WHEN THE LIGHTS GO OUT: HOW AMERICA IS WEAKENING ITS ELECTRICAL GRID

KITE & KEY MEDIA

[SCRIPT]

"Progress."

It's a word by which America defines itself.

With every generation we expect more.

Bigger. Better. Faster. More Affordable.

And we usually get it.

Your next car might drive itself.

Your next vacation might be to space.

And your next home … may all of a sudden lose power without explanation.

Yeah, we might've screwed that one up.

[OPENING SEQUENCE]

"The world's largest machine" — that's the term that's sometimes used to describe America's electrical grid.[i]

Less than 150 years ago, the country's electricity infrastructure consisted only of Thomas Edison's Pearl Street station in Manhattan — and its 59 customers.[ii]

While we often think of electricity as an innovation of the late 19th century, when you got access to power depended a lot on where you lived. As late as 1932, only about 10% of rural America had electricity, which inspired President Franklin Roosevelt's quest for rural electrification. That work wouldn't be fully completed until the early 1970s. Even today, it's still estimated that about 60,000 Americans lack access to electricity, primarily in the Navajo Nation in the Southwest.

PRO-ELECTRICITY POSTER

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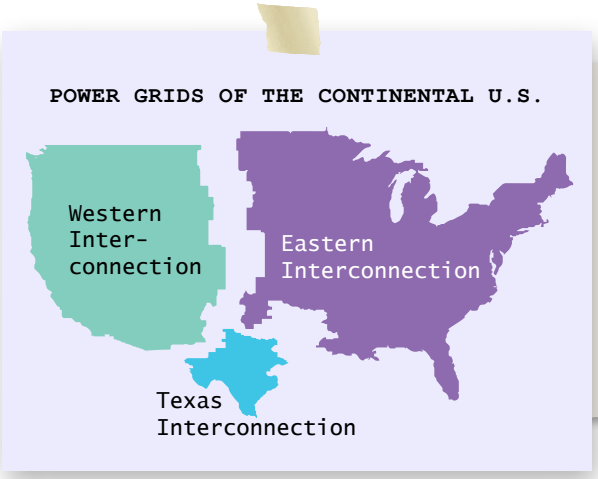
Today? The grid is made up of 3,000 utilities, 11,000 power plants, and more than 2 million miles of power lines.[iii]



Despite the common usage of the term, it's not technically accurate to refer to "the grid" as if the nation's power is all contained within a single system. In reality, there are three grids: the Eastern Interconnection, which provides power to states east of the Rocky Mountains, the Western Interconnection, which ranges between the Pacific Ocean and the Rockies, and the Texas Interconnected system, which covers most of the Lone Star State. Part of the rationale for decentralizing the system is to avoid the possibility of nationwide blackouts.

It's an incredibly intricate system bringing power to hundreds of millions of people.

One problem: it's getting *worse* at bringing power to hundreds of millions of people.

In the year 2000, there were fewer than two dozen major power disruptions in the United States. In 2020, there were 180.[iv] !

From just 2013 to 2020, the length of time that Americans had to endure power outages **more than doubled.**[v]

Over 2 million people without power during California's wildfire season in 2019.[vi] Even more in Texas during winter storms in 2021.[vii] Most of the state of Louisiana in the dark after a hurricane later that year.[viii] Rolling blackouts during a heat wave in the Pacific Northwest.[ix]

And those blackouts aren't just inconvenient; they're dangerous. As one utility consultant told the *New York Times*, "This is like brain surgery. You don't make mistakes. People die when you mess it up."[x]

No pressure, guys.

So, why can't we keep the lights on? Well, there are a number of factors at work.

For one thing, a lot of our energy infrastructure is old. Really old. As in "some of it has been around for more than 100 years" old.[xi] And over 70 percent of the lines used for power transmission and distribution are approaching the end of their lifecycles.[xii]

Another problem: more extreme weather events,[xiii] especially since much of America's electricity infrastructure is above ground and thus more vulnerable to the elements.[xiv]

But here's where it gets weird: The grid is also getting less reliable … because *we're making it less reliable*.

Here's how it works: America's electricity comes from a lot of different sources: In 2022, 40 percent of it came from natural gas, about 20 percent from coal, and a little over 18 percent from nuclear.[xv] Now, there's an obvious question here: What about renewable sources like wind and solar?

While wind and solar tend to get the most attention amongst renewable sources, that's not because they're the top two by production. In 2022, America got a little over 10% of its electricity from wind – the most from any renewable source – but solar came in third, generating only about 3.5%. Less-discussed hydropower came in second, providing 6.2%.

That question is so obvious, in fact, that a lot of politicians are asking it too, which is why more than half of the states in the country are now required *by law* to get a certain percentage of their electricity from renewables.[xvi] In 10 of them, the requirement is that they eventually get *100 percent* of their electricity from renewables.[xvii]

And … that doesn't sound bad, right? If it's all the same, why *not* use cleaner, more affordable power sources?

Well, here's the thing: *It's not all the same*. In fact, the way we're using renewables is making it more likely that we'll have more blackouts in our future.

One of the reasons that energy sources like wind and solar haven't traditionally provided much of our electricity is pretty basic: There are big stretches of time when they don't produce any energy at all.[xviii]

At night or when it's cloudy: No solar power. Not so much as a breeze outside? No wind power.

So, how do we manage this problem? So far, the answer has been to use renewable sources when they're available — and then conventional energy sources when they're not.

BATTERY FACTORY
JINCHANG, CHINA

Enthusiasts for moving America to 100% reliance on renewables often argue that the limitations of those sources can be handled by developing battery technology that will allow excess energy to be stored for periods when the sun isn't shining and the wind isn't blowing. This is far from a sure thing, however, as the batteries are wildly expensive, many of the resources necessary for them are controlled by China, and it's not clear whether there are enough natural resources to produce the batteries at the scale that would be required.

Wind stops blowing? Fire up the natural gas. Sun stops shining? Start burning some coal. Now, that means that all those renewable energy requirements aren't that realistic — but, hey, it also means your air conditioning stays on during a heat wave.

Where should you live if you want to make sure your power is reliable? According to 2019 analysis by the Citizens Utility Board, the most reliable electricity supplies in the country can be found in Nevada. Arizona came in second, followed by Nebraska at third.

LAS VEGAS, NV

But here's where things get really tricky. As there's increasing pressure to move to renewable sources, many of those conventional power sources we rely on to make sure the lights stay on are shutting down. Which means that when renewables falter — whether in extreme weather or even just a series of cloudy days … it's more likely that there won't be enough electricity to go around.[xix] And the implications are pretty sobering.

In 2022, the organization that monitors the grid's reliability warned that most of the country was going to be at an elevated risk of power outages in the next five years.[xx] The year prior, they cautioned that the risks associated with relying too heavily on renewables were "inconsistent with electric power's essentiality to the continent's economy as well as the health and safety of its population."[xxi] And the language there is modest, but that's a lawyer's way of saying "we're %@$%#$."

What does this world of shortages look like? Well, ask the people in California, who, a week after their state voted to eventually move entirely to electric cars … asked them not to charge their electric cars.[xxii] Or the people in New York, who've been told that their grid could fail if the temperature reaches 98 degrees.[xxiii] Or the owners of smart thermostats in Colorado … who were locked out of being able to turn up their air conditioning during a heat wave.[xxiv]

How did this happen? The affected customers of Xcel Energy were participating in the company's AC Rewards program, which allowed the company to control their smart thermostats in conditions when electricity supplies were under stress. The complication came from the fact that customers normally had the ability to opt out of those controls whenever they wanted, but Xcel shut off that option during the heat wave.

That's not most people's idea of progress. Whatever goals we have for the country's energy production, Americans have to have the power they need to do their jobs, cook their food, or power their medical devices.

And, of course, the power they need to watch Kite & Key videos.

I mean, it's a quality-of-life issue. Obviously.

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