

VOL. 3 - 2023

ENERGY AFFORDABILITY REPORT

A Snapshot of Electricity Prices
and Energy Policies by State



ABOUT THE AMERICAN LEGISLATIVE EXCHANGE COUNCIL

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CHAPTER 1:

A Snapshot of Electricity Prices



2023 | THE ALEC ENERGY AFFORDABILITY REPORT

INTRODUCTION

There is very little more important to modern society than energy and electricity. It is an essential aspect of virtually every part of our daily lives. However, throughout the United States, electricity prices vary greatly, depending to the way it is generated, delivered to consumers, and regulated. by demand sector and generation source across all 50 states. The policies that result in regulation vary widely, balancing the needs of consumers with the push to tackle the environmental challenges of today.

While some states rely on free market principles and innovation to limit manmade emissions into the atmosphere, others use a more heavy-handed approach by implementing of standards, enacting mandates and pricing schemes that benefit specific types of technologies. Whether it is mandates, subsidies, or some combination of both, when the government inserts itself into the energy markets, taxpayers wind up footing the bill.

While these policies directly impact the supply, an emerging factor in the price of electricity is the increased demand due to government-backed policies pushing for electrification. Governments in many states are showing an increased hostility to gas-powered stoves, water heaters, and heat, as well as traditional combustion-powered vehicles. As a result, demand for electricity has skyrocketed and will continue to increase.

Inefficient government mandates driven by political interests often pick winners and losers in individual energy markets. At best, this causes poor investment decisions that waste money, but in some extreme cases, this can prove deadly.

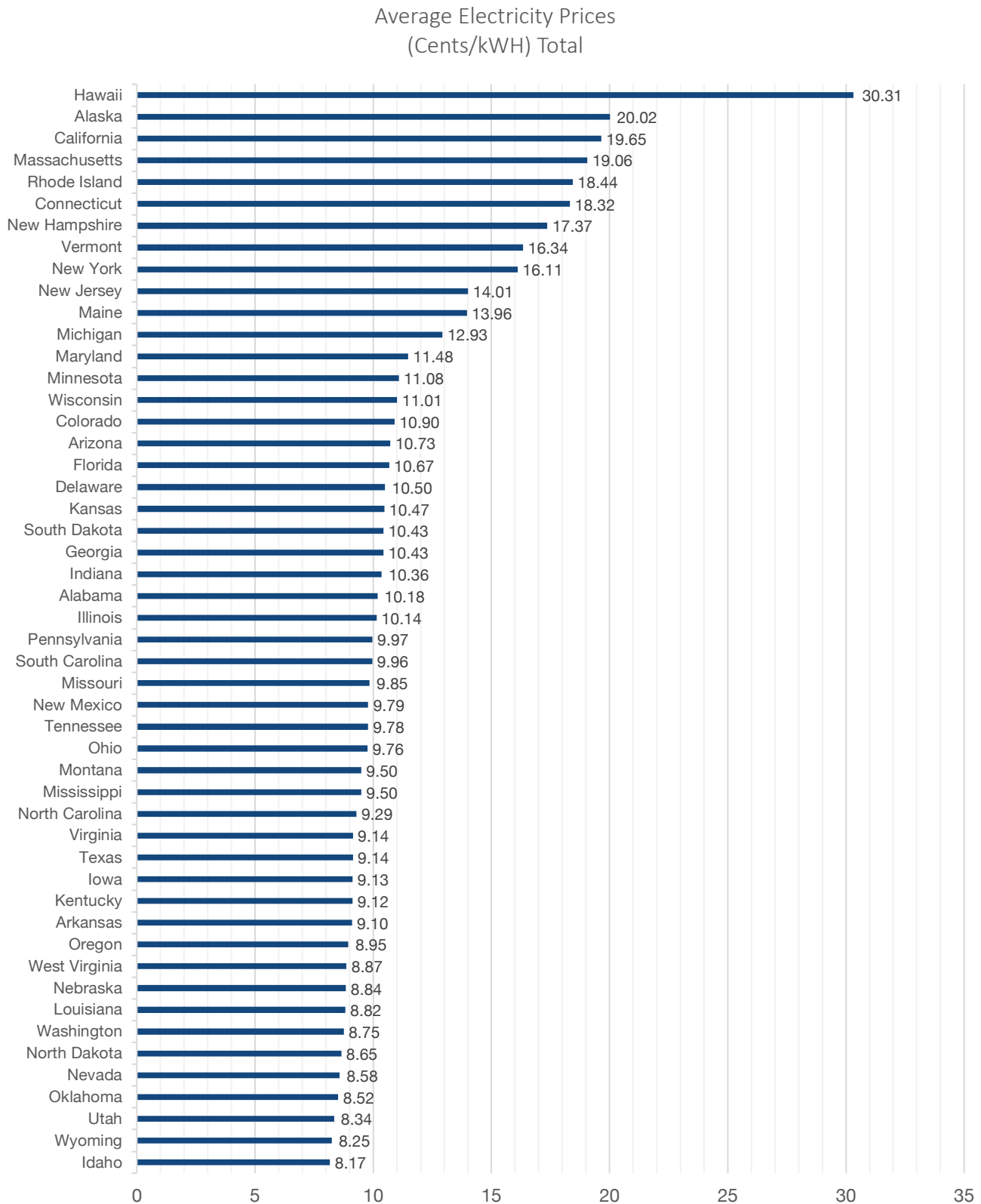
METHODOLOGY

For the purposes of this report, electricity prices and energy policies in the states were evaluated. First, pricing for each state was evaluated in cents per kilowatt-hour (kWh) for the year 2022 with [data from the U.S. Energy Information Administration \(EIA\)](#).¹ This included residential, commercial, industrial and transportation sectors. The weighted average price of electricity across all sectors was calculated, and then the states were ranked from lowest to highest average electricity price. This data can be seen in Table 1 in the Appendix. Although the “total” price of electricity is the primary focus of this report, sector-specific prices are important because they are a factor directly impact a state’s economic competitiveness. Electricity prices in these sectors serve as important business inputs, helping to determine how many and which types of businesses choose to operate in that state, particularly in high-tech industries.

After looking at the price, three primary energy policies were analyzed that have become common throughout the states. We examined the presence or absence of a Renewable Portfolio Standard (RPS), which dictates that a certain amount of a state’s electricity generation comes from renewable sources, as well as whether the state is a part of the Regional Greenhouse Gas Initiative (RGGI), which is a CO2 cap-and-trade program amongst 10 states in the mid-Atlantic and Northeast regions of the U.S. (or if they are a part of another cap-and-trade program, e.g., California). Finally, we examined whether a state has statutorily-mandated rules for utilities regarding net metering, which is a process in which utility companies pay consumers who own rooftop solar panels for any excess electricity generation that these panels push back onto the electric grid. While there are [many factors](#) that can and do impact electricity prices, state legislatures have a direct influence on these three policies.²

In last year’s edition, we began examining another vitally important element of energy affordability – fuel prices. We have expanded the report this year to not only look at gasoline prices, but also the cost of diesel. Diesel is a vital fuel in agriculture and shipping, which ultimately impacts the price of food and consumer goods. To do this, we used a combination of AAA-reported prices and Federal Highway Administration data.

CHART 1 | AVERAGE ELECTRICITY RETAIL PRICE – CENTS PER KILOWATT HOUR



Source: [U.S. Energy Information Administration](https://www.eia.gov), 2021



Given their isolated geographic locations, it is unsurprising that Alaska and Hawaii have the highest electricity prices. Contiguous states have the advantage of being better able to share infrastructure, such as transmission lines, and have the capability to import or export electricity across state lines.

In contrast, the three states with the lowest electricity prices – Idaho, Wyoming, and Utah – avoid RPS mandates and cap-and-trade programs. Utah has a voluntary renewable goal of 20% by 2025, but it is not a mandate. Idaho does not have state-mandated net metering at all, while Utah does have a compensation program that is capped. Wyoming does have net metering.

ALEC | 7

STATES RANKED BY ELECTRICITY PRICES (HIGHEST- AND LOWEST-PRICED)

HIGHEST ELECTRICITY PRICES	HIGH ELECTRICITY PRICES	LOWEST ELECTRICITY PRICES
Hawaii	Connecticut	Idaho
Alaska	New Hampshire	Wyoming
California	Vermont	Utah
Massachusetts	New York	Oklahoma
Rhode Island	New Jersey	Nevada

Source: [U.S. Energy Information Administration](#)

FINDINGS

Like last year, this year’s data shows that the states with government-mandated RPS or cap-and-trade programs have higher electricity prices than those that do not. The overall data shows that states that have implemented an RPS or carbon tax can also be causal in leading to higher prices over time. Previous data showed that states could have [up to an 11% increase](#) in electricity costs due to the implementation of an RPS alone. This study’s data supports this assertion from a simple correlation standpoint.³

In the 48 contiguous states, the 16 with the highest electricity prices all have an RPS in place, as do 18 of the highest-priced 20 states. Similarly, with the exception of Virginia, each of the states in the RGGI or another cap-and-trade program is within the 15 states with the highest prices of electricity.

Meanwhile, the impact of state-mandated net metering data is still not clear cut. As depicted in Appendix Table 2, state net metering policies are now relatively common, as rooftop solar technology has continued to rise in popularity. Only five states do not have a net metering mandate in place or some form of compensation for other types of Distributed Energy Resources (DERs). This could be due to the fact that DERs are a fairly new technology and are still relatively rare among the states in terms of implementation. As more rooftop solar and other DERs emerge in homes across the U.S., the effect on market prices might become more relevant, and states might begin to opt out of these mandates over time.



CASE STUDY:

Vermont

Vermont is a signatory to the Regional Greenhouse Gas Initiative and has one of the highest government-mandated Renewable Portfolio Standard targets in the nation, mandating that 90% of all electricity generated must come from renewable sources by 2050. In fact, the state has already succeeded in that goal, [with almost 100% of the electricity produced in the state generated from renewable energy sources](#). Nearly 50% of the state's utility-scale electricity generation comes from hydroelectric power and nearly 14% provided by five utility-scale wind farms.

However, all of these targets came at a cost. After shutting down their nuclear reactor, which used to supply about 50% of the state's electricity, in 2014, the Green Mountain State began having to import the vast majority of its power. Today, about 75% of Vermont's power [is generated out of state](#), while the vast majority of the state's households either use petroleum products or wood to heat their homes, and about one-third of all the state's children attend school at facilities heated primarily by wood products.

Also unaccounted for in terms of emissions is the supposedly "clean" practice of burning biomass, which accounts [for 23% of the state's renewable energy portfolio](#).⁴ Biomass, in plain English, is carbon from things that were recently alive, and in Vermont, this generally means trees, although in many cases it also includes municipal solid waste, a more elegant way of saying that they burn trash for electricity.

Since some biomass is renewable in the sense that it is possible to re-grow trees, it is considered a clean source of energy. In practice, however, [biomass releases almost 50%](#) more carbon dioxide into the atmosphere than coal and over 300% more than natural gas.⁵ It is worth noting that RGGI does not tax the carbon dioxide released from biomass, further incentivizing signatory states to turn to this source of electricity over sources such as natural gas.

Meanwhile, proponents of electrification are making a concerted effort to remove Vermont residents' ability to heat their homes with anything except electricity. This would negatively impact nearly 60% of homes in the Green Mountain State that rely on fuels to heat their homes.

By artificially increasing demand in a state consistently in the top ten highest electricity costs – Vermont ranks 8th worst in terms of least affordable electricity costs in the nation for the second year in a row – and state residents are going to face even higher energy bills in the future.

CONCLUSION

There is a strong correlation between big government policies and higher electricity costs. When crafting energy and environmental policies, lawmakers should avoid imposing more government control and instead allow markets adapt, innovate, and improve. This is the more efficient, effective, and cost-saving solution to the environmental challenges we face today.

Increased costs rarely lead to better results for consumers, especially low-income individuals and families. Market competition with reasonable regulatory environments focusing on protecting residents and empowering industries to make conscientious environmental decisions allow this vital sector of the economy to flourish.

As policymakers look to the future, it is important to keep in mind that humanity stands on the cusp of a new energy revolution. Much in the same way oil wells used to burn off natural gas in the early oil boom years because it was considered an incidental byproduct, advancements in power plant reclamation technology stand to turn what was once considered polluting waste products into commercially useful materials. From [catalyst that has the potential](#) to recycle carbon dioxide into synthetic, sustainable fuels on a commercial scale to small modular nuclear reactor technology under development by national laboratories, there is significant potential for new technologies to mature in ways beneficial to humanity and our planet.⁶

Market innovation and technological advancement is essential to keeping costs low to consumers and our environment healthy. Focusing on facilitating a flexible and innovation-friendly regulatory environment will pay enormous dividends to the states that choose that path.

APPENDIX

TABLE 1 | AVERAGE PRICE RANKING

CENTS PER KILOWATT HOUR					
STATE	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	TRANSPORTATION	TOTAL
Idaho	10.16	7.89	6.39	.	8.17
Wyoming	11.17	9.68	6.83	.	8.25
Utah	10.43	8.13	6.19	11.21	8.34
Oklahoma	11	8.7	5.5	.	8.52
Nevada	11.49	7.77	6.02	7.72	8.58
North Dakota	10.85	9.17	7.37	.	8.65
Washington	10.11	9.14	5.81	9.89	8.75
Louisiana	11.02	10.23	6.21	10.77	8.82
Nebraska	10.75	8.81	7.26	.	8.84
West Virginia	12.15	9.5	6.07	.	8.87
Oregon	11.37	9.1	5.97	9.71	8.95
Arkansas	11.27	9.56	6.57	13.56	9.1
Kentucky	11.5	10.75	5.95	.	9.12
Iowa	12.73	10.17	6.63	.	9.13
Virginia	11.96	7.79	6.49	8.49	9.14
Texas	12.11	8.72	6.12	6.59	9.14

CENTS PER KILOWATT HOUR					
STATE	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	TRANSPORTATION	TOTAL
North Carolina	11.32	8.5	6.14	7.85	9.29
Mississippi	11.56	10.81	5.95	.	9.5
Montana	11.22	10.54	6.24	.	9.5
Ohio	12.77	9.75	6.55	7.41	9.76
Tennessee	11.07	10.87	5.51	.	9.78
New Mexico	13.52	10.8	6.16	.	9.79
Missouri	11.41	9.17	7.11	8.23	9.85
South Carolina	12.86	10.67	6.07	.	9.96
Pennsylvania	13.76	8.91	6.54	6.84	9.97
South Atlantic	12.1	9.41	6.51	8.19	10.12
Illinois	13.18	9.65	7.3	6.42	10.14
Alabama	12.96	11.84	6.33	.	10.18
Indiana	13.37	11.58	7.39	10.05	10.36
South Dakota	12.22	10.15	8.02	.	10.43
Georgia	12.51	10.61	6.49	6.61	10.43
Kansas	12.98	10.52	7.38	.	10.47
Delaware	12.52	9.48	7.6	.	10.5
Florida	11.9	9.51	7.65	8.31	10.67
Arizona	12.54	10.33	6.79	9.33	10.73
Colorado	13.07	10.84	8.01	9.44	10.9
Wisconsin	14.52	10.95	7.63	15.12	11.01
Minnesota	13.5	11.22	8.29	10.38	11.08
Maryland	13.12	10.26	8.46	7.58	11.48
Michigan	17.54	12.31	7.69	12.3	12.93
Maine	17.02	12.9	9.55	.	13.96
New Jersey	16.35	12.69	10.7	9.24	14.01
New York	19.48	16.07	6.34	12.67	16.11
Vermont	19.26	16.59	11.38	.	16.34
New Hampshire	19.85	16.13	13.81	.	17.37
Connecticut	21.91	16.46	9.63	12.5	18.32
Rhode Island	22.3	15.51	16.06	19.75	18.44
Massachusetts	22.89	16.99	15.18	6.51	19.06
California	22.82	19.18	14.82	11.79	19.65
Alaska	22.55	19.61	16.85	.	20.02
Hawaii	33.49	30.88	27.12	.	30.31

Source: [U.S. Energy Information Administration](#)

TABLE 2 | AVERAGE PRICE RANKING AND POLICIES BY STATE

AVERAGE PRICE RANKING AND POLICIES BY STATE				
STATE	TOTAL (CENTS/KWH)	RENEWABLE PORTFOLIO STANDARD (RPS)	REGIONAL GREENHOUSE GAS INITIATIVE (RGGI)/CAP- AND-TRADE	STATE-MANDATED NET METERING
Idaho	8.17	No	None	No state-wide rules, but some utilities do offer net metering
Wyoming	8.25	No	None	State-mandated rules for certain utilities
Utah	8.34	No	None	State-mandated compensation other than net metering
Oklahoma	8.52	No	None	State-mandated rules for certain utilities
Nevada	8.58	Yes	None	State-mandated rules for certain utilities
North Dakota	8.65	No	None	State-mandated rules for certain utilities
Washington	8.75	Yes	None	State-mandated rules for certain utilities
Louisiana	8.82	No	None	State-mandated rules for certain utilities
Nebraska	8.84	No	None	State-mandated rules for certain utilities
West Virginia	8.87	No	None	State-mandated rules for certain utilities
Oregon	8.95	Yes	None	State-mandated rules for certain utilities
Arkansas	9.1	No	None	State-mandated rules for certain utilities
Kentucky	9.12	No	None	State-mandated rules for certain utilities
Indiana	9.13	No	None	State-mandated rules for certain utilities
Texas	9.14	Yes	None	No state-wide rules, but some utilities do offer net metering
Virginia	9.14	Yes	RGGI in 2021	State-mandated rules for certain utilities
North Carolina	9.29	Yes	None	State-mandated rules for certain utilities
Mississippi	9.5	No	None	State-mandated compensation other than net metering
Montana	9.5	Yes	None	State-mandated rules for certain utilities
Ohio	9.76	Yes	None	State-mandated rules for certain utilities
Tennessee	9.78	No	None	None
New Mexico	9.79	Yes	None	State-mandated rules for certain utilities
Missouri	9.85	Yes	None	State-mandated rules for certain utilities
South Carolina	9.96	No	None	State-mandated rules for certain utilities
Pennsylvania	9.97	Yes	RGGI in 2022	State-mandated rules for certain utilities
Illinois	10.14	Yes	None	State-mandated rules for certain utilities
Alabama	10.18	No	None	None
Indiana	10.36	Yes	None	State-mandated rules for certain utilities
Georgia	10.43	No	None	State-mandated rules for certain utilities

AVERAGE PRICE RANKING AND POLICIES BY STATE

STATE	TOTAL (CENTS/KWH)	RENEWABLE PORTFOLIO STANDARD (RPS)	REGIONAL GREENHOUSE GAS INITIATIVE (RGGI)/CAP- AND-TRADE	STATE-MANDATED NET METERING
South Dakota	10.43	No	None	None
Kansas	10.47	No	None	State-mandated rules for certain utilities
Delaware	10.5	Yes	RGGI	State-mandated rules for certain utilities
Florida	10.67	No	None	State-mandated rules for certain utilities
Arizona	10.73	Yes	None	State-mandated compensation other than net metering
Colorado	10.9	Yes	None	State-mandated rules for certain utilities
Wisconsin	11.01	Yes	None	State-mandated rules for certain utilities
Minnesota	11.08	Yes	None	State-mandated rules for certain utilities
Maryland	11.48	Yes	RGGI	State-mandated rules for certain utilities
Michigan	12.93	Yes	None	State-mandated rules for certain utilities
Maine	13.96	Yes	RGGI	State-mandated rules for certain utilities
New Jersey	14.01	Yes	RGGI	State-mandated rules for certain utilities
New York	16.11	Yes	RGGI	State-mandated rules for certain utilities
Vermont	16.34	Yes	RGGI	State-mandated rules for certain utilities
New Hampshire	17.37	Yes	RGGI	State-mandated rules for certain utilities
Connecticut	18.32	Yes	RGGI	State-mandated rules for certain utilities
Rhode Island	18.44	Yes	RGGI	State-mandated rules for certain utilities
Massachusetts	19.06	Yes	RGGI & Other	State-mandated rules for certain utilities
California	19.65	Yes	Other	State-mandated rules for certain utilities
Alaska	20.02	No	None	State-mandated rules for certain utilities
Hawaii	30.31	Yes	None	State-mandated compensation other than net metering

Source: [U.S. Energy Information Administration](#)

¹ "Historical State Data." U.S. Energy Information Administration. September 15, 2021. <https://www.eia.gov/electricity/data/state/>

² "Electricity explained." U.S. Energy Information Administration. April 20, 2022. <https://www.eia.gov/energyexplained/electricity/prices-and-factors-affecting-prices.php>

³ Cornwall and Smith. "What Is the Relationship between Renewable Portfolio Standards and Electricity Prices?" The Center for Growth and Opportunity at Utah State University. February 12, 2019. <https://www.thecgo.org/research/what-is-the-relationship-between-renewable-portfolio-standards-and-electricity-prices/#conclusion-and-an-alternative-to-rps-policies>

⁴ "Vermont State Profile and Energy Estimates." U.S. Energy Information Administration. <https://www.eia.gov/state/analysis.php?sid=VT#:~:text=Vermont%20has%20the%20largest%20share,100%25%20in%202020%20and%202021.&text=About%2046%25%20of%20Vermont's%20total.at%20dams%20around%20the%20state.>

⁵ "Trees, Trash, and Toxics: How Biomass Energy Has Become the New Coal." Partnership for Policy Integrity. April 14, 2014. <https://www.pfpi.net/trees-trash-and-toxics-how-biomass-energy-has-become-the-new-coal/>

⁶ Myers, Andrew. "Stanford engineers create a catalyst that can turn carbon dioxide into gasoline 1,000 times more efficiently." Stanford News. February 9, 2022. <https://news.stanford.edu/2022/02/09/turning-carbon-dioxide-gasoline-efficiently/>

CHAPTER 2:

A Snapshot of Gasoline Prices



2023 | THE ALEC ENERGY AFFORDABILITY REPORT

INTRODUCTION

Oil prices are still variable due to international political factors, including Russia's war on Ukraine, OPEC+ production cuts, and increased demand from China as they lift their pandemic lockdowns. and other international political factors, such as OPEC+ production cuts. On the domestic front, producers still face regulatory uncertainty from the Biden administration, which introduced new moratoriums on drilling in certain federally controlled waters and continued pledges to curtail America's use of fossil fuels. While the administration ultimately approved ConocoPhillips' Willow project in Alaska, it lowered the approved number of drilling sites from five to three and [cancelled seven already-established leases](#).¹

With regulatory uncertainty, developing future oil resources is risky for producers. These projects take time, as well as significant capital, and producers cannot reasonably commit without some degree of certainty that their efforts will not be stymied by the heavy hand of government intervention. Given the administration's reticence to lease federal lands for energy development, shutting down pipeline projects, and both federal and state increases of fuel standards for vehicles, producers are cautious about increasing their rates of growth.

Oil prices are, ultimately, the [largest share of the final cost consumers pay](#) for gasoline and diesel fuels.²

On the state level, regulations, permitting challenges, and tax environments also play a significant role in the pain consumers feel at the pump. Gasoline prices vary widely between the states, reflecting a variety of different factors, challenges, and government regulations.

In general, the cost of gasoline is broken down into the price of crude oil, the cost of refining, the cost of transportation, and taxes. In addition to an 18.4 cent per gallon federal tax, consumers are subject to each state's individual gas tax. Final sale prices are also a reflection of other government regulations and taxes, such as property, income, and employment taxes, paid by gas stations. Gas stations have a low profit margin on the sale of gasoline, with the [average profit margin being only about 1.4%](#).³

By and large, the price consumers pay at the pump are a direct reflection of the cost, both in terms of the product and additional fees imposed by government regulation, paid by the gas stations themselves.

Oil is refined into gasoline in the majority of states. In some cases, this nearby production greatly benefits consumers, who do not pay a premium reflecting the costs of transporting fuel into other areas of the country. However, this effect is not universal. In some localities, despite high production, nearby consumers pay some of the highest costs per gallon in the United States due to state and federal laws and regulation. Some states, such as California and Arizona, have stringent state-level requirements for fuel composition, which drives up cost.

METHODOLOGY

Yearly consumer cost was calculated using a variety of data. Gasoline costs were approximated using snapshot of the current prices of regular gasoline supplied by AAA's average price calculator on April 4th, 2023. Our data specifically looks at the cost of regular gas, which is by far the most common fuel used for private automobiles.

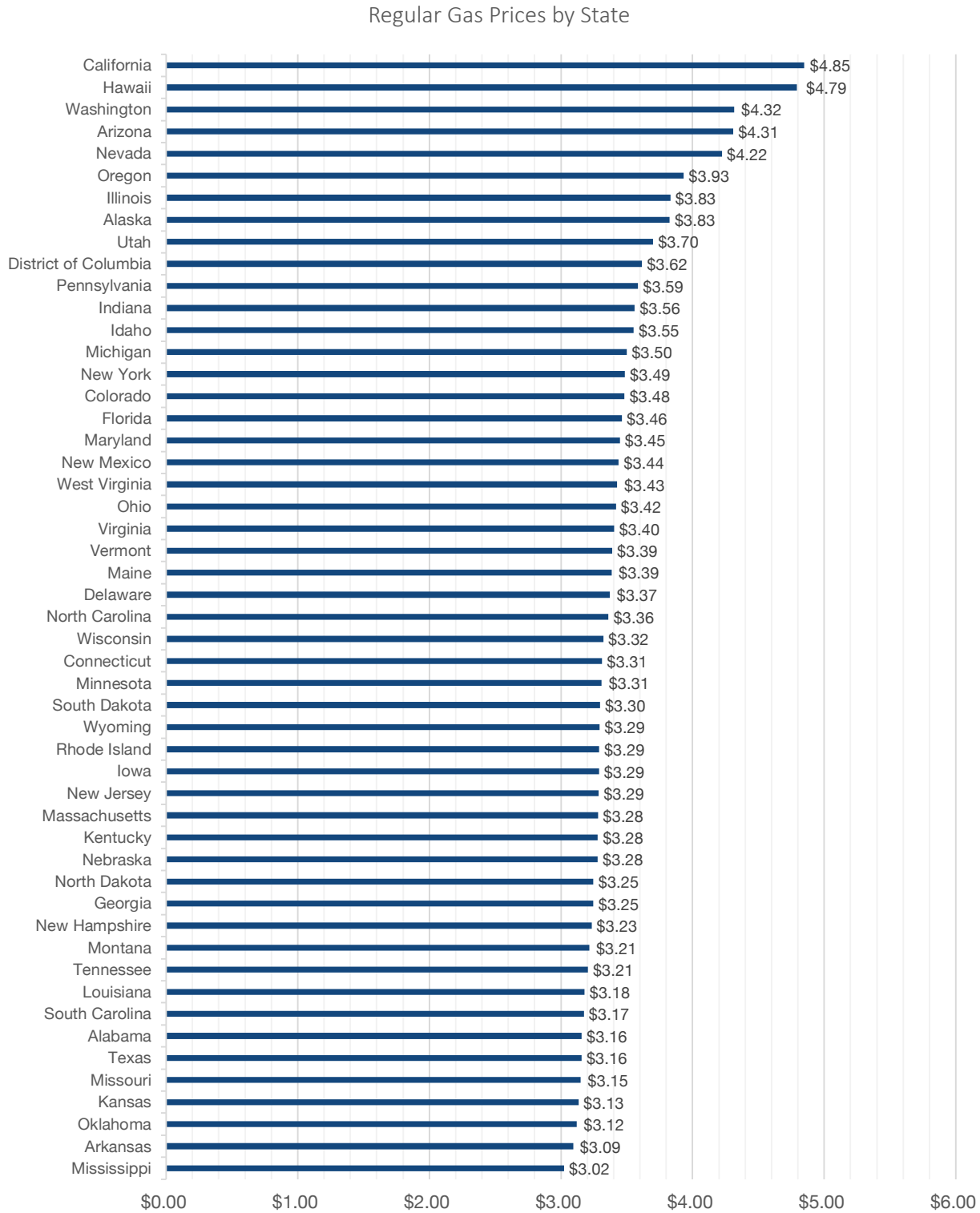
The most popular automobile in the United States, the Ford F-150, uses approximately one gallon of gasoline for every twenty-five miles. After examining Federal Highway Administration data from 2020 and 2021 and finding that the number of miles driven per year were not representative of typical non-pandemic years, we used pre-pandemic data to provide a more representative sample for calculating how much an average driver would spend this year on gasoline in each state.

TABLE 1 | STATE AVERAGE MILE DRIVEN PER YEAR BY STATE

STATE	MILES	STATE	MILES
Alabama	17,817	Missouri	18,521
Alaska	11,111	Montana	15,880
Arizona	13,090	Nebraska	14,846
Arkansas	17,224	Nevada	14,016
California	12,524	New Hampshire	11,570
Colorado	12,899	New Jersey	12,263
Connecticut	12,117	New Mexico	19,157
Delaware	12,609	New York	10,167
District of Columbia	7,013	North Carolina	16,073
Florida	14,557	North Dakota	17,671
Georgia	18,334	Ohio	14,278
Hawaii	11,688	Oklahoma	17,699
Idaho	14,417	Oregon	12,218
Illinois	12,581	Pennsylvania	11,445
Indiana	18,024	Rhode Island	9,961
Iowa	14,745	South Carolina	14,941
Kansas	14,781	South Dakota	15,541
Kentucky	16,305	Tennessee	15,287
Louisiana	14,951	Texas	16,172
Maine	14,215	Utah	15,516
Maryland	13,490	Vermont	13,004
Massachusetts	13,109	Virginia	14,509
Michigan	14,307	Washington	10,949
Minnesota	17,909	West Virginia	16,876
Mississippi	19,966	Wisconsin	15,442
		Wyoming	24,069

Source: [U.S. Department of Transportation Federal Highway Administration](#)

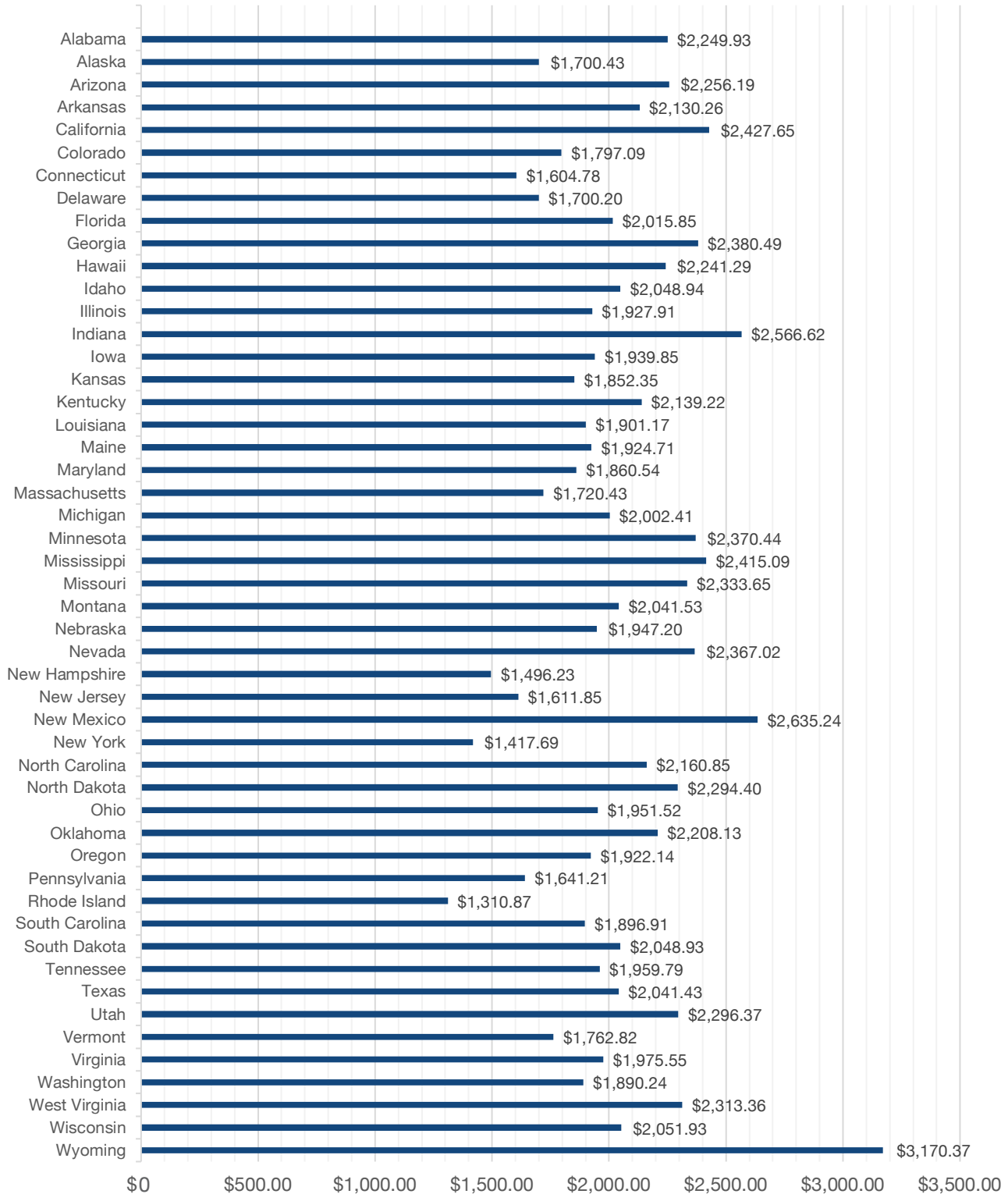
CHART 1 | REGULAR GAS PRICES – APRIL 4th, 2023



Source: [AAA Gas Price Averages](#), April 4th, 2023

CHART 2 | AVERAGE COST PER YEAR – INCLUDING TAXES

Average Cost of Gasoline Per Year



Source: [AAA Gas Price Averages](#), April 4th, 2023

FINDINGS

The top five highest cost states for gasoline are [California](#), Hawaii, Washington, Arizona, and Nevada.⁴ Interestingly, while California has the second highest gas tax in the nation and Washington has third highest, Hawaii, Arizona, and Nevada all have gas taxes below the median for all states.

Based on the average number of miles driven, the average consumer will pay around \$2,427.65 for gas per year in California, \$2,241.29 per year in Hawaii, \$1,890.24 per year in Washington, \$2,256.19 per year in Arizona, and \$2,367.02 per year in Nevada. With the average American spending approximately \$2,038.42 on gas per year, California, Hawaii, Arizona and Nevada drivers are likely to spend significantly more than average, while consumers in Washington will likely spend less due to the relatively low number of miles driven each year.

Meanwhile, the lowest cost states for gasoline are Mississippi, Arkansas, Oklahoma, Kansas, and Missouri. Mississippi has the fifth lowest gas tax in the nation, while Oklahoma has the seventh, Kansas is 18th, and Missouri is eighth.

Drivers in Missouri pay about \$2,767.04 per year for gasoline, while Oklahoma drivers pay \$2,654.85. Kansas drivers pay about \$2,220.11, while Arkansas and Maryland drivers pay about \$2,598.76 and \$2,047.24 per year respectively. Despite having the average cheapest cost for gasoline in the nation, these numbers are relatively high due to the above-average distances drivers in these states drive per year.

Interestingly, gas prices in states with immediate access to significant refining infrastructure did not always have significantly lower prices than those that did not. [Despite containing a substantial portion of the east coast's refining and distribution capacity](#), New Jersey ranked 34th in terms of lowest gas prices.⁵ California, which has the highest prices of any state, [also has a high concentration of refineries](#).⁶ However, the composition of fuel refined in California is highly regulated, leading to significantly higher costs for consumers. Ohio, [which has the sixth-largest refining capacity in the country](#), ranked 18th.⁷ Texas, which leads the nation in terms of oil refining, barely missed making the top five states in terms of lowest gas prices, coming in sixth for both gas costs and taxes.

CONCLUSION

Gasoline prices are still high due to inflated crude oil prices, heavy demand, and relatively low refining capacity. Between global instability, misguided domestic policies, and a bleak outlook in terms of expanding the nation's ability to refine more petroleum products, demand is high while the supply is being intentionally hamstrung by elected officials. Over the last four years, six U.S. crude refineries closed, while only one new refinery was built, and a second refinery was extensively upgraded. Opening new refineries or even expanding existing ones [can take half of a decade or more and cost billions of dollars](#).

Gasoline costs have an enormous impact on consumers, so state legislators need to be cognizant of how their state's laws and policies impact their constituents. States with more stringent fuel content requirements, more regulations, and above-average taxes generally have higher gas prices than those that do not.

Arizona and California have regulatory regimes that are cautionary tales on how stiff regulation, both on the state and federal level, leads to higher gas prices for consumers. [Both](#) have [very particular standards for fuel sold in the state](#), requiring custom refining processes and mixtures.

Although taxes and fuel mix regulation are the most direct way state lawmakers can impact gas prices, any measures that lower the price of crude oil will also help ease burdens on consumers. The cost of crude oil is the most significant variable in the prices consumers pay at the pump, so eliminating red tape and encouraging increased production domestically goes a long way to keeping costs low.

¹ "Biden Freezes Alaskan Oil." Wall Street Journal. September 8, 2023. https://www.wsj.com/articles/biden-cancels-anwr-oil-drilling-leases-deb-haaland-energy-russia-24a5c647?mod=hp_opin_pos_1

² "Gas Prices Explained." American Petroleum Institute. <https://www.api.org/oil-and-natural-gas/energy-primers/gas-prices-explained#:~:text=%2Fpetroleum%2Fgasdiesel%2F-,What%20Determines%20the%20Cost%20of%20Crude%20Oil%3F,the%20global%20crude%20oil%20price.>

³ "Why most gas stations don't make money from selling gas." The Hustle. April 15, 2022. [https://thehustle.co/why-most-gas-stations-dont-make-money-from-selling-gas/#:~:text=According%20to%20IBISWorld%2C%20gas%20stations,and%20car%20dealerships%20\(3.2%25\).](https://thehustle.co/why-most-gas-stations-dont-make-money-from-selling-gas/#:~:text=According%20to%20IBISWorld%2C%20gas%20stations,and%20car%20dealerships%20(3.2%25).)

⁴ "HazMat Analysis: Petroleum Supply Chain." Cambridge Systematics, Inc. March 14, 2019.

⁵ "New Jersey: Profile Analysis." U.S. Energy Information Administration. October 21, 2021. <https://www.eia.gov/state/analysis.php?sid=NJ>

⁶ "California: Profile Analysis." U.S. Energy Information Administration. March 17, 2022. <https://www.eia.gov/state/analysis.php?sid=CA>

⁷ "Ohio: Profile Overview." U.S. Energy Information Administration. August 18, 2022. <https://www.eia.gov/state/?sid=OH>

CHAPTER 3:

A Snapshot of Diesel Prices



2023 | THE ALEC ENERGY AFFORDABILITY REPORT

INTRODUCTION

Diesel is one of the most important fuels of America's economic engine. It is essential for nearly every aspect of our supply chain and agricultural industry.

In the agriculture industry, diesel powers about 75% of all farm equipment, is the fuel used to transport nearly 90% of all farm products, and powers the pumps that irrigate around 20% of our nation's crops. It is essential to maintaining the nation's supply chain, with U.S. freight railroads moving about [1.7 billion tons of cargo over nearly 140,000 miles of tracks](#) each year, powered almost exclusively by diesel.¹

[Ninety-seven percent of the nation's large cargo trucks](#) run on diesel, employing 3.5 million people to deliver billions of tons of cargo.² Without this vital link between producers, wholesalers, and retailers, our economy would quickly stall.

It is also an essential fuel for moving cargo by ship. [Over 2 billion tons](#) of import and export cargo are shipped to and from America's shores, and the vast majority of global maritime trade happens using marine engines powered by diesel.³ Once ships make their way to port, the machines that load and unload their cargo also run on diesel engines.

Modern mining could not exist in its present form without diesel. Coal, oil, natural gas, construction materials, uranium, and even the rare earth metals needed to make batteries and electric vehicles are all extracted using diesel powered equipment.

Due to the ubiquity of fuel, nearly every economic transaction involving real goods is in some way impacted by the price of diesel. Outside of its industrial uses, diesel powers commuter vehicles, public transportation, and is the go-to fuel for backup generators for hospitals, schools, and homes.

METHODOLOGY

For the purposes of this report, we will be using a snapshot of the price of diesel and how it impacts the fuel costs for the trucking industry. Although semi-trucks comprise about 4.3% of all vehicles in the United States, they are responsible for consuming more [than a quarter of all vehicle fuel each year](#).⁴

According to multiple industry sources, the typical semi-truck drives 45,000 miles per year and gets [around 6.5 miles per gallon \(MPG\)](#).⁵ Although new rules implemented in 2014 require new semi-trucks to get 7.2 MPG, trucks are often used for decades before being retired or refurbished.

The data gathered for state tax rates assumed a base \$2.50 per gallon price for the data used. Additional taxes, fees, and sales taxes are not included in the calculation, as they are variable and, in states like California, are variable and based on the individual local government.

Diesel costs were approximated using a snapshot of the price of regular gasoline supplied by AAA's average price calculator on April 4th, 2023. Our data specifically looks at the cost of on-road diesel, which is by far the most common fuel used by heavy trucks that move goods domestically.

Chart 1 | Diesel Prices and Taxes

STATE	STATE TAX	DIESEL	YEARLY COST
Oklahoma	\$0.20	\$3.69	\$25,525.38
Texas	\$0.20	\$3.74	\$25,878.46
Mississippi	\$0.18	\$3.80	\$26,300.77
Kansas	\$0.26	\$3.81	\$26,397.69
West Virginia	\$0.36	\$3.86	\$26,688.46
Idaho	\$0.33	\$3.86	\$26,736.92
New Hampshire	\$0.24	\$3.87	\$26,792.31
Arizona	\$0.27	\$3.89	\$26,903.08
South Carolina	\$0.23	\$3.89	\$26,958.46
South Dakota	\$0.30	\$3.90	\$27,006.92
Missouri	\$0.17	\$3.91	\$27,034.62
Louisiana	\$0.21	\$3.94	\$27,297.69
Tennessee	\$0.28	\$3.94	\$27,304.62
Minnesota	\$0.31	\$3.99	\$27,602.31
Alaska	\$0.09	\$4.01	\$27,754.62
Kentucky	\$0.23	\$4.02	\$27,851.54
Montana	\$0.30	\$4.03	\$27,865.38
Nebraska	\$0.30	\$4.05	\$28,003.85
Nevada	\$0.28	\$4.05	\$28,045.38
Utah	\$0.31	\$4.08	\$28,239.23
New Mexico	\$0.23	\$4.08	\$28,266.92
Georgia	\$0.32	\$4.13	\$28,564.62
Maryland	\$0.38	\$4.13	\$28,606.15
Vermont	\$0.32	\$4.13	\$28,606.15
Florida	\$0.20	\$4.14	\$28,682.31

STATE	STATE TAX	DIESEL	YEARLY COST
Ohio	\$0.48	\$4.15	\$28,710.00
New York	\$0.24	\$4.15	\$28,758.46
Illinois	\$0.64	\$4.17	\$28,841.54
Colorado	\$0.22	\$4.18	\$28,952.31
Indiana	\$0.50	\$4.19	\$29,028.46
Michigan	\$0.44	\$4.26	\$29,492.31
Wyoming	\$0.24	\$4.27	\$29,547.69
Iowa	\$0.33	\$4.30	\$29,776.15
Alabama	\$0.27	\$4.31	\$29,817.69
Wisconsin	\$0.33	\$4.31	\$29,831.54
Virginia	\$0.21	\$4.42	\$30,572.31
Connecticut	\$0.47	\$4.49	\$31,084.62
North Carolina	\$0.36	\$4.49	\$31,098.46
Delaware	\$0.23	\$4.55	\$31,472.31
Arkansas	\$0.23	\$4.55	\$31,486.15
Maine	\$0.32	\$4.58	\$31,728.46
Rhode Island	\$0.35	\$4.60	\$31,825.38
New Jersey	\$0.69	\$4.61	\$31,880.77
Oregon	\$0.34	\$4.64	\$32,109.23
Pennsylvania	\$0.74	\$4.68	\$32,400.00
North Dakota	\$0.23	\$4.87	\$33,680.77
Massachusetts	\$0.27	\$4.96	\$34,366.15
Washington	\$0.52	\$4.98	\$34,490.77
California	\$0.72	\$5.37	\$37,176.92
Hawaii	\$0.31	\$5.92	\$40,977.69

Source: [AAA Gas Price Averages](#), April 4th, 2023

FINDINGS

As the data shows, there are vast regional disparities between diesel prices across the nation. The Southeastern, Southwestern, and Midwestern regions of the country generally have lower prices than the Northeast, Mid-Atlantic, and West Coast states.

Although the average price of diesel was \$4.26, only 19 states were above the average in price. Hawaii, California, Washington, Massachusetts, and North Dakota had the highest prices in the nation. Interestingly, while Hawaii, California, and Washington have some of the most expensive diesel taxes in the country, Massachusetts and North Dakota's taxes are lower than the median.

Meanwhile, Oklahoma, Texas, Mississippi, Kansas, and West Virginia had the lowest prices for diesel. Oklahoma has the 4th lowest diesel taxes at only 20 cents per gallon, while Texas had the 5th lowest at just over 20 cents per gallon. Mississippi had the 3rd lowest diesel taxes with only 18 cents per gallon, while Kansas came in 19th at 26 cents per gallon.

Interestingly, West Virginia has the 39th highest tax rate for diesel, with consumers paying a hair under 36 cents per gallon in state taxes and fees.

An average trucker would expect to spend about \$29,480.40 in 2023 on diesel costs alone.

CONCLUSION

In general, states that are not hostile to fossil fuel manufacturers and have larger agricultural sectors tend to have lower diesel prices. However, given that the trucking industry is by its very nature a multi-state industry, truckers must take a hard look at prices in various states and adjust their prices or make hard choices about where they are willing to transport goods.

In areas of the country with higher prices, such as the West Coast and Northeast, shipping prices, as well as the eventual consumer cost, will rise compared to areas with lower diesel prices. Additionally, shipping companies could rationally decide not to serve areas where fuel prices are particularly high, limiting the supply of over-the-road shipping. As a result, end consumers will face even higher prices.

Like gasoline, diesel production plummeted during the pandemic as refining capacity shut down. There is no quick and easy way to jumpstart production, even if the Biden administration were friendly to the idea.

As we head into winter, diesel prices are likely to rise, along with eventual consumer cost. If elected officials want to help keep consumer costs low, finding ways to cut red tape, encourage domestic oil production, and being mindful of the impact of fuel taxes will positively impact the American economy.

¹ "Freight Rail in Your State." Association of American Railroads. <https://www.aar.org/data-center/railroads-states/#/>

² "Trucking." Engine Technology Forum. <https://dieselforum.org/trucking>

³ "Powering America's Ports." Engine Technology Forum. <https://enginetechnologyforum.org/port-marine>

⁴ "4 SIMPLE WAYS TO GET THE BEST FUEL MILEAGE FOR YOUR SEMI-TRUCK." U.S. Cargo Control. August 20, 2018. <https://www.uscargocontrol.com/blogs/blog/best-fuel-mileage-semi-truck>

⁵ "All About Semi-Truck Fuel Efficiency." Phoenix Truck Driving Institute. August 12, 2022. <https://phoenixtruckdrivinginstitute.com/blog/all-about-semi-truck-fuel-efficiency>

