back, power. As a result of not having to pay their fair share of these fixed costs, these costs are unfairly passed on to customers who do not have DG systems in place.

As DG and net metering have continued to grow, a number of utilities have begun to suggest that state laws be revised to provide customer equity. One solution, for example, might be that DG customers would be reimbursed at "wholesale rates" or some other agreed upon amount less than "full retail."

There are other challenges with DG and net metering programs. One relates to the increase in two-way flow. According to the Edison Electric Institute ("Straight Talk About Net Metering," September 2013): "To ensure the safe and reliable delivery of electricity, an electric company's distribution system must be able to safely manage/control the flow of two-way power. At the same time, electric companies face integration challenges associated with the variable, fluctuating levels of power created by wind and solar DG systems." As a result, electric companies must invest in their distribution systems to avoid overloading circuits, causing voltage regulation and power quality problems, and, worse, jeopardizing the safety of the public and utility employees.

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