POPS Is Here to Stay

Reports of Plain Old Power Service's death greatly exaggerated

By Steve Huntoon

POPS, Plain Old Power Service, is here to stay.

Forecasts of the impending death of traditional electric utility service abound. Disrupters are seen everywhere, led by home solar and home batteries, the two horsemen of the utility apocalypse.

Regulators in our two largest states, California and New York, are planning an overhaul of the industry based on these "Distributed Energy Resources." How real is the threat to POPS? Home solar, as exemplified by SolarCity, doesn't make economic sense outside of California and Hawaii with their high utility rates and the net metering that provides distribution and storage services for free. [1]

With the pushback against net metering, the phase-out of the solar investment tax credit, and low natural gas prices driving down utility rates, home solar has a bleak future. [2]

Of course solar itself has a future. But the problem for home solar is that it costs almost three times as much per kilowatt as utility-scale solar, as shown in Figure 1 from GTM Research/Solar Energy Industries Association.

When green energy supporters grasp that we could be installing almost three times as much utility-scale solar for the same dollars if we just went upscale, home solar will be so over.

As for home batteries, they have no economic value in their present vintage. Elon Musk's Powerwall makes no sense in any application, and is not green. [3]

There are some who speculate that elimination of the net metering subsidies will lead to significant defection off grid, that is, total disconnection from the grid through combined solar and battery storage systems. We now have price points for that.

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SolarCity in Hawaii will install a complete self-supply off-grid system and sell the power under a lease at $0.26 per kilowatt-hour, or sell the system itself for $4.50 per watt.

The lease price is more than twice the average residential rate in the U.S., and the system cost is $90,000 for a 20 kw system, about what a large U.S. home would need. HECO, the local Hawaii utility with very high rates, may be worried, but every other utility should buy another round at the bar.

Home solar and home batteries might be more of a threat as part of an integrated supply package. But, ironically, the two states most intent on creating a brave new world are ruling that out. California doesn't allow residential retail choice, and New York is running retail marketers out of town. [4]

Reports of POPS' death are greatly exaggerated. The electric utility industry provides a homogenous product that has more in common with the natural gas and water utility industries than with telecommunications and the internet. The vast majority of electric consumers want reliable, clean, reasonably priced electricity, and little else.

If the industry sticks to its knitting, avoiding catastrophes like the Southern California Gas storage leak, Flint's contaminated water, and the Southwest Blackout, then it will be fulfilling its public service obligation. As NARUC President Kavulla said in the *Wall Street Journal* a couple of months ago, "Utility regulation is pretty boring, and it is meant to be."

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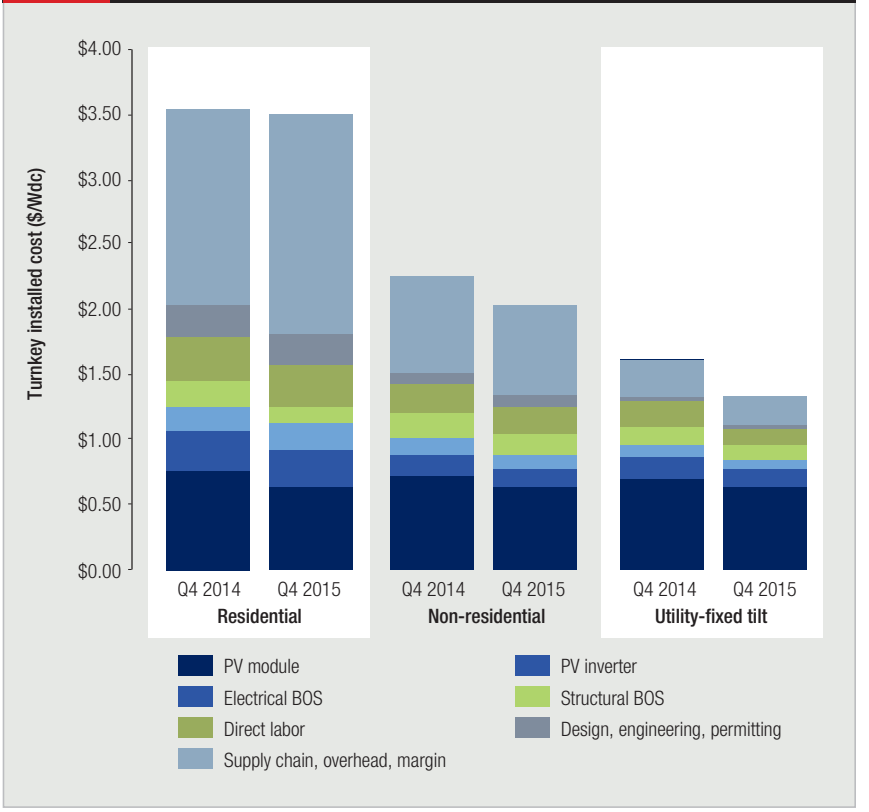
And here's one more apropos line from the *Journal,* "Investors need to remember that disruption is a lot easier to peddle than it is to actually do."

Amen to that.

Fig. 1 **Solar Costs by Sector**



Endnotes:

1. The economics of home solar were the subject of my earlier column, "Musk and Me," *Public Utilities Fortnightly*, March 2016. Although at one point the received wisdom was that home solar would reduce utility system costs, the reality emerging from California is that home solar is increasing system costs for battery storage and for distribution system expansions. See my earlier column, "Just Ducky," *Public Utilities Fortnightly*, April 2016. Isn't it ironic, as Ms. Morissette might ask?
2. Sensational reports in the trade press muddy the solar reality. For example, there are trade press reports of an ICF study projecting rooftop solar to cause a "$2 Billion Loss for Generators," including $754 million in PJM. The study doesn't seem to be available on the ICF website and I can't replicate the calculation. PJM has made a peak load forecast adjustment for rooftop solar of 839 megawatts in the year 2019. This amounts to about one large generating plant, and is rounding error relative to PJM's total peak load of 157,000 megawatts in 2019.
3. My earlier column, "The Powerwall Follies," *Public Utilities Fortnightly*, May 2016, discusses this. By the way, Elon Musk's Tesla isn't particularly green either. See "Don't be Fooled – Elon Musk's Electric Cars Aren't About to Save the Planet," Bjorn Lomberg, April 6, 2016, and "Unclean at Any Speed," Ozzie Zehner, IEEE Spectrum, June 30, 2013. And while it is true that electric cars will cause less pollution in the future as power generation becomes cleaner, the internal combustion engine also will cause less pollution in the future because of efficiency gains.
4. The New York Public Service Commission has decreed that retail marketers must anticipate in advance what utilities will charge as their default rate, and match or beat that rate in their competitive offerings. *Hasta la vista* Empire State.

Forming the backbone of a wireless communications system, Central Hudson installed two microwave dishes atop its headquarters in Poughkeepsie as part of a network strategy project. Pictured here is one of the dishes, which communicates with remote dishes that collect data from fixed utility assets.

The microwave dishes at Central Hudson's headquarters communicate with remote dishes like these, on commercial communications towers. These towers facilitate communications and relay data from Central Hudson's fixed assets.