

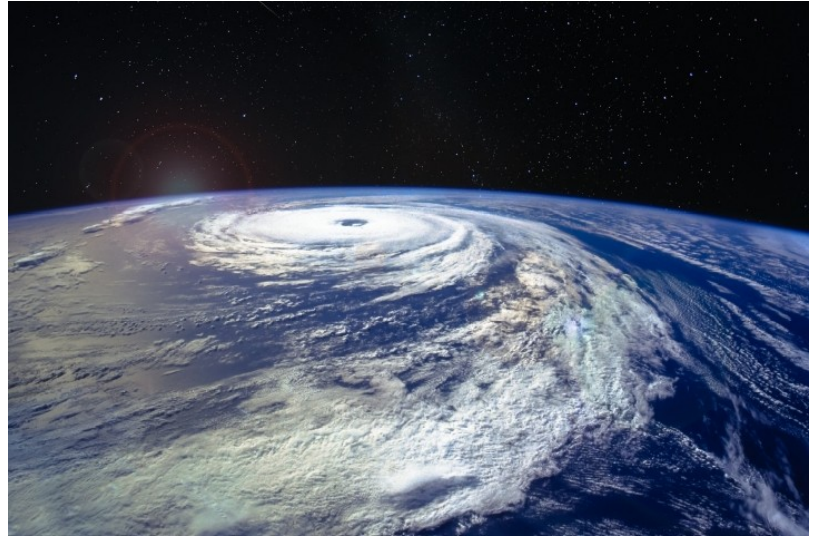


Hurricane vs. Solar — Hurricane wins

Hurricane Milton wiped out a solar array in Florida. [Drone footage](#) from Highlands County shows the damage.

One of Milton's outer bands hit the \$100 million Lake Placid solar site on October 10. The location is one of many that make up Duke Energy Florida's ([DEF](#)) multi-billion-dollar renewable-energy program.

"Hey, maybe Florida's not the best place to be spending billions on solar!" exclaims David Blackmon on his [Energy Transition Absurdities](#) substack. "The video shows what happens to a gigantic solar array when it is hit by a major hurricane."



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The 45 megawatt solar plant began operating only five years ago, in 2019. The ribbon-cutting [ceremony](#) took place the following year, when Lake Placid Mayor John Holbrook enthused over the project, though he admitted that his constituents were questioning why their electricity bills were not going down.

Higher Electric Bills

Not going down? On the contrary, they've been skyrocketing. It's an expected outcome of burdening the grid with heavily subsidized, unreliable solar. Take the example of [Florida Today](#) guest columnist Sara Ann Conkling, who wrote in 2022 that her "electric bill shot up 178% in a month" after installing solar panels on her home. Her saga with Florida Power & Light Company (FPL) would be difficult to believe in a saner world:

A couple of years ago, I put a solar system on my roof to control my electric bills, so that I could hopefully afford to age in my house. There are many months each year that I produce more electricity than I use, and a few months where I use more than I produce. I was already paying a \$10.76 fee to be connected to FPL's grid — a fee I paid whether I was a net user of their kilowatts or not.

Under FPL's new rate structure, which was approved unanimously by the Public Service Commission, I must pay for the equivalent of 239 kilowatts of electricity each month, whether I use it or not. The new rate structure is thus a disincentive to conservation. If I must pay for 239 kilowatts each month, why wouldn't I make sure I use it?

The even bigger immorality of this increase is that it is economically adverse only to people who use very little electricity. Those who use 240 kilowatts or more see no increase at all in their bills from FPL. The poor, who use very little electricity because that is what they can afford, are suffering an increase in their electric bill of up to 178%.

Last week's hurricane damage only means more costs will be passed on to the consumer. [DEF](#) claims that before Lake Placid's solar site was damaged, it could "power more than 12,000 homes at peak production." The power company failed to mention that even under ideal conditions, solar arrays do not



Written by [Rebecca Terrell](#) on October 16, 2024

ever meet their nameplate rating — also known as rated capacity.

Solar Inefficiencies

The late author and *TNA* contributor Ed Hiserodt explained this concept in his 2010 article, "[Solar Power Generation: Boon or Boondoggle?](#)"

Obviously even the hottest tropical sun won't boil water, so all solar thermal generators are based on *concentrated solar thermal* (CST) generation, which is exactly what the name implies: concentrating light to produce heat. As children, many of us were fascinated by how a magnifying glass could burn a hole in a leaf, giving us our first experience with CST. Current CST power generation operates on that same principle, although mirrors are used instead of a magnifying glass.

The most common CST method is known as a *trough*. It gets its name from the parabolic shape of the solar collector — it is a lengthy, rounded trough made of mirrors that focus the sunlight on a blackened metal tube, which is located at the focal point of the parabola, through which special oil (usually Therminol) is pumped. A heat exchanger transfers heat from the 700°F oil to water, producing steam to drive a turbine generator, just as in a fossil-fuel or nuclear plant.

Troughs are oriented north to south so that a servo can rotate them to follow the sun during the day. The efficiency of the system is the product of the optical efficiency (percent of incident sunlight captured) times the thermal efficiency (percent of solar radiation absorbed by the receiving tube), times the thermodynamic efficiency of the Rankine cycle generator. Howard Hayden in his book *The Solar Fraud* estimates these as 71 to 80 percent, 35 to 50 percent, and 35 percent respectively. Thus the efficiency of producing electricity from solar energy is approximately 10 percent.

Maybe that's why Mother Nature took out the Lake Placid solar array — its costly inefficiencies were only hurting Floridians. Too bad the folks at DEF and FPL don't realize this, too.



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