Electric utilities in America are facing a potential crisis. Retail electricity sales have remained stagnant since 2007, despite a 4% increase in the customer base. [i] Capital investments for new distribution and transmission infrastructure have nearly doubled to 52.6 billion dollars since 2006. [ii] This is occurring because of small scale non-utility owned renewable energy emerging as a contender in the market. [iii] Utilities are hesitant to increase prices, as price increases will only strengthen the viability of the competition. [iv] With the ever increasing threat of emerging energy options preventing a steady increase in pricing, the electric utilities should be proactive in modifying their business practices and cooperating with competitors if they want to remain a viable competitor in the market in the years to come.

At the heart of this issue is the decentralization of the power grid. [v] The power grid, as it exists today, was designed with the understanding that power would be generated at a power plant and then distributed to customers through the power grid. [vi] When private individuals add their own excess power to the grid, electricity is traveling from both the power grid to the customer and from the customer to the power grid, compromising the reliability of the power grid. [vii] Currently, this is mostly due to rooftop solar panels. [viii] However, with the emergence of electric vehicles and the realization of vehicle-to-grid (V2G) transmission, the strain on the power grid will likely increase. [ix] In some instances, the increasing number of panels is having an impact on the reliability of the power grid, causing rooftop solar users to be prohibited from connecting their solar panels to the power grid. [x]
Currently, state regulations require utilities to compensate individuals for their electricity under a practice known as "net metering." Consumers are often paid a flat rate for the electricity they produce, which is generally near the utility's average rate. However, most of the electricity that is produced and sent to the grid from individual users is during midday, when electricity is at its lowest value, compared to the late-afternoon, when the value is at its highest.

Electric utilities have pushed for rate structures that are closer to wholesale electricity prices in order to compensate for decentralized customers' use of the grid. Often without success, electric utilities have pushed for rate structures that are closer to wholesale electricity prices in order to compensate for decentralized customers' use of the grid.

To effectively combat the coming issues, utilities will have to work with regulators and small-scale renewable energy providers to develop equitable solutions that incorporate all relevant interests. Some states, such as California, have already begun to develop new regulations that are starting to accomplish this. Specifically, the changes California has made include imposing small fees to connect to the power grid, requiring variable rates paid for distributing power to the grid, and increasing the amount of power an individual can connect to the grid. However, these efforts are not always successful. In 2015, the Public Utilities Commission of Nevada (PUCN) passed a measure to reduce the value net metering has to its customers. Yet, this same measure was reversed less than two years later by the state legislature. The Nevada utilities are now attempting to slowly implement changes to the net metering practice, so as to prevent future rate increases.

The problems faced by utilities cannot be fixed quickly. Electric utilities should be proactive in modifying their business practices, and cooperate with competitors to develop equitable solutions that incorporate all relevant interests. With the cooperation of utilities and their competitors, a potential crisis can be avoided.


Tags: power grid (full-blog/tag/powers-grid), electric power (full-blog/tag/electric-power), electric utilities (full-blog/tag/electric-utilities), decentralization of power (full-blog/tag/decentralization-of-power), Renewable Energy (full-blog/tag/Renewable-Energy)