

The True Cost of Solar: Why the “LCOE” Might Not Tell the Full Story for Rural Landowners and Farmers

With more talk than ever about solar and wind popping up in fields across the country, you’ve probably heard about the “Levelized Cost of Energy” (LCOE) — a fancy term meant to compare how affordable different energy sources are. But it turns out, this metric might not be as clear-cut as it seems, especially when applied to your solar-covered fields or wind-topped hills.

According to **Lazard’s 2024 LCOE report**, a report that is often regaled and promoted by renewable energy developers nationwide, solar energy costs have supposedly become cheaper than traditional sources like coal and natural gas. But rural property owners and farmers know better than anyone that “cheap” energy isn’t just about what you pay upfront. The reality of managing solar or wind energy on your land is a bit more complicated.



The Hidden Costs of Solar Power

Let's say you're eyeing a new solar installation on that back 40 acres. Lazard's LCOE might have you thinking this will be a simple, low-cost way to generate power. But according to JPMorgan Chase, there are a few extra wrinkles not accounted for here. For one, LCOE doesn't mention that solar panels don't always produce energy when you need it most — like on cloudy winter days. That's because it only covers the cost of generating electricity, not what it takes to keep the lights (or in this case, the barn) on when the sun isn't shining.

- **Grid Integration Costs:** To actually make use of solar power 24/7, you might need battery storage or some pricey hookups to the grid. As **Michael Cembalest** from JPMorgan puts it, “LCOE for renewables often skips the costs of backup systems and storage needed for those not-so-sunny days”.

Think of it like buying a new tractor — but it only works when the sun's out, so you still have to pay for your old one too.

You Get What You Pay For: The Reliability Problem

LCOE doesn't mention the consistency factor, either. Your fossil-fuel-powered generators might not be glamorous, but they're there for you in rain or shine. Solar and wind, though, are what energy folks call “intermittent,” meaning they only work when nature decides to cooperate. According to JPMorgan, ignoring the “dispatchability” (a fancy term for reliability) of traditional power sources doesn't make much sense.

- **Capacity Factor Misrepresentation:** Solar panels may have impressive power output on a sunny day, but their average capacity — or how much they really produce on average — is only around 20%. Imagine buying a horse that only wants to work 20% of the time. It might look great on paper, but is it really worth the price?

Other “Surprise” Costs That Didn't Make the LCOE Cut

When considering solar or wind, Lazard's LCOE isn't telling you about the long-term costs, like maintenance or disposal. Solar panels may eventually need decommissioning, and wind turbines aren't easy to take down. These factors don't show up in LCOE, even though they'll likely show up in your budget down the line.

- **Location, Location, Location:** Lazard's LCOE also doesn't account for regional differences. What works economically in sunny California might not be as practical in a cloudier Midwest town. Rural property owners can tell you

that location matters more than just a little — and energy production isn't one-size-fits-all.

Expert Opinions: Why a Holistic View is Better

Some financial heavyweights agree that LCOE alone can be a bit misleading. **Mark Lewis**, a well-known voice in climate finance, says we should look at the “system-level” cost — including storage, backup, and grid upgrades. **Vaclav Smil**, an energy expert, also points out that LCOE doesn't factor in lifecycle costs or environmental impacts like land and water use, which can be particularly important for agricultural properties.

- According to Smil, “The real costs of renewables are not just in generation but in ensuring that energy is available when needed.” Think of it as having a barn full of hay that you can only access when the sun's out — not ideal.

Wrapping it Up: What This Means for Your Land

While solar and wind can be promising energy options, rural property owners and farmers know that the “cheapest” choice isn't always the best fit. **JPMorgan** and other experts suggest taking a deeper look at the full financial picture before installing renewable systems. LCOE is just one part of the puzzle, and to get the whole story, you'll want to consider the full costs of storage, reliability, and local conditions.

So, before committing your field to a sea of solar panels, make sure to check what's behind the numbers — because, as we all know, “cheap” energy isn't always a bargain!