Battery trickery by U.S. utilities

By CFACT Ed | March 5th, 2019 | Energy | 9 Comments

The use of big batteries to partially offset the intermittency of

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renewables is growing rapidly. Unfortunately some utilities have adopted a deceptive practice with the public, making these battery packs seem much more important then they are. It is all part of hyping the utility's supposed greenness, which helps their stock price but not their customers.

A recent announcement by the giant Arizona Public Service is a perfect example of this deception. It is a little bit technical, so bear with me. It is all about the difference between megawatts and megawatt hours, which the public (including the average stock analyst) does not understand. APS is trading on this ignorance.

In simple terms, think of a battery as a box of electricity, or "juice." The megawatt (MW) capacity is how fast you can pour out the juice. The megawatt hour (MWh) capacity is how much juice the box can hold. Which measure is important depends on what you are doing and each has a price.

Here is their clever headline: "*APS customers get solar after sunset with major clean-energy projects.*"

They then go on to tell the wonderful story of how these big batteries will make solar powered juice available at night, for the family that longs for it (as some apparently do).

"*APS will add battery storage to its existing fleet of solar power plants, build new solar plants with storage, and use storage to deliver cleaner energy to customers at times of peak energy usage. As a result, APS customers will be able to use solar energy even after the sun goes down.* ***Family dinners, prime-time television and bedtime reading lights will all be powered by a cleaner energy mix.***"

Finally we get some actual facts: "*The initiatives announced today will add 850 megawatts of battery storage and at least 100 megawatts of new solar generation by 2025, for a total of 950 megawatts of new clean-energy technology.*"

The trick is that they never tell you how little juice these batteries actually hold, which is very little. The 850 MW is the discharge capacity of the batteries, or how fast you can pour out the juice. The MWh, which is how much juice can be stored, is never given. It is

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unlikely to be more than 850 MWh and may well be a lot less. This is just a small fraction of what APS customers use in a peak hour, so very little of the juice folks are using will be stored solar. Not even an hour's worth, much less dinner to bedtime. It might just be a few minutes worth.

They even go so far as to make the batteries look like a generator, which is truly deceptive. They add the battery MW to the solar generator MW, which gives a nonsensical result. This is pure double counting, because the juice in the battery is taken from the generator. In fact it is worse than double counting because what comes out of the battery is less than what went in. That is, using batteries to change the time the juice is used actually reduces the usable amount.

A battery is not a generator; it just stores the output from a generator. An 850 MW coal fired generator can produce that much juice, day in and day out, including nights. Wind and solar generators also produce over much of a year, as long as the wind and sun are right. But a battery just produces until it runs out, which is pretty quickly in this case.

Making a battery look like a generator is purely deceptive and that is just what APS does.

It is also noteworthy that APS never mentions what this big solar juice box is going to cost, which is a lot. According to the U.S. Energy Department, big battery systems like this average about 1.5 million dollars a megawatt. At that rate these big batteries will cost APS customers a whopping 1.3 billion dollars, just so the green among them can think they are eating dinner by solar energy at night, which they are not. Solar after sunset is not cheap, far from it. The cost of actually running all night on solar would be astronomical.

I doubt the average customer will be excited about coughing up this kind of money, just so the greens can feel good. But APS loves it because, as a regulated monopoly, the more money they spend the more guaranteed profit they make. I can see their stock price and executive salaries going up as a result.

Simply put, this is battery trickery.

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Jon Le Sage • 2 days ago

Golden Valley electric in Fairbanks Alaska has a battery backup system called Bess. It can provide 25mw of power for 15 minutes. When the power goes out at 50 below zero it's critical to keep life support systems operational until backup generators are brought on line.

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David Wojick Jon Le Sage • a day ago

Yes, rapid response backup is a good use of big batteries, while the real fossil fuel backup generators come on line.. But This does not include dinner and an evening watching TV which is what APS and other fraudsters are claiming.

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reagangs • 3 days ago

This PV generated MW usage is DC, not AC. Unless the lighting and home appliances are rated for DC, a DC-to-AC convertor will be needed. Most d-to-a convertors are not efficient. It would be prudent to store home batteries away from the building in case of fires. See where this is going ?!?! Maybe by the time the

conventional energy sources start to play out, some five/ten decades from now, we will have better new energy sources (geothermal, hydro, …). I would like to discuss geothermal wells with others as being the best most reliable, using the Earths natural heat.
If someone has a more complete explanation, please correct me.
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Brin Jenkins reagangs • 2 days ago
Spot on, and inverters are problematic in the Mwh sizes, Gwh I think probable well into the future.

The overriding problem is heat generation. Will this be another over complication attempting to recover this loss whilst avoiding melt down and fire? Develop one and if it performs well, make several prototypes to uncover the inevitable Gremlins.
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MarcusR • a day ago
David, well written article., and I agree that it is important to be transparent. But using a link to "https://burnmorecoal.com/" is perhaps not the best choice of source when it comes to solar and battery Tech. Here is the link to APS
https://www.aps.com/en/ourc...

Even though Your analogy regarding a packet of juice was fun, your conclusion "Making a battery look like a generator is purely deceptive" is somewhat misleading. I can understand your point insofar that a battery can not provide neither effect (W) nor energy (Wh) unless it is loaded. But other source of energy can't do that either unless loaded, be that with coal, NG, uranium, the sun, wind, or the potential energy of water in hydro. Different sources can play different roles in a grid, and so can a battery - there is therefore no difference per se for a battery in a grid: It can provide both effect and energy according to setup.

Now, the article from APS left out some information which I find frustrating. An article that is somewhat more complete is this case from Kauai:
https://www.greentechmedia....
That provided info om both effect and energy as well as the PPA (Power Purchase Agreement).
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David Wojick MarcusR • a day ago
Marcus, I cite BMC as my source because that is where I

got the story. As for there being no difference between a generator and a battery, I disagree strongly. In fact a battery requires a generator.

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Brin Jenkins MarcusR • a day ago

Hi Marcus, sounds like an interesting project, but still coy about Mw hrs, and costs involved. No doubt costs will probably fall as production technology improves.

Burn more coal gave the total installed battery capacity as a few seconds, by which time conventional is needed. Two rather different takes on the situation.

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Brin Jenkins • 2 days ago

The truth at last, no candy sparkle can hide what will happen when the battery dies, at point it has to be turned off before damage occurs,

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Brian James • 2 days ago

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German ZDF public television recently broadcast a report showing how electric cars are a far cry from being what they are all cracked up to be by green activists.

http://notrickszone.com/201...

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