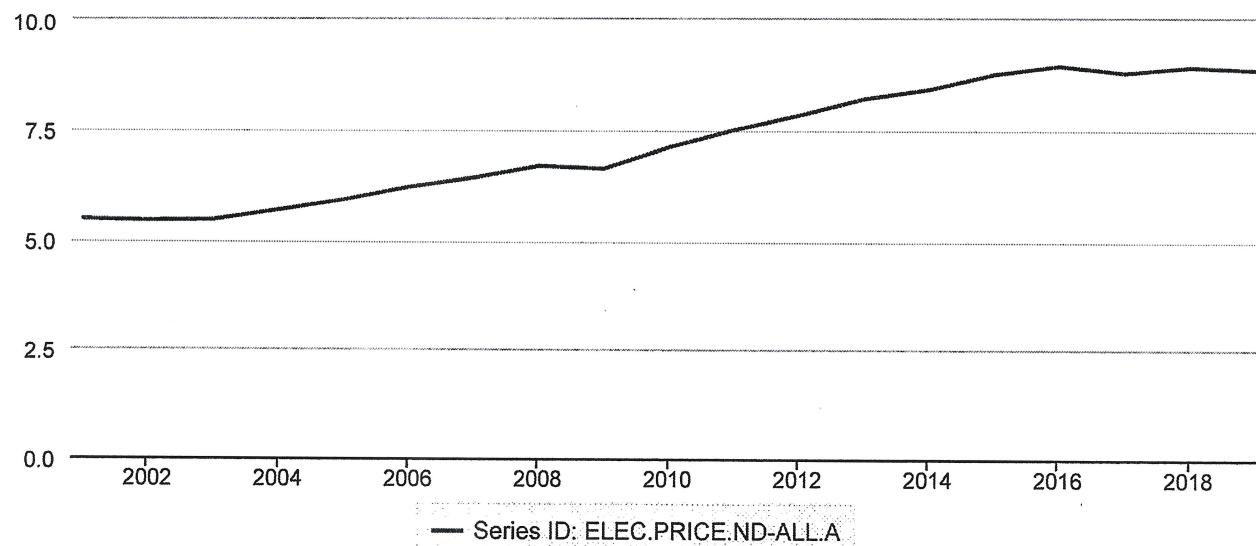


ATTACHMENT A**Average retail price of electricity : North Dakota : all sectors :
annual**

cents per kilowatthour



Source: U.S. Energy Information Administration

ATTACHMENT B



E-Paper

Trending Articles

CORONAVIRUS | Jan 29th 2021 - 6pm

South Dakota is a soft target for contagious COVID-19 variant

FIRES | Jan 29th 2021 - 10am

10-year-old girl and kitten save North I family from burning home

NEWS

North Dakota has lowest price for electricity in U.S.

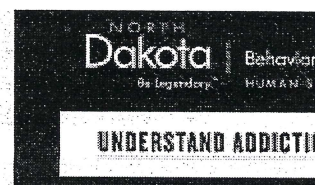
The Energy Information Administration (EIA) recently released a report that indicates that the 2009 average residential retail price of electricity in North Dakota was at 6.58 cents/kwh, the lowest in the nation.

Written By: news@prairiebizmag.com | May 4th 2010 - 9am.

The Energy Information Administration (EIA) recently released a report that indicates that the 2009 average residential retail price of electricity in North Dakota was at 6.58 cents/kwh, the lowest in the nation.

"This is very exciting news for consumers who directly benefit from low cost electricity. It also validates that North Dakotans are making solid decisions as we carefully diversify our state's energy mix. It should be noted that our energy producers are meeting all ambient air quality standards," said Commissioner Brian Kalk.

Opioids. Fill with



Oct 17, 2014, 08:12am EDT

Electricity Prices Soaring In Top Wind Power States



James Taylor Former Contributor ⓘ ⊕

Opinion

I am president of the Spark of Freedom Foundation.

ⓘ This article is more than 6 years old.

Electricity prices are soaring in states generating the most wind power, U.S. Energy Information Administration data show. Although U.S. electricity prices rose less than 3 percent from 2008-2013, the 10 states with the highest percentage of wind power generation experienced average electricity price increases of more than 20 percent.

According to the U.S. Energy Information Administration (EIA), the 10 states in which wind power accounts for the highest percentage of the state's electricity generation are:

Iowa – 27%

South Dakota – 26

Kansas – 19

Idaho – 16

Minnesota – 16

North Dakota – 16

Oklahoma – 15

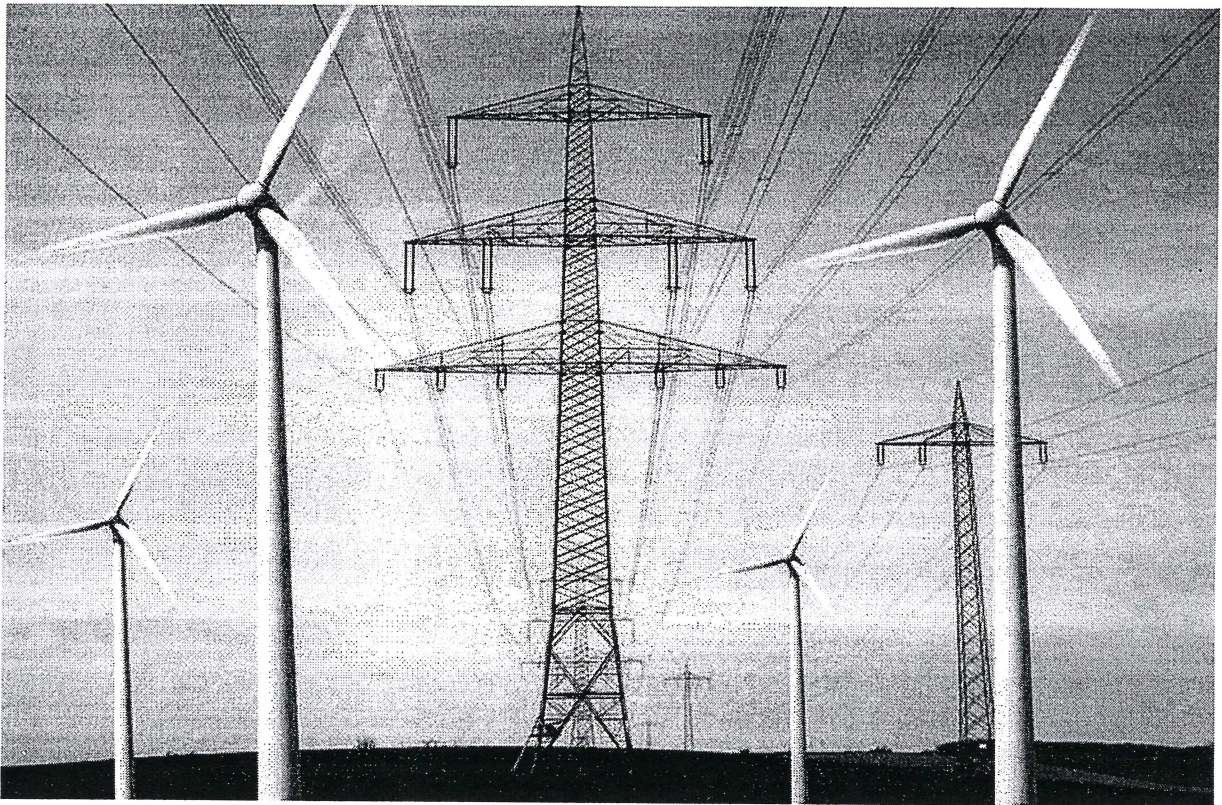
Colorado – 14

Oregon – 12

BETA

Wyoming – 8

The wind power industry claims switching from conventional power to wind power will save consumers money and spur the economy. However, data from the top 10 wind power states show just the opposite. From 2008-2013 electricity prices rose an average of 20.7 percent in the top 10 wind power states, which is seven-fold higher than the national electricity price increase of merely 2.8 percent.



The 2008-2013 price increases in the top 10 wind power states were:

Iowa – 16%

South Dakota – 25

Kansas – 26

Idaho – 34

Minnesota – 22

BETA

North Dakota – 23

Oklahoma – -2

Colorado – 14

Oregon – 16

Wyoming – 33

With the sole exception of Oklahoma, every one of the top 10 wind power states saw its electricity prices rise at least 14 percent. For each of these states, electricity prices rose at least five times faster than the national average.

The electricity price increases in states producing the most wind power don't tell the whole story. Federal and state taxpayer subsidies to wind power producers hide additional costs of wind power. The federal wind power Production Tax Credit (PTC), for example, gave wind power producers 2.3 cents for every kilowatt hour of wind power production last year. With U.S. retail electricity prices at 10.08 cents per kilowatt hour, the PTC allowed wind power producers to hide over 20 percent of wind power costs. This allowed the wind power industry to charge the American people still more money in backdoor tax bills, in addition to the higher retail electricity prices documented above.

Higher electricity prices in states producing the most wind power are taking a devastating toll on disposable incomes and the overall economy.

In Colorado, for example, electricity consumers spent \$5.3 billion on electricity in 2013. Had Colorado electricity prices risen at merely the national average from 2008-2013, however, Colorado electricity consumers

would have spent only \$4.8 billion on electricity. That's \$500 million in excess electricity costs in 2013. If we divide that up among Colorado's 2 million households, the extra electricity costs drained \$250 from the average Colorado household in 2013.

In Minnesota, electricity consumers spent \$6.4 billion on electricity in 2013. Had Minnesota electricity prices risen at merely the national average from 2008-2013, however, Minnesota electricity consumers would have spent only \$5.4 billion on electricity. That's \$1 billion in excess electricity costs in 2013. If we divide that up among Minnesota's 2.1 million households, the extra electricity costs drained \$476 from the average Minnesota household in 2013.

In Kansas, electricity consumers spent \$3.8 billion on electricity in 2013. Had Kansas electricity prices risen at merely the national average from 2008-2013, however, Kansas electricity consumers would have spent only \$3.1 billion on electricity. That's \$700 million in excess electricity costs in 2013. If we divide that up among Kansas' 1.1 million households, the extra electricity costs drained \$636 from the average Kansas household in 2013.

The wind power industry's fallback position is wind power benefits state economies, despite rapidly rising electricity costs, because the switch from conventional power to wind power generates jobs within the wind power industry. This argument, however, amounts to nothing more than a misleading head-fake. Shifting electricity production from conventional power to wind power does not create any net new jobs – it merely shifts jobs from one sector (conventional power) to another sector (wind power). Jobs created in the wind power industry come at the price of eliminating jobs in the conventional power industry.

Worse yet, the jobs shifted to the wind power industry fail to equal the number of jobs eliminated in other sectors of the economy for two important reasons.

First, wind power employs very few workers. After the tremendous start-up costs necessary to build wind turbines and place them in industrial wind farms, operational wind power facilities employ few workers. Nor does wind turbine manufacturing add many jobs in top wind power states. Of the world's top 10 wind turbine manufacturers, only one is located in the United States. Wind turbine manufacturing jobs are created in places like Germany, Denmark, and China more than in the United States.

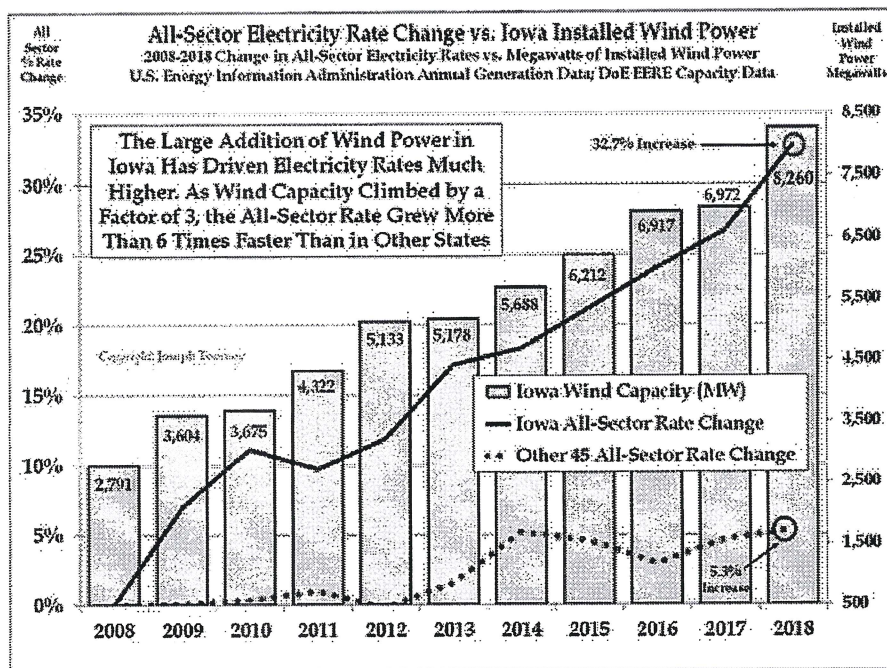
Even among the top seven manufacturers of the wind turbines that are deployed in the United States, only one is located in the United States.

By contrast, conventional power plant operation requires far more workers than wind farms. More jobs are created in the conventional power industry even while electricity production costs go down. And unlike wind power jobs, nearly all U.S. conventional power plant manufacturing and operational jobs go to American workers – and especially to workers within the resident state of the conventional power plant.

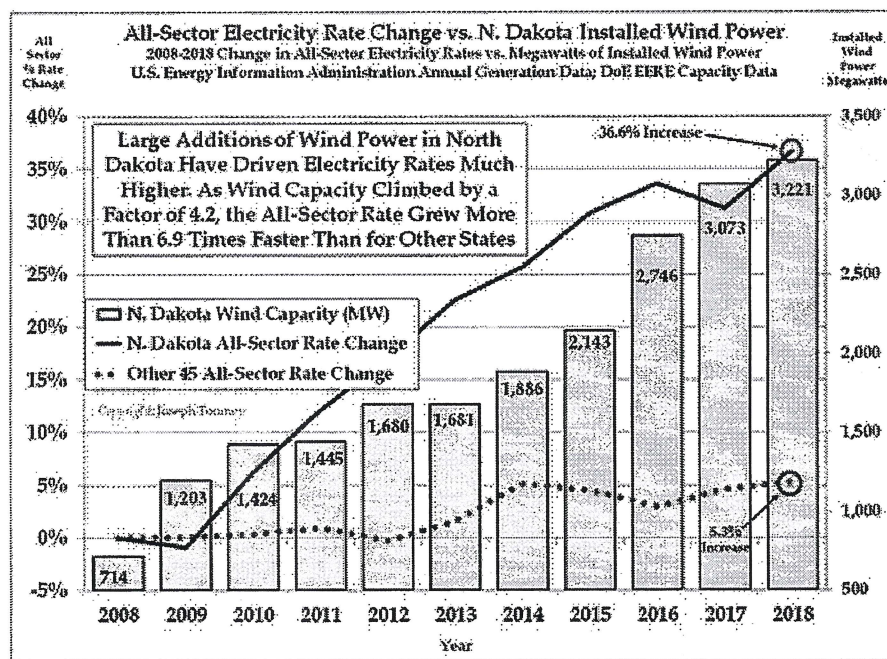
Second, higher electricity prices caused by wind power kill jobs throughout the entire state and national economy. For example, when the average household in Kansas spends an extra \$636 on electricity each year due to unnecessarily high electricity prices, that means the average Kansas household spends \$636 less on other goods and services. The aggregate effect of such reduced spending in the Kansas economy (equaling \$700 million in Kansas economy-wide reduced spending in 2013) eliminates thousands of jobs that would otherwise be created or sustained throughout all segments of the Kansas economy with higher consumer spending.

Any way you cut it, wind power is needlessly raising living costs, reducing living standards, and destroying American jobs. Fortunately, states can easily rectify the problem by repealing renewable power mandates and taxpayer subsidies that perpetuate higher electricity costs and widespread job destruction.

APPENDIX
D

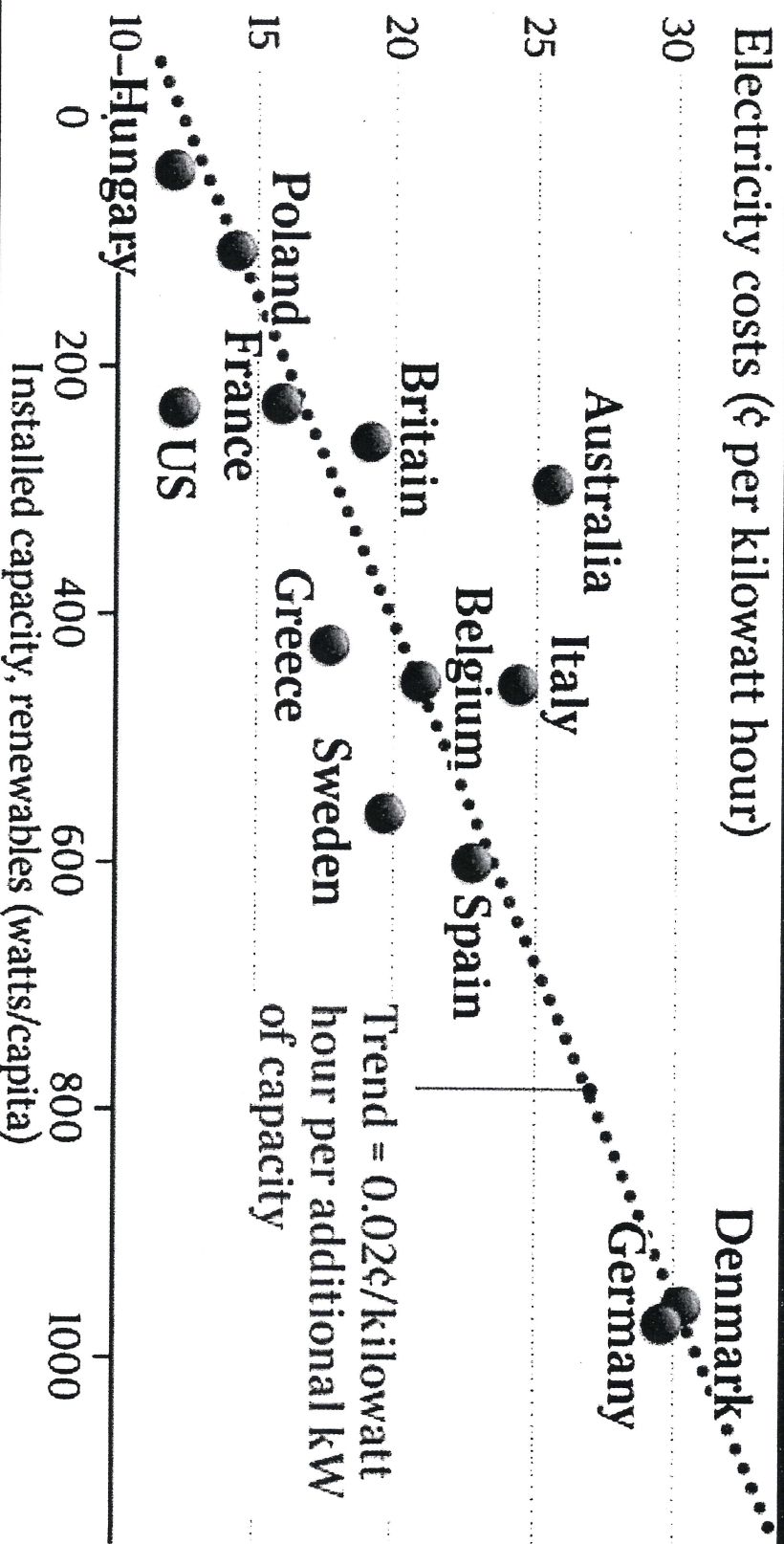


Another state figuring on the list of the top five renewable energy penetration percentages is North Dakota. Now the country's second largest oil producer, North Dakota has nevertheless been deploying wind energy in almost identical fashion as Kansas and Iowa. Like with Iowa, North Dakota began deploying token amounts of wind power in the early years of the century. And exactly like Iowa, the state doubled in-state wind power capacity during 2008. Since then, wind capacity more than quadrupled. Since 2008, all-sector electricity rates soared 6.9 times faster than the composite of the 45 low-penetration states.



Another top-ten renewable energy high-penetration state is Minnesota. Like most U.S. states, Minnesota enacted a Renewable Portfolio Standard in 2007 that was initially set at 25% by 2025 (i.e., one fourth of power output must be derived from renewable sources). Even before the signing of the RPS measure, the state had deployed more than one thousand megawatts of wind power capacity. Over the next eleven years, wind capacity deployments would more than triple. As with other high-penetration states, Minnesota saw its all-sector rates, which in early 2008 were 17% below the national average, surpass that national rate benchmark by the end of 2018. During those years, Minnesota's all-sector rates would climb 6.7 times faster than the 45 low-penetration states. Interestingly, despite imposing billions in costs on the state's ratepayers and taxpayers, these deployments have had only token impact in reducing greenhouse gas emissions. And now some utilities in the state are pledging to achieve the 100% renewable output threshold.

Globally, More Renewable Energy Means More Expensive Power



ATTACHMENT

FE

Attachment F

Economic contribution comparison Lignite/wind

	Lignite	Wind	Lignite/1000MW	Wind/1000MW	Factor
Direct Jobs	3900	136	975	45.3	21.5
Indirect Jobs	10100	364	2525	121.3	20.8
Total Jobs	14000	500	3500	166.6	21
Labor Income	\$1.022B	\$42.0M	\$255.5M	\$14M	18.25
State/Local Revenues	\$130M	\$7.7M	\$32.5M	\$2.56M	12.7
Gross Business Volume	\$5.7B	\$174.8M	\$1.425B	\$58.25M	24.36

Comparing the ROI of Federal Energy “Subsidies”

Many claim that all forms of energy receive “subsidies,” but wind & solar deliver far less return on investment (ROI).

Production tax credit subsidies for existing renewable energy technologies do not promote innovation.

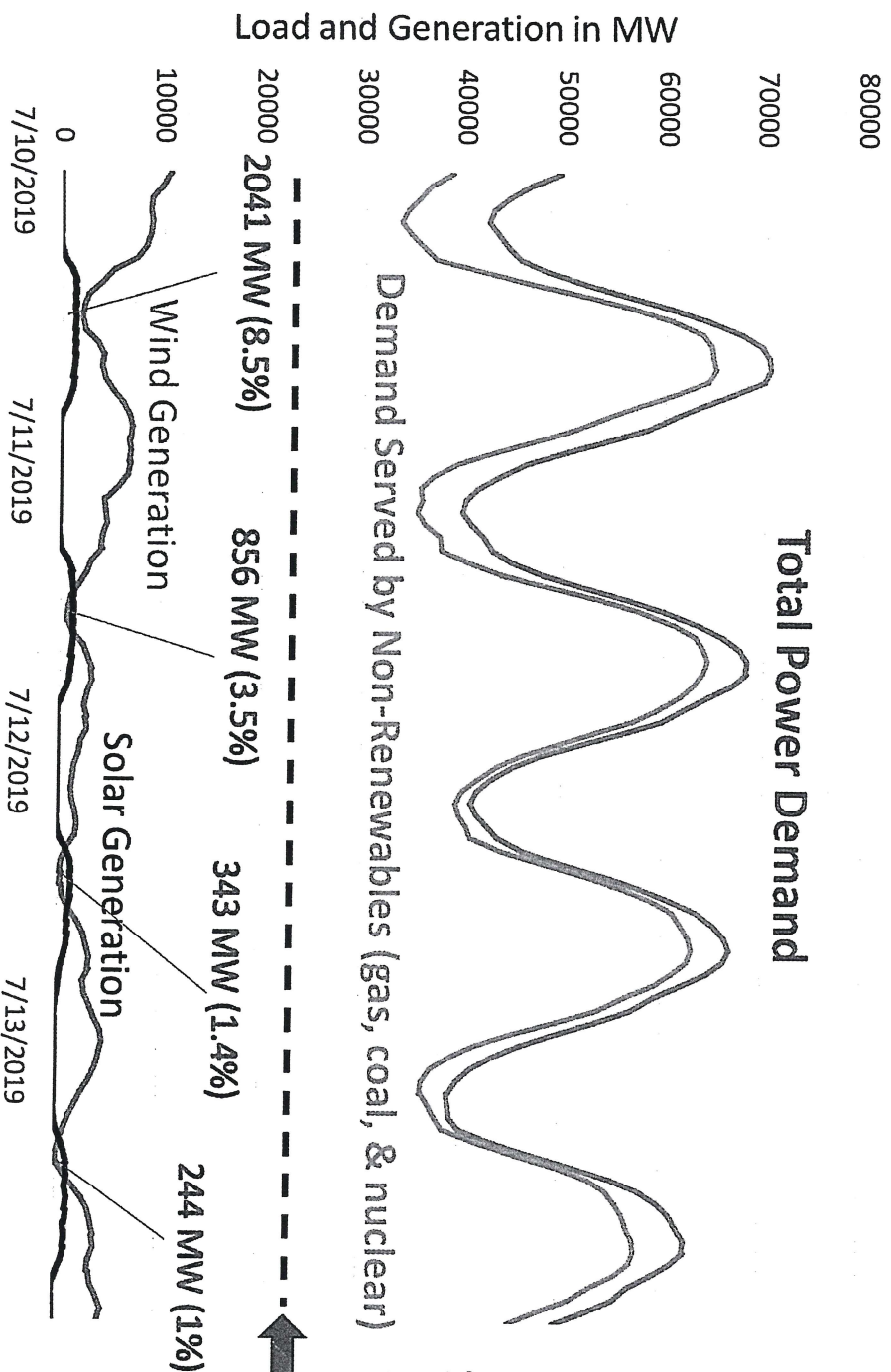
Subsidies per Unit of Electricity Generated
(2017 USD/MWh, 2003 - 2017 Average)



Sources: Office of Management and Budget, Analytical Perspectives; Joint Committee on Taxation, Estimates of Federal Tax Expenditures; Department of Energy, Statistical Tables by Appropriation; Census Bureau, Consolidated Federal Funds Report; Department of the Treasury, Section 1603 List of Awards; Energy Information Administration, Electricity Data Browser

ATTACHMENT
①

2019 – Off-Peak Exuberance vs. Peak Reality



OFF-PEAK EXUBERANCE:

Houston Chronicle headline,
"Texas wind generation breaks record, ERCOT reports"
(19,168 MW Wind on 12/14/18 when entire grid needed only 36,760)

ON-PEAK REALITY:

Wind underperformance from 7/10-7/13/19 on & off peak.

Installed Wind:

~24,000 MW

Average from 12 to 6 PM:

2,704 MW (11% capacity factor)

ATTACHMENT

Attachment I

Resiliency Bonus Economics Per 100 MW of PTC's

Megawatts	100
Kilowatts	100000
Capacity Factor %	40
Days	365
Hours	24
Total Kw/Hrs	350400000
PTC rate - cents	1.8
PTC \$	\$6,307,200.00
50% of PTC \$	\$3,153,600.00

Biography

Alex Epstein is a philosopher and energy expert who argues that “human flourishing” should be the guiding principle of industrial and environmental progress. He is the author of the New York Times bestseller “The Moral Case for Fossil Fuels”.

Alex has made his moral case for fossil fuels at dozens of campuses, including Harvard, Yale, Stanford and Duke (his alma mater). He has also spoken to employees and leaders at dozens of Fortune 500 energy companies, including ExxonMobil, Chevron, Phillips 66, Valero, Enbridge, and TransCanada.

Alex, known for his willingness to debate anyone, anytime, has publicly debated leading environmentalist organizations such as Greenpeace, the Sierra Club, and 350.org over the morality of fossil fuel use.

In his speeches and consulting work he helps companies take his pro-human messaging and use it to neutralize attackers, turn no-supporters into supporters, and turn supporters into champions. One of his major goals is to teach millions of employees in the fossil fuel industry to understand the value of what they do and how to communicate it.

Biography

Mark P. Mills is a senior fellow at the Manhattan Institute and a faculty fellow at Northwestern University's McCormick School of Engineering and Applied Science, where he co-directs an Institute on Manufacturing Science and Innovation. He is also a strategic partner with Cottonwood Venture Partners (an energy-tech venture fund).

Previously, Mills cofounded Digital Power Capital, a boutique venture fund, and was chairman and CTO of ICx Technologies, helping take it public in 2007. Mills is a regular contributor to Forbes.com and is author of *Digital Cathedrals* (2020) and *Work in the Age of Robots* (2018). He is also coauthor of *The Bottomless Well: The Twilight of Fuel, the Virtue of Waste, and Why We Will Never Run Out of Energy* (2005).

His articles have been published in the *Wall Street Journal*, *USA Today*, and Real Clear. Mills has appeared as a guest on CNN, Fox, NBC, PBS, and The Daily Show with Jon Stewart. In 2016, Mills was named "Energy Writer of the Year" by the American Energy Society. Earlier, Mills was a technology advisor for Bank of America Securities and coauthor of the *Huber-Mills Digital Power Report*, a tech investment newsletter.

He has testified before Congress and briefed numerous state public-service commissions and legislators.

Mills served in the White House Science Office under President Reagan and subsequently provided science and technology policy counsel to numerous private-sector firms, the Department of Energy, and U.S. research laboratories.

Early in his career, Mills was an experimental physicist and development engineer at Bell Northern Research (Canada's Bell Labs) and at the RCA David Sarnoff Research Center on microprocessors, fiber optics, missile guidance, earning several patents for his work. He holds a degree in physics from Queen's University in Ontario, Canada.