Green Dreams, Red Ink - How 100% Renewable Energy Will Bleed Rural Ohio Dry...

Imagine, if you will... Dave, a lifelong Ohio farmer, poured himself a cup of coffee, settled into his kitchen chair, and opened his monthly electric bill—his usual \$120 bill had somehow transformed into \$797.50. His first thought? "Either the electric company lost its mind, or my cows have secretly opened a bitcoin mining operation in the barn."

Dave wiped his glasses, re-read the numbers, and promptly spit out his coffee.



But here's the real kicker: that bill wasn't a mistake. It was a preview of what happens when Ohio jumps headfirst into the so-called "*green energy revolution*"—a future where electricity costs skyrocket from today's 13 cents per kilowatt-hour to a gut-punching 88.6 cents per kilowatt-hour.

That's a 581% increase in the cost of keeping the lights on. And for farmers like Dave, who rely on electricity to run irrigation pumps, grain dryers, and livestock operations, it's not just an inconvenience. It's an existential crisis.

Right now, Dave spends about \$1,404 a year on electricity for his home. That's manageable. But under Ohio's renewable energy dreams, that number skyrockets to a staggering \$9,568.80 per year.

That's the equivalent of:

- Buying a brand-new John Deere Gator every year.
- A whole year's worth of farm fuel for equipment.
- A down payment on a new barn.

And that's just for Dave's house. Let's talk about his farm.

Currently, Dave's 500-acre farm consumes around 100,000 kWh per year, costing him \$13,000 in electricity. Under the new pricing, that jumps to \$88,600—as if farming wasn't already expensive enough.

How This Shocks Rural Ohio

If this scenario plays out, Ohio's rural families and farmers will be left with two choices:

- 1. Keep farming and go broke paying outlandish electric bills. UNLESS you are one of the fortunate farmers who are overnight millionaires due to leasing your land to a renewable energy developer.
- 2. Sell out to corporate farming giants who can afford to absorb the insane costs (and probably turn that land into solar farms, just to rub salt in the wound).

And just for fun, let's consider what this will do to food prices. Higher farm electricity costs mean higher grocery store prices. That gallon of milk? Double the price. A loaf of bread? Welcome to \$6 toast. And let's not even talk about meat prices—because at this rate, a steak dinner might be considered a luxury only bankers can afford.

Ohio's Economy - On the Verge of a Brownout

It's not just farmers. Imagine you run a small welding shop, an auto repair business, or a manufacturing plant in rural Ohio. The machines in these places don't run on feelings and sunshine—they run on electricity.

With power costs six times higher, small-town businesses will have no choice but to:

- Raise prices (which means fewer customers).
- Lay off workers (which means fewer jobs).
- Shut down entirely (which means economic collapse).

Meanwhile, Ohio's big cities will keep humming along—because guess where all that expensive renewable energy will be prioritized? (Hint: Not rural communities.)

Why This Matters

The people pushing for massive, industrial solar and wind projects like to tell us that "this is the future." But whose future are they talking about? Because for rural Ohio, this isn't a future—it's an eviction notice.

When electricity was first introduced to American farms in the 1930s, it was a miracle—a game-changer that made life easier, work more efficient, and progress possible. Now, the same people who claim to be "saving the planet" want to turn the greatest tool for progress into a financial weapon against rural communities.

They say it's about sustainability. But what's sustainable about a system that makes it impossible for farmers to farm, businesses to thrive, and families to keep their homes

Nothing.

A Simple Truth - Real Sustainability Starts with Common Sense

Here's what real sustainability looks like:

- Affordable electricity that keeps family farms and small businesses alive.
- Policies that don't sacrifice rural livelihoods to line the pockets of energy developers and Wall Street investors.
- An energy plan that doesn't punish the people who produce America's food.

What they're selling isn't "green energy." It's just corporate greed with a solar panel slapped on top.

Rural Ohio doesn't need solar fields eating up farmland or wind turbines wrecking the skyline—we need a fair energy policy that respects rural communities, protects our way of life, and doesn't bankrupt the people who feed America.

Because at the end of the day, Ohio's farmers, welders, mechanics, and small business owners aren't just numbers on an energy developer's spreadsheet. We're the backbone of this country. And we refuse to let them pull the plug on us.

Dave shakes his head, folds his electric bill, and pours another cup of coffee. - "*Guess it's time to start saving up for candles.*"

And let's all hope and pray that Dave doesn't have a coronary after reading his electric bill—because at 88.6 cents per kilowatt-hour, the cost of running a heart monitor might send him right back into cardiac arrest.

But wait—what about the rest of Ohio? Can you imagine the chaos that will unfold when traffic signals start failing because their battery backups die? Or worse—being in the middle of open-heart surgery when the operating room's battery backup gives out?!

Because when it comes to "green energy," one thing is certain—the only thing more unreliable than the power grid will be the excuses energy developers make when the lights go out.

Now – The following is for those who believe I am gaslighting. My Homework:

Before I go much deeper, I remind you all I am NOT an expert in this subject matter. Just a guy with internet access, a pencil, piece of paper, and the desire to understand. I encourage everyone to scrub my figuring below. I'm not perfect, I make mistakes, but even if I am remotely right the following are costs WITHOUT subsidies.

The follow provides a detailed financial analysis of deploying utility-scale solar facilities and Battery Energy Storage Systems (BESS) to power the state of Ohio for a 30-year period. The assessment includes capital expenditures, operations & maintenance (O&M), land acquisition, infrastructure development, replacement costs, decommissioning expenses, enhanced reliability measures, projected owner/operator profit, and typical public utility taxes imposed on such facilities. Additionally, projections account for a 3% annual inflation rate, a 25% reserve capacity for system redundancy, and a 10% increase in O&M costs for resilience and reliability.

This analysis considers the total electricity demand of Ohio, including residential, commercial, and industrial users, ensuring a comprehensive evaluation of the impact across all consumer sectors.

Project Scope & Assumptions

Ohio's Energy Demand

- Annual Electricity Consumption: ~105,000 GWh (105,000,000 MWh) Source: U.S. Energy Information Administration (EIA), *Electric Power Monthly*, December 2022. Author: U.S. Department of Energy
- Peak Demand: ~35,000 MW Source: Public Utilities Commission of Ohio (PUCO), *State of Ohio Electricity Profile*, 2022. Author: PUCO

Determination of Number of 100MW Solar Facilities and Battery Energy Storage Systems (BESS)

- Number of 100MW Solar Facilities Required To determine the total number of 100MW solar facilities needed to meet Ohio's annual electricity demand of ~105,000 GWh (105,000,000 MWh), we must account for the actual operational efficiency of solar farms in Ohio.
- Capacity Factor Adjustment for Ohio
 The capacity factor represents the actual output of a power generation facility
 as a percentage of its maximum possible output over a specific period.
 Previously, we assumed a 20% capacity factor; however, recent data from the
 National Renewable Energy Laboratory (NREL) and the U.S. Energy
 Information Administration (EIA) indicate that solar facilities in Ohio typically
 achieve an average capacity factor closer to 18% due to regional solar
 irradiance levels. Source: National Renewable Energy Laboratory (NREL),
 2023 Annual Technology Baseline Utility-Scale PV, 2023. Author: NREL,
 U.S. Department of Energy Full & Source: U.S. Energy Information
 Administration (EIA), State Analysis Ohio, 2023. Author: EIA, U.S.
 Department of Energy
 - Using this adjusted capacity factor of 18%, the total energy output per year for one 100MW facility is calculated as: 100MW×24 hours/day×365 days/year×0.18=157,680MWh/year
 - The total number of 100MW solar facilities required to meet Ohio's demand of 105,000,000 MWh per year is:
 105,000,000MWh / 157,680MWh per facility = 666 facilities
 - Thus, Ohio would require approximately 666 utility-scale solar facilities of 100MW capacity to meet its electricity demand, assuming no supplemental generation sources.
- Number of Battery Energy Storage Systems (BESS) Required Since solar energy is intermittent, BESS is required to store excess solar energy during peak production hours and supply power when solar generation is low.

To ensure full coverage of Ohio's peak demand of ~35,000 MW, and assuming a 4-hour discharge duration per BESS system, we calculate:

- BESS capacity per unit: A single utility-scale BESS system is typically rated at 100MW/400MWh (providing power for 4 hours).
- Total storage capacity required If we assume 8 hours of storage is needed for reliability: 35,000MW×8 hours=280,000MWh
- Number of 100MW/400MWh BESS units required: 280,000MWh / 400MWh/BESS = 700 BESS units
- To account for reserve capacity and grid stability requirements, the actual total number of BESS systems required may range from 700 to 1,400 units.

Land Requirements for Solar and BESS

 Utility-Scale Solar Facilities - According to the National Renewable Energy Laboratory (NREL) and the Solar Energy Industries Association (SEIA), utility-scale solar power plants require between 5 and 7 acres per megawatt (MW) of generating capacity, depending on panel efficiency and site layout. Source: National Renewable Energy Laboratory (NREL), Land-Use Requirements for Solar Power Plants in the United States, 2013. Author: NREL, U.S. Department of Energy & Source: Solar Energy Industries Association (SEIA), Land Use for Solar Development, 2023. Author: SEIA

Using these figures, the total land required for 666 solar facilities (100MW each) at 5 to 7 acres per MW is calculated as:

- 100MW×(5–7) acres per MW×666 facilities=333,000–466,200 acres
- Thus, **333,000 to 466,200 acres of land would be required for solar power generation in Ohio**.
- Battery Energy Storage Systems (BESS) BESS requires significantly less land than solar. Estimates suggest that utility-scale lithium-ion battery storage systems require approximately 0.02 acres per megawatt-hour (MWh) of storage capacity. Source: Telkes Energy, Land Lease for Battery Storage: What Landowners Need to Know, 2023. Author: Telkes NSW Department of Climate Change, Energy, the Environment and Water

Using this figure, the total land required for 1,400 BESS units (100MW/400MWh each) is:

- 1,400 BESS units×400MWh×0.02 acres per MWh=11,200 acres
- Thus, approximately 11,200 acres would be required for battery energy storage systems in Ohio.
- Total Land Requirement for Solar & BESS: 344,200 477,400 acres

- Total Land Required for Solar: 333,000 466,200 acres
- Total Land Required for BESS: 11,200 acres
- Percentage of Ohio Farmland: Ohio has 13.96 million acres of farmland Source: United States Department of Agriculture (USDA), 2022 Census of Agriculture: Ohio Summary, 2022. Author: USDA
- The total land required for solar and BESS accounts for 2.5% to 3.4% of Ohio's total farmland. OR – An area equivalent to the entire area of Ashtabula County

Public Utility Taxes Incorporated in Analysis

To reflect a realistic financial assessment, the following public utility taxes imposed on such facilities have been incorporated:

- Commercial Activity Tax (CAT) (State Level)- Ohio levies a 0.26% tax on gross receipts exceeding \$1 million. Applied annually to energy sales revenue.
- Energy Generation Tax (Local Level) Estimated at \$9,000 per MW of installed capacity annually. Applies to both solar farms and BESS installations.

Land Lease Costs

This analysis assumes annual land leases instead of outright land purchases. Lease costs are projected to increase annually at a 3% escalation rate to account for inflation and market fluctuations.

- Land Lease Costs for Utility-Scale Solar Facility
 - Average Land Requirement per Facility: 500–1,000 acres
 - Total Land Required for 666 Solar Facilities: 333,000 666,000 acres
 - Annual Lease Cost per Acre: \$1,750 per acre per year
 - Total Initial Annual Lease Cost: \$582.75 million to \$1.165 billion
 - Total Lease Cost Over 30 Years (with 3% annual escalation): \$28.8 billion \$57.6 billion
- Land Lease Costs for Battery Energy Storage Systems (BESS)
 - Average Land Requirement per BESS Unit: 10 acres per unit.
 - Total Land Required for 1,400 BESS Units: 14,000 acres
 - Annual Lease Cost per Acre: \$1,750 per acre per year
 - Total Initial Annual Lease Cost: \$24.5 million
 - Total Lease Cost Over 30 Years (with 3% annual escalation): \$1.21 billion

Cost Breakdown Including Profit & Inflation Adjustments

- Initial CAPEX \$ 553,660,000,000.00
- Operations & Maintenance \$ 492,040,000,000.00
- Land Lease for Solar (30 Years, Escalated)
 \$ 57,600,000,000.00
- Land Lease for BESS (30 Years, Escalated) \$ 1,210,000,000.00
- Infrastructure Development\$ 45,140,000,000.00
- Public Utility Taxes (30-Year Estimate) \$ 105,600,000,000.00
- Owner Profit & Inflation Adjustments \$ 1,530,000,000,000.00
- Total Over 30 Years \$ 2,790,000,000,000.00

Cost Per kWh Over 30 Years

- Total Cost Over 30 Years: \$2,790,000,000,000.00
- Total Energy Supplied Over 30 Years: 3,150,000,000 MWh
- Levelized Cost of Electricity (LCOE): \$0.886 per kWh
- Current average electricity rate in Ohio: \$0.13 per kWh
 - Result: A 581.54% increase in energy generation alone.

The Renewable Energy Fairy Tale

The whole "future technology will save us" argument is just another fairy tale energy developers love to tell—right up there with "solar panels last forever" and "wind turbines don't hurt birds" (just don't look under one). The truth? Solar efficiency has barely budged in 20 years, wind turbines are maxed out by physics, and battery storage is still a glorified science experiment with a price tag that could bankrupt a small country. But hey, don't worry! Maybe someday, someone will invent a miracle energy solution... just not in time to save your farm from an \$88,600 electric bill.

Meanwhile, you're already paying for this green energy dream—twice. Once through taxes and subsidies, and again when your electric bill triples because some developer convinced politicians that unreliable solar and wind should replace the affordable, working grid we already had. Farmers don't plant crops based on next year's rain forecast, and Ohio shouldn't be gambling its entire power grid on pipe-dream energy projections that sound good in press releases but fall apart in reality. Because when the lights go out and the bills roll in, no amount of "future technology" is going to help. Better start stocking up on candles.