

The Truth Behind "Electrify Everything"

THE GRID

America's Aging Power Grid Is Nowhere Near Ready for an "All Electric" Economy

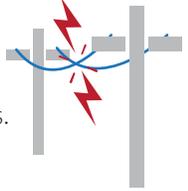


This is the grid, a patchwork of aging power plants, substations, and transmission lines running on outdated technology and borrowed time.



About 1/3 of all U.S. electricity comes from power plants built before 1980, and half of those are over 60 years old.

Approximately 5% of all U.S. electricity is lost in transmission and distribution, due primarily to power lines and transformers.

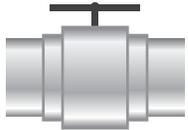


Cost estimates for upgrading the grid range from \$4.5 trillion to \$7 trillion. That's a \$30,000 to \$50,000 cost for every U.S. home.

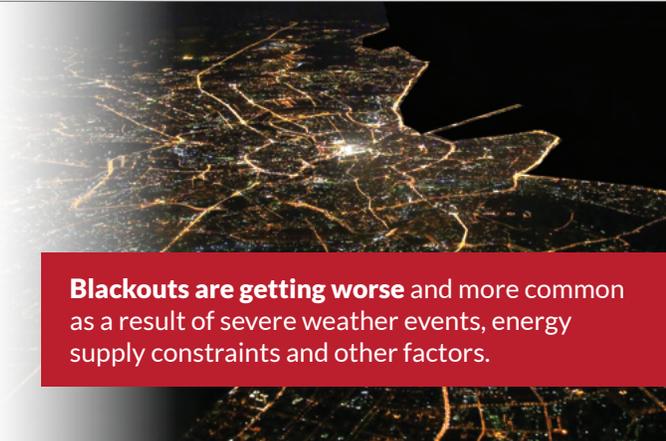


In the 2021 Texas electricity crisis, more than 4.5 million homes and businesses lost power and more than 700 people lost their lives.

In 2020, the average U.S. electricity customer experienced over 8 hours of power outages, up more than 3 hours from 2019.



In the Northeast, energy supply constraints are responsible for nearly 1/4 of all unscheduled plant outages.



Blackouts are getting worse and more common as a result of severe weather events, energy supply constraints and other factors.



Electricity isn't green. The vast majority of power generated in the U.S. comes from fossil fuels like natural gas, coal and oil. Coal produces far more electricity than all renewables combined.



About half of all Northeast electricity comes from natural gas. Methane has 96 times the global warming power of carbon dioxide.

When gas supplies are tight, the grid depends on fuel oil. In just 13 days in January 2018, New England power plants used 84 million gallons of it.



As of January 2022, only 8% of Northeast power comes from "renewables," and 1/3 of that 8% is refuse – literally burning garbage.

The Solution:



Using Bioheat® fuel supports grid reliability because it avoids the use of electric heat to warm your home *and* can be used by power plants during cold weather to help keep the lights on. It also helps reduce your carbon footprint immediately without the need for a costly electric heat pump installation or equipment conversion.

Sources: U.S. Energy Information Administration (EIA) Preliminary Monthly Electric Generator Inventory, October 2021; EIA, Electricity Data Browser; "Deep decarbonisation: the multi-trillion-dollar question," Wood Mackenzie, June 27, 2019; Hyman L., Tilles, W., "The \$7 Trillion Cost of Upgrading the U.S. Power Grid," OilPrice.com, February 25, 2021; Aldhous, P., Lee, S., Hiriji, Z., "The Graveyard Doesn't Lie: The Texas Winter Storm and Power Outages Killed Hundreds More Than The State Says," BuzzFeed News, May 26, 2021; EIA, Annual Electric Power Industry Report; Freeman, G.M., Apt, J., Blumsack, S., "Could on-site fuel storage economically reduce power plant-gas grid dependence in pipeline constrained areas like New England?" The Electricity Journal, June 2021; Alvarez, R.A., et al., "Assessment of methane emissions from the U.S. oil and gas supply chain," Science, June 21, 2018; "State of the Grid: 2018," ISO New England, February 27, 2018; Blackmon, D., "New England's 'Clean Energy Transition' Seems Heavy on Fuel Oil," Forbes, January 17, 2022.

