

272 views | Nov 4, 2019, 09:50am

California Wildfires Highlight The Importance Of A Balanced Energy Mix



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Energy



A firefighter sprays water to protect the Ronald Reagan Presidential Library during the Easy Fire in ... [+] © 2019

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The ongoing tragic outbreak of wildfires across the state of California, and the resulting planned electricity blackouts being implemented by public utilities there over the past few weeks, have renewed the ongoing debate about the best ways to meet the state's - and the nation's - power needs moving into the future.

With the prevailing general consensus that climate change is a real problem, governments like California's are going about implementing policies they believe will help to address it. In such cases, it's important for these approaches to be balanced and inclusive. The current emergency in California makes it more important than ever to talk about reliable energy options – options that not only meet the needs of Californians but also reach the goal of reduced emissions.

A pair of articles published on October 29 by the *Dallas Morning News* and the *Los Angeles Times* serve to illustrate the competing visions that exist between the nation's two most-populous states. The *Morning News* piece - written by the paper's editorial staff - is titled "California's energy nightmare shows us why Texas must trust the free market." The piece begins with the following synopsis:

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"When a bankrupt utility handles the risk of wildfire by organizing weeks of rolling blackouts, you have some fundamental problems with your electricity system. But when a major utility files for bankruptcy and no one's electricity goes out, and when an electricity market weathers major storms with only a few days of customer outages, you have a fundamentally sound system.

"Here is the difference between California and Texas: In California, even the public utility, funded by customer fees set by a government agency, can't do its job. And in Texas, our trust in a free market system has served us well. Multiple emergencies, financial and weather, bear this out."

The [LA Times article](#), meanwhile, focuses on California's ongoing efforts to transition its entire power mix to renewable energy sources, and the impacts that is likely to have on future reliability. The following two paragraphs sum up current concerns over that question:

"But the state's plans for slashing climate emissions depend on a stable electric grid delivering clean electricity to the cars, homes and businesses of the world's fifth-largest economy. The jarring new reality of preemptive blackouts could frustrate those plans by throwing the grid's reliability into doubt.

“The issue of reliability is really put front and center by the anxiety that people are starting to feel about their electrical system, even if they’re not subject to the blackouts said Michael Wara, a Stanford University professor who serves on a state [commission](#) on wildfire costs.”

California’s state government is considering proposals that would restrict energy choice for homes and businesses, leaving electricity as the only option to cook food, warm your home or take a hot shower. This would mean the elimination of natural gas and a massive and expensive overhaul of California’s electric grid. There are three main reasons natural gas cannot be ignored as part of the solution for reliable energy options: Natural gas is abundant, innovation- forward and perhaps most importantly, reliable.

The first and most obvious reason is scale: [Natural gas power plants supplied](#) 44% of California’s electricity during 2018, with nuclear energy coming in with another 9%. That means that, in order to achieve its goal of 100% renewable energy by 2045, the state must replace more than half of its current energy mix - and essentially all of its baseload power generation - with renewable sources over the next 25 years. That’s a very big lift for any state, the financial burden of which will inevitably fall on ratepayers.

Across the United States, over 2.6 million miles of natural gas pipelines today provide one-fourth of the United States’ energy needs. On average, one natural gas customer is added to the count of current users every minute nationwide. American natural gas is amazingly abundant, and it isn’t going anywhere. Based on a report by the [Potential Gas Committee](#) released in September, the future supply of natural gas has recently seen its largest increase in 54 years.

While electrification would eliminate consumer choice and, as we are seeing in real-time today, increase grid vulnerability, a diversified energy solution that includes natural gas provides a pathway that prioritizes energy affordability and reliability.

In addition to its abundance and affordability, natural gas is also an innovative solution that is becoming more efficient every day in driving down emissions. While there are more natural gas customers than ever before, U.S. CO₂ emissions have been [cut in recent years](#) to levels not seen since the early 1990s. That reduction has been achieved

mainly by substituting the use of natural gas for other energy sources over the past decade.

Forcing California or any state solely into electrification to meet their energy needs also means energy reliability will suffer, barring some quantum leap in renewable energy storage and other technologies that do not exist today. As millions of Californians are currently experiencing, electricity is prone to outages and blackouts during major natural disasters, a problem that natural gas rarely faces. The first thing many do when their power goes out is fire up natural gas backup generators so they can shower, preserve refrigerated food and maintain levels of normalcy of daily living until their utility-provided power is restored.

According to the U.S. Energy Information Administration ([EIA](#)), natural gas is the nation's number one source for electricity generation today. Natural gas provides the baseload foundation for power grids all over the country. The elimination of this key energy source threatens the reliability of current electrical systems and significantly increases costs to both consumers and the economy.

A [2018 study](#) commissioned by the California Building Industry Association found that converting homes that currently use natural gas to an all-electric power format would cost “more than \$7,200 to upgrade wiring and electrical panels and purchase new appliances. This, along with higher electricity bills, could increase energy costs up to \$877 per household each year. Across Southern California's 7 million single-family homes, the total cost increase is \$4.3 to \$6.1 billion per year.” Those costs do not include the additional billions that would need to be invested in incremental generation capacity and associated transmission system upgrades.

The *LA Times* piece quotes Maximilian Auffhammer, an environmental economist at U.C. Berkeley, as saying “Nothing's perfect. There is no perfectly safe way of delivering electricity or gas to people's homes,” and that is absolutely true.

But it is also true - and is being demonstrated in real time during this latest tragic rash of wildfires in California - that reliance on a single source of power dramatically increases grid vulnerability. No competent financial investment adviser would ever tell clients to put all of their eggs in one basket because doing so renders your portfolio

highly vulnerable. Failing to recognize that the same principle applies to powering people's homes and businesses is a very risky proposition.

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