OUTLOOK FOR
U.S.

FUEL PRICE OUTLOOK

2020

GasBuddy

SUMMARY

About Our Annual Outlook

Accuracy, reliability, and neutrality are GasBuddy's mission with price forecasting, and it is achieved with the independent analysis featured in this 2020 Fuel Price Outlook.

Note that this outlook is not indicative of what will happen but rather what we believe could happen given specific inputs, potential impacts on production as well as supply and demand.

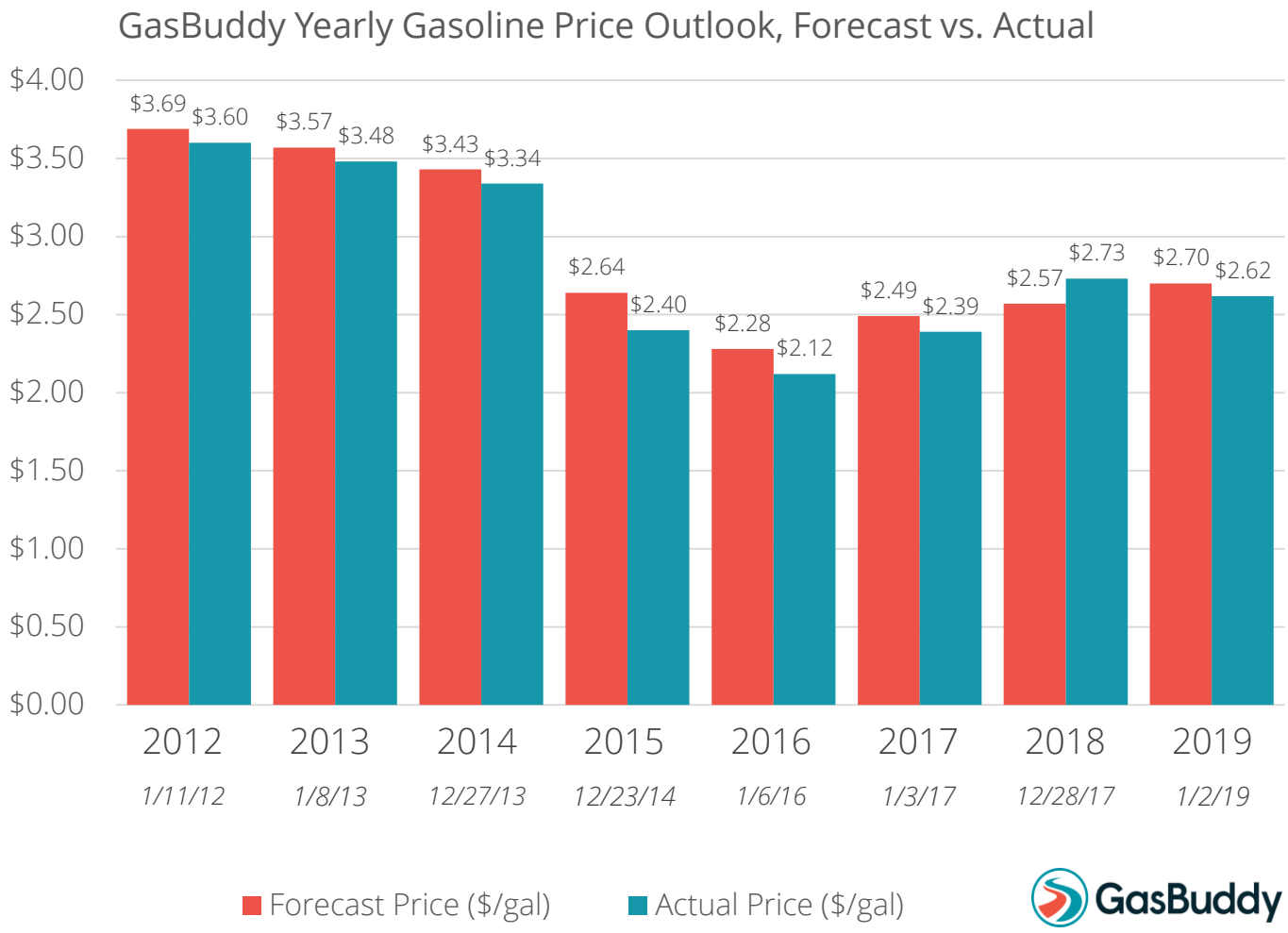
Fuel markets are complex. This analysis is intended to take current factors and speculate on how today's events may impact gasoline prices in the future. GasBuddy works to make these forecasts as reliable as possible and to be understood by anyone with little to no background of oil and petroleum markets or economics.

Outlook assembled by

Patrick De Haan, head of petroleum analysis, has been called one of the most accurate fuel forecasters in the U.S. by the San Jose Mercury News and has been analyzing fuel prices and trends for nearly fifteen years. He provided expertise to authorities during Hurricane Harvey and Irma and is regularly cited in U.S. periodicals and news broadcasts for his knowledge on various topics including oil, fuel prices, motor fuel taxation, pipelines and retail stations.

GasBuddy Fuel Price Outlook Accuracy

In an effort to be transparent about our accuracy from our Fuel Price Outlook, included this year are the outcome of prior forecasts below for your review. GasBuddy's 2019 forecast for gasoline prices was the most accurate since 2014, with a margin of error of 3.09% with zero revisions. Our Outlook was released on day two of the year, projecting prices as far out as 364 days once it was publicly released. Since 2011, GasBuddy's Gasoline Price Outlook has been higher than actual seven of eight years, with just one year, 2018, coming in higher than expected.



*2019's Actual Price through December 23, 2019

2020 Gasoline Forecast

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2020 Gasoline Forecast

National Average

Month	Range of Possible	Average
January	$2.34 - $2.59	**$2.47**
February	$2.29 - $2.53	**$2.41**
March	$2.45 - $2.69	**$2.57**
April	$2.58 - $2.86	**$2.72**
May	$2.71 - $2.96	**$2.84**
June	$2.66 - $2.86	**$2.76**
July	$2.62 - $2.81	**$2.72**
August	$2.55 - $2.85	**$2.70**
September	$2.51 - $2.71	**$2.61**
October	$2.43 - $2.64	**$2.54**
November	$2.34 - $2.59	**$2.47**
December	$2.26 - $2.51	**$2.39**
2020 U.S. Average		***$2.60***

The above table reflects the U.S. national average. Individual states will vary based on their location and taxes. California, for example, tends to be considerably higher than average while Mississippi is considerably lower.

Numbers reflect the lowest and highest daily average for national average by month, with the predicted monthly average in bold. ($/gal)

2020 Gasoline Forecast

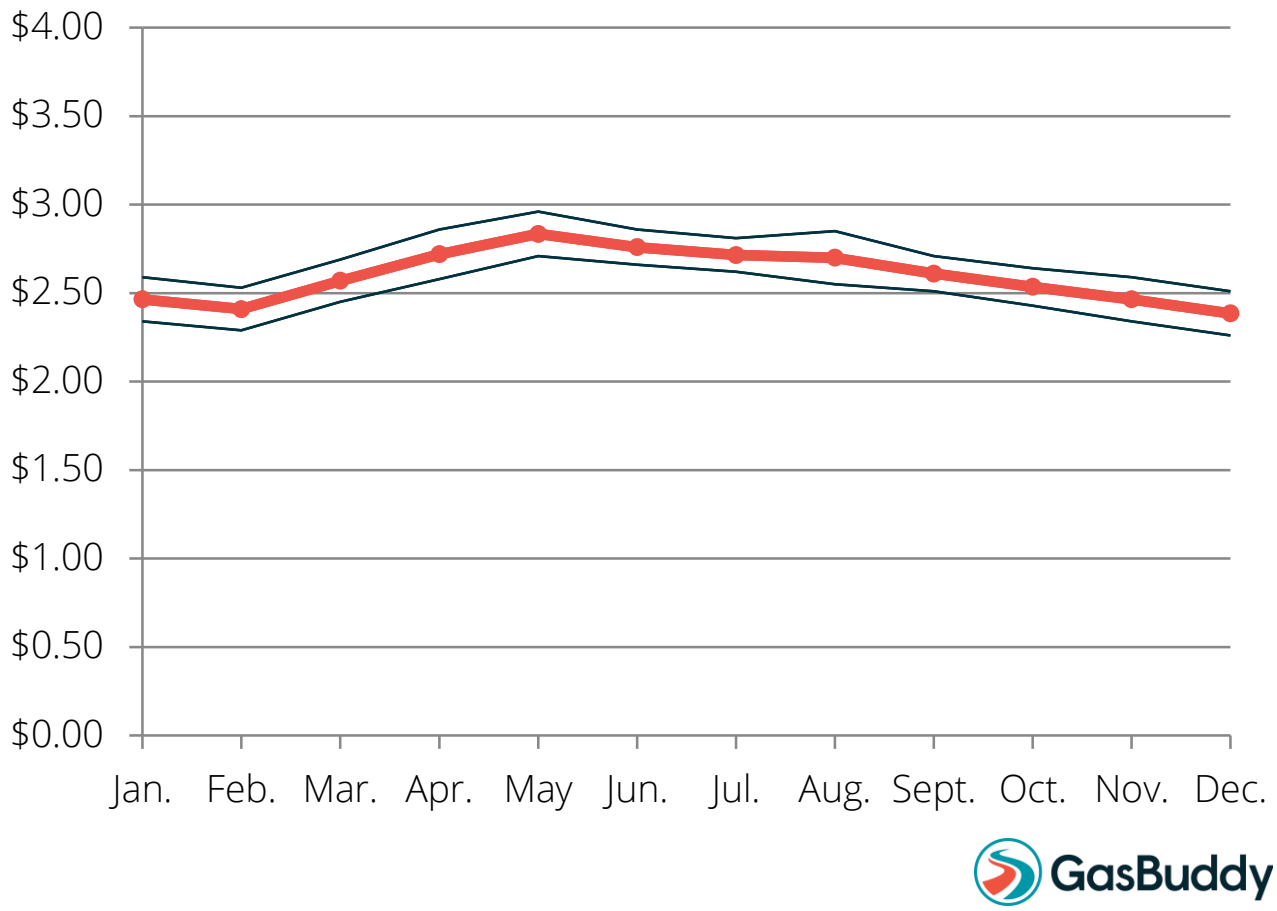
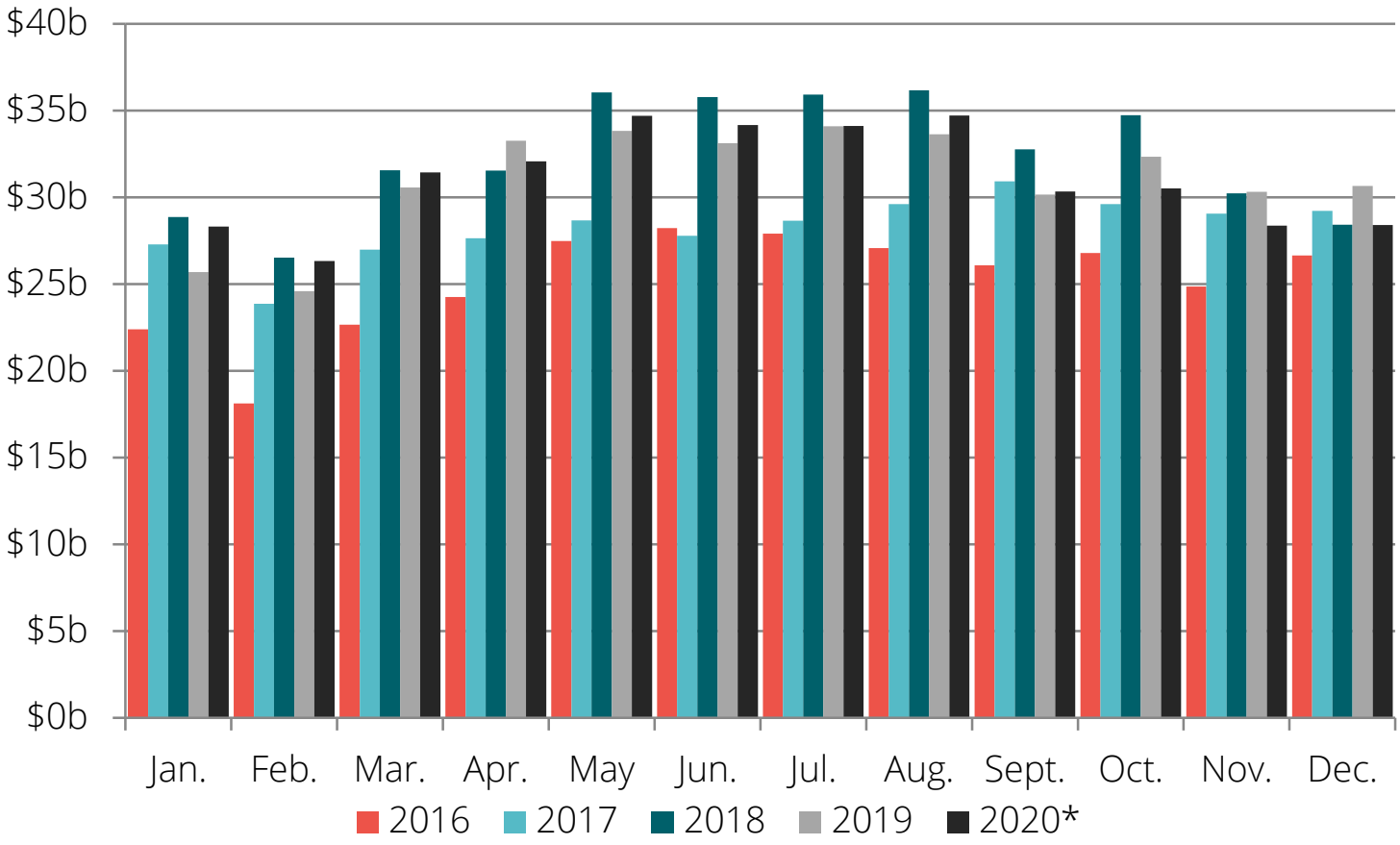


Chart reflects forecast range of national average by month, with monthly average shown as red line.

2020 Gasoline Forecast

Monthly Spending on Gasoline 2016-2019, 2020*

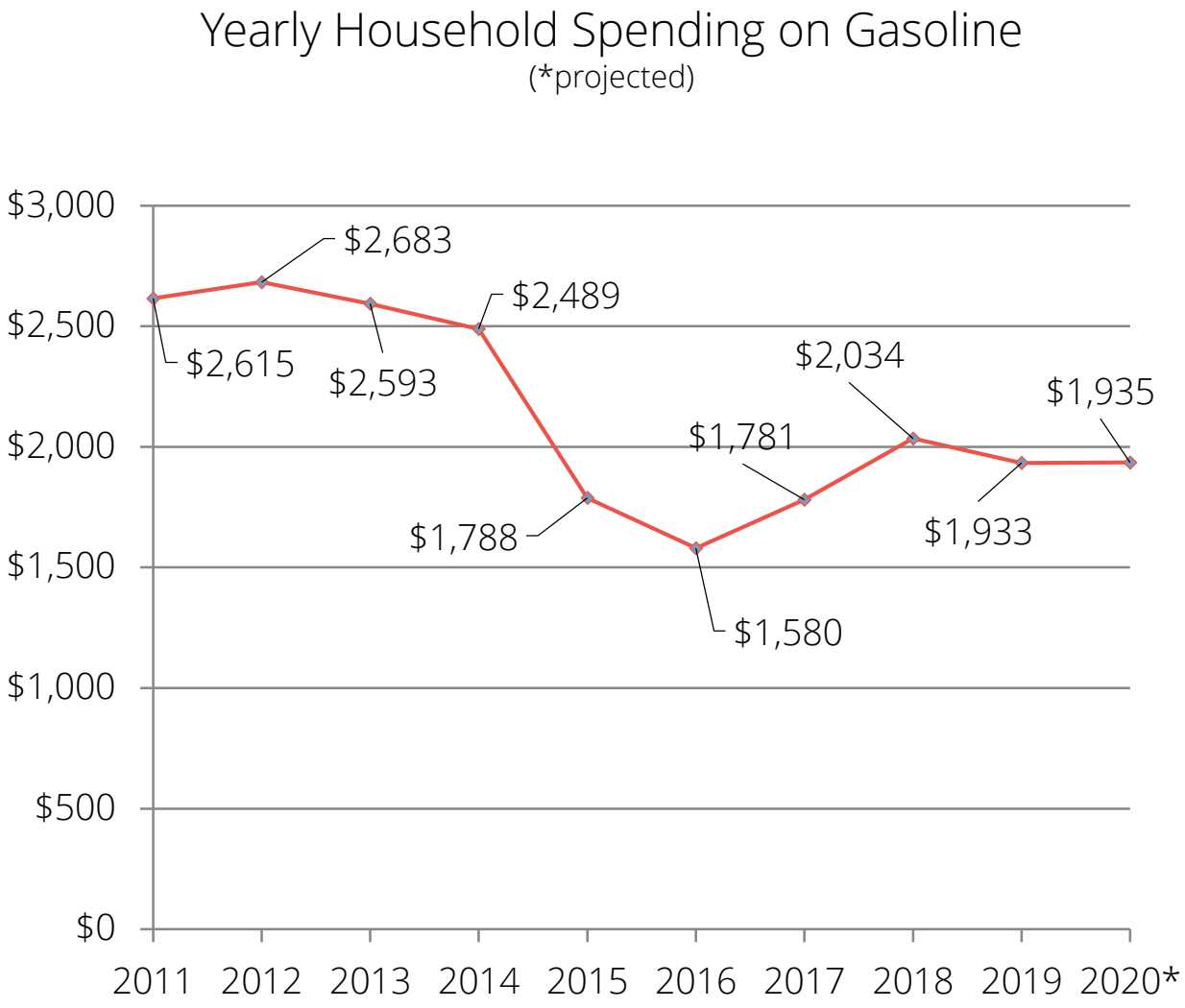
(*projected, in billions)



2020* Total U.S. Gasoline Spending: $373.4 billion

2019 Total U.S. Gasoline Spending: $372.2 billion
2018 Total U.S. Gasoline Spending: $388.5 billion
2017 Total U.S. Gasoline Spending: $339.2 billion
2016 Total U.S. Gasoline Spending: $302.5 billion

2020 Gasoline Forecast



2020 Average Household Gasoline Spending: $1935
2019 Average Household Gasoline Spending: $1933
2018 Average Household Gasoline Spending: $2016
2017 Average Household Gasoline Spending: $1765
2016 Average Household Gasoline Spending: $1566

Highest Daily Average Gas Price, Select Cities, 2020

City	Highest Daily Average
Atlanta	$2.70 - $3.00
Boston	$2.80 - $3.05
Chicago	$3.05 - $3.40
Cleveland	$2.75 - $3.00
Dallas/Ft. Worth	$2.65 - $2.85
Denver	$2.65 - $2.90
Detroit	$2.85 - $3.10
Houston	$2.55 - $2.80
Los Angeles	$3.85 - $4.45
Miami	$2.80 - $3.05
Minneapolis	$2.70 - $2.95
New York City	$3.00 - $3.30
Orlando	$2.70 - $3.00
Philadelphia	$2.90 - $3.20
Phoenix	$3.05 - $3.35
Sacramento	$3.85 - $4.25
San Francisco	$4.05 - $4.50
Seattle	$3.50 - $3.90
St. Louis	$2.65 - $2.95
Tampa	$2.65 - $2.95
Washington, D.C.	$2.85 - $3.15

Prices represent peak average daily gas price by city for select U.S. cities

Forecasting Volatility

Unless something out of the ordinary or catastrophic occurs, little thought is given to the process by which gasoline arrives at our neighborhood convenience stores and gas stations. It is assumed that gasoline is always available whenever we need it. More often than not, most of us pay little attention to the fuel we rely on until prices at the pump surprise us. Events like major hurricanes remind us that gasoline is very much a "just-in-time" commodity.

When we take a closer look, we see that volatility is built into the price we pay at the pump because many components, both globally and locally, have a hand in simultaneously pressing those prices higher and/or lower. These components include: the specific time of year and the federal regulations that dictate whether 'summer blend' (June 1 through September 15 in much of the U.S.) or 'winter blend' (the remainder of the year in most areas) gasoline must be available, and how much; the strength of global economies; the relative value of major currencies; crude oil prices; supply and demand of oil and gasoline; refinery operations; pipeline logistics; state and local taxes; weather; OPEC policy; and, last but not least, politics, especially true thus far under President Trump.

Gasoline is a product derived from crude oil, and retail gasoline prices are tied to the market price of crude oil and wholesale gasoline prices. We find that oil prices are especially sensitive to geopolitical events that can impact the ample supply and timely delivery of these commodities. These events whether perceived or actual and whether positive or negative can influence prices.

Gasoline prices are also subject to seasonal increases and decreases tied directly to both refinery maintenance season (spring and fall) and the Clean Air Act, which has been slowly elimination some pollutants from fuels.

The purpose of these regulations is to reduce smog and pollution, especially in large metro areas across the U.S. during the peak summer driving season. The transition from "winter blend" to "summer blend" gasoline which takes place as refiners perform seasonal maintenance and results in a reduction in the amount of gasoline produced and have increased gas prices starting in February or March between 25 to 75 cents per gallon on average over the last decade.

Continued on the next page

Forecasting Volatility

This results in a rise in retail pricing that arrives every spring as refineries deplete their inventory of winter blend prior to the annual maintenance needed before they can begin production (in March and April) of the more expensive summer blend.

The unscheduled obstacles that refineries may encounter are unpredictable and can impact regional gasoline prices. In areas such as the West Coast and Great Lakes region, where gasoline is produced by a few dominant refineries, motorists are most susceptible to severe price spikes that are triggered when their refineries hit unexpected snafus (even brief ones) especially during a time of year when refineries are transitioning to a larger slate of localized blends. In addition, pipelines that carry refined fuels have had unexpected shutdowns in recent years that too may affect the price of fuels.

Weather always represents a potential threat, Hurricanes Harvey and Irma in 2017 prompted widespread fuel disruptions and shortages in Texas and Florida. The impact was felt in every corner of the country due to the amount of gasoline production that was shut down after tremendous amounts of rain fell on Texas, the nation's largest oil producing and refining state. Gasoline inventories plummeted and it took months to recover. There is no national emergency gasoline supply and significant events have the potential to challenge both fuel supply and prices. In 2019, wind events also caused some disruption in California, where such events may be more commonplace in the years ahead, due to electric utilities efforts to prevent forest fires.

2020 Diesel Forecast

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2020 Diesel Forecast

National Average (Diesel)

Month	Range of Possible	Average
January	$2.86 - $3.16	**$3.01**
February	$2.80 - $3.12	**$2.96**
March	$2.88 - $3.17	**$3.03**
April	$2.95 - $3.30	**$3.13**
May	$2.97 - $3.31	**$3.14**
June	$2.93 - $3.27	**$3.10**
July	$2.89 - $3.18	**$3.04**
August	$2.77 - $3.07	**$2.92**
September	$2.79 - $3.12	**$2.96**
October	$2.85 - $3.17	**$3.01**
November	$2.88 - $3.20	**$3.04**
December	$2.91 - $3.23	**$3.07**
2020 U.S. Average		***$3.03***

The above table reflects the U.S. national average. Individual states will vary based on their location and taxes. California, for example, tends to be considerably higher than average while Mississippi is considerably lower.

Numbers reflect the lowest and highest daily average for national average by month, with the predicted monthly average in bold. ($/gal)

2020 Diesel Forecast

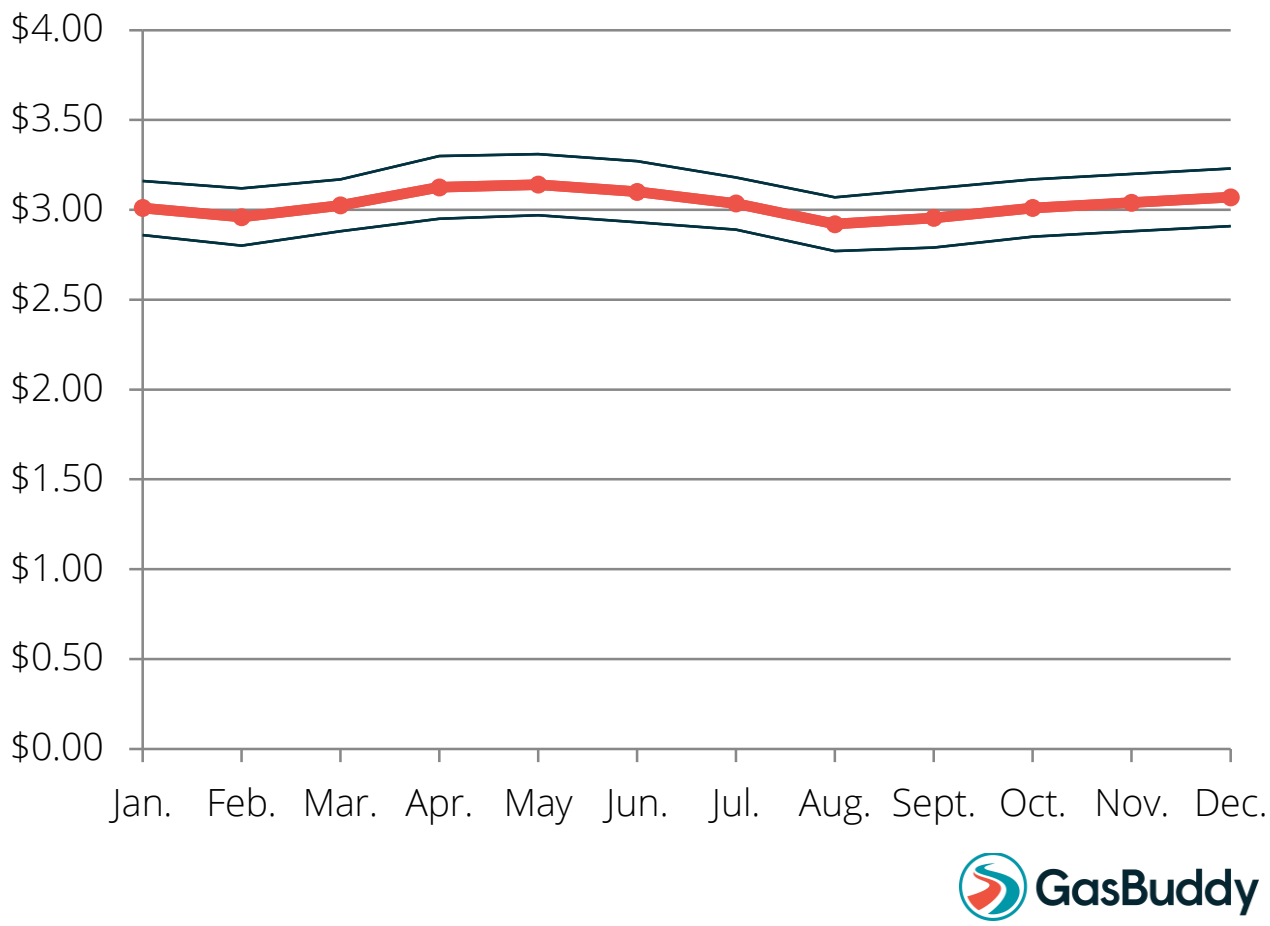

Chart reflects forecast range of national average by month, with monthly average shown as red line.

Fuel Outlook Commentary

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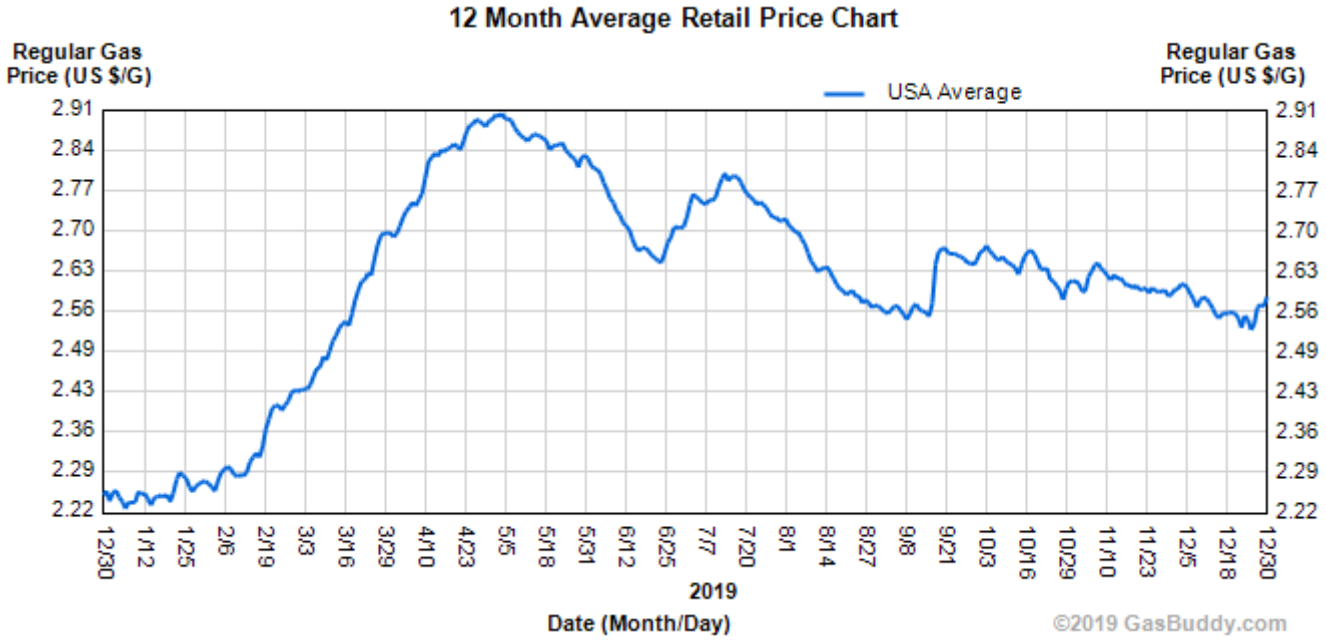
Fuel Outlook Commentary

The national average price of gasoline decreased year-over-year for the first time since 2016 as the yearly average fell 11 cents to $2.62 per gallon versus 2018 ($2.73), making it second most expensive average in the last five years. Oil prices rallied in 2019 as U.S. sanctions on Iran and Venezuela balanced oil supply more than OPEC's previous production cuts. As has been the case in recent years, the peak in gas prices occurred in early May ahead of the summer driving season, while the low occurred in early January, culminating with economic jitters and weak seasonal demand.



Much of 2019 saw headwinds to the global economy and U.S. economy alike, largely keeping a lid on gasoline prices via trade tensions between the U.S. and China that saw an escalating battle of tariffs begin over a year ago. The battle undermined the Chinese economy, which sent much of Europe into a slowdown, limiting the appetite for oil of developed countries. As 2019 closes, OPEC in December agreed to again decrease crude oil production by 500,000 barrels per day through March, a time of year when oil demand is typically its weakest. While a trade deal between the U.S. and China may bring a fair amount of optimism into the New Year, the details leave many skeptical of the way forward. In addition, 2020 will see robust growth in oil production in Brazil, Canada, Guyana, Norway and the U.S., offsetting OPEC's production curbs.

Fuel Outlook Commentary

With the U.S. entering an election year in 2020, we anticipate the most likely scenario will be for President Trump to shore up the U.S. economy ahead of the election to increase his chances of being re-elected. This may contribute to a more reliable period of growth and rise in oil demand, which will be met by increasing global oil production, even against OPEC's production curb through March.

While there are some knowns for 2020, it is generally the unknown events and curveballs that can drive oil and gasoline prices higher. When Iran was suspected of attacking Saudi Arabia in September, oil markets immediately panicked, sending oil prices up nearly 20% in short order before cooling back off. Iran also attacked tankers in the vital Strait of Hormuz and generally showed its anger and frustration at the U.S. by disrupting and attempting to disrupt global oil markets. Perhaps as pressure continues to mount in Iran, more surprise attacks could be ahead. The potential impact from such events are impossible to predict to specific degree, though an impact from such would be nearly guaranteed for a period of time.

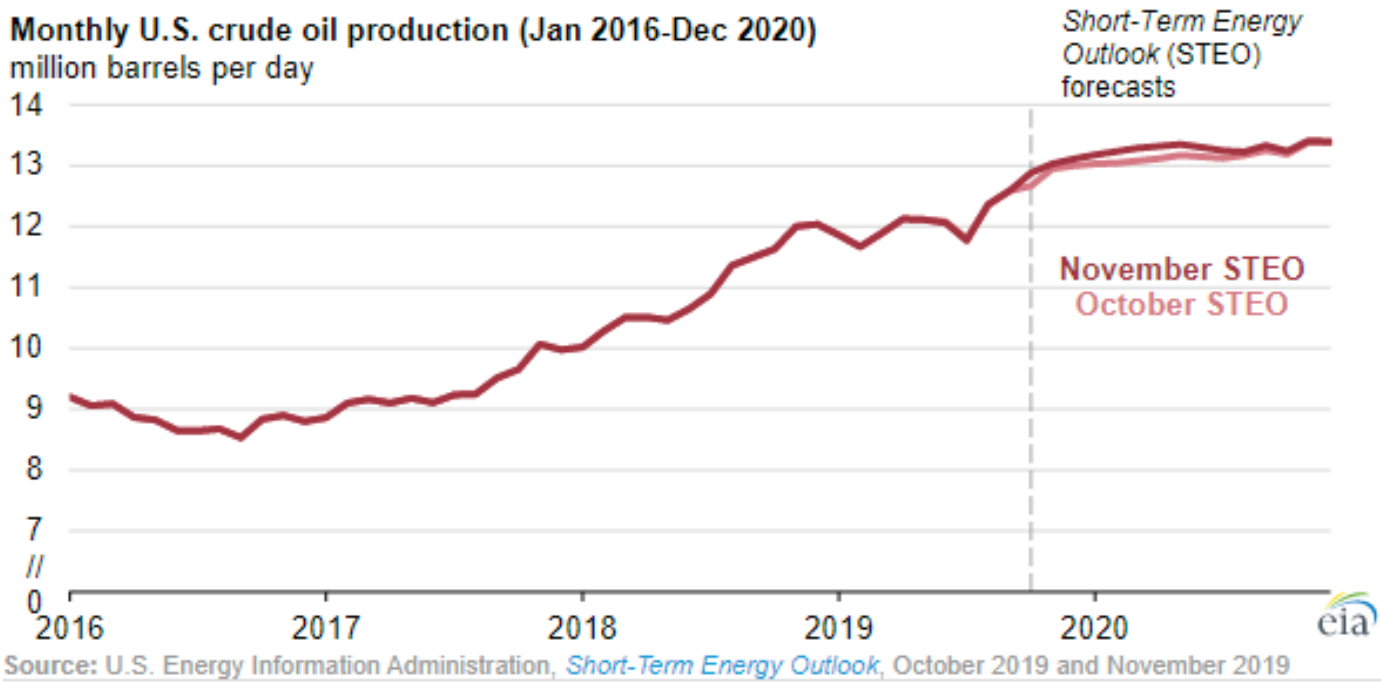
We enter 2020 with U.S. oil inventories slightly ahead of their 2019 start, yet about 4% above the five-year average. Gasoline inventories have recently posted robust growth ahead of the January 1 transition to Tier 3 gasoline, which reduces sulfur content to 10 ppm, matching that of Ultra Low Sulfur Diesel, which has been on the market for over a decade now. More importantly, a major specification shift for ocean-going vessels including container ships and essentially all ocean cargo is also occurring at the stroke of midnight: the International Maritime Organization will be limiting sulfur content in fuel burned by such vessels or require scrubbers to clean the pollutants out of the burned fuel.

The changes are among the most significant in the modern era for ships, and it may lead to collateral damage for those who use fuels like ULSD and heating oil around the globe as demand for low sulfur products will skyrocket to comply with the January 1 mandate. As a result, our diesel price forecast has larger ranges for the first 90 days of 2020, baking in some of the unknowns of how this monumental change will occur.

Fuel Outlook Commentary

We anticipate demand for gasoline will rise, leading to a higher annual gasoline bill for the average American household, partially due to a stronger economy and lower interest rates. Positive reduction in trade tensions with China will also boost oil demand. The Federal Reserve has provided hints that it plans to hold interest rates low this year after several cuts to maintain economic strength in 2020, but also because of prior potential impact from the U.S./China trade war. Should the trade war fire back up and escalate, it would likely have an oversize affect on energy prices, bringing them down along with reducing demand for such.

As mentioned, oil production numbers are likely to rise in 2020 due to oil prices remaining relatively attractive. The Energy Information Administration expects U.S. oil production to breach 13 million barrels per day in early 2020. Presently, the U.S. is pumping 12.8 million barrels per day:

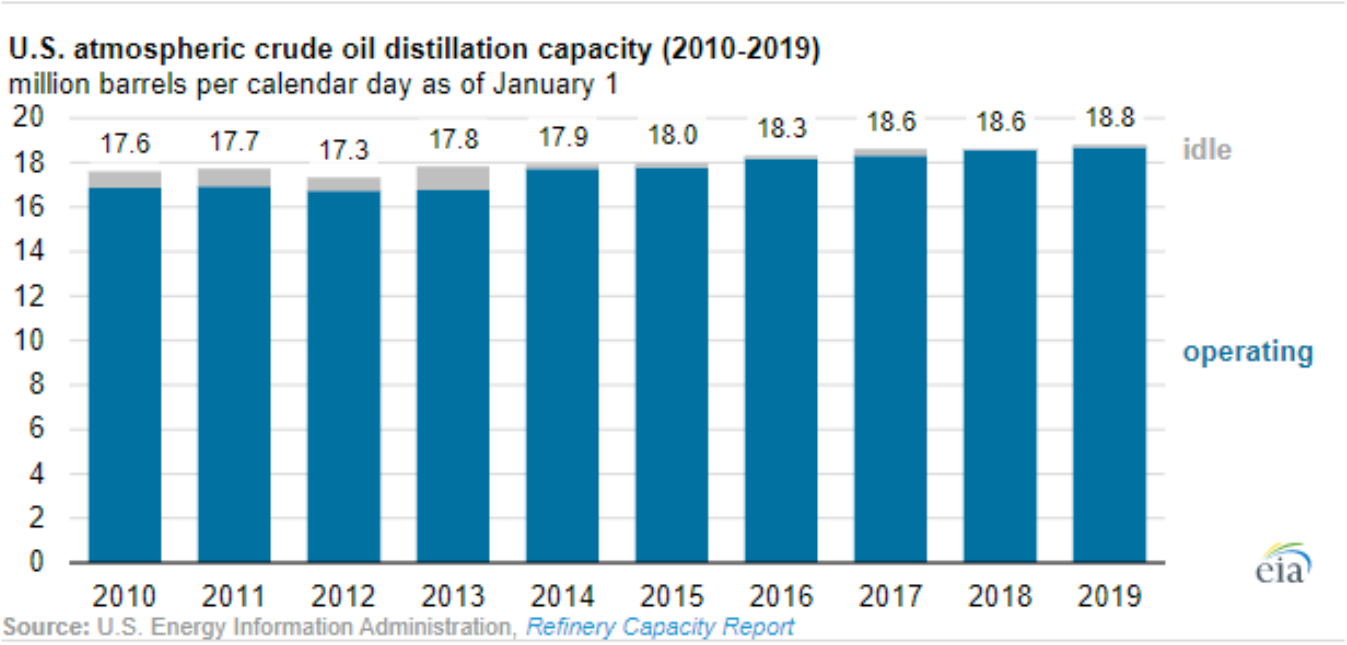


Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, October 2019 and November 2019

The anticipated rise in U.S. oil production will provide additional energy independence and make the U.S. less reliant on crude oil from less stable oil producers in the Middle East, as well as act as a counterbalance to OPEC's recent production cuts.

Fuel Outlook Commentary

When it comes to gasoline, the nation's refineries continue to rise to the occasion, with 2019 having seen another increase in refinery capacity. Though with the fire and shut down of Philadelphia Energy Solutions refinery in June, 2020 may feature the first year-on-year decline in capacity since 2012. The fire caused the financially distressed refinery to shut completely mid-year after winding down operations and will cause the Northeastern United States to become more reliant on gasoline imports to meet demand.



In addition, Tier 3 fuel specifications will be required at the stroke of midnight January 1, 2020, requiring a reduction in sulfur content that has been years in the making. Refiners have generally spent the past few years adapting to the known specification change, but consumers can still expect to shoulder part of the costs of the cleaner gasoline.

This spring may feature a less severe climb in gasoline prices thanks to broad refinery maintenance that occurred in the fall ahead of another specification change that comes to pass on January 1: IMO 2020, the requirement to clean up fuel burned at sea.

Fuel Outlook Commentary

With the United States entering an election year, it shouldn't be understated that unknowns may lay ahead as we close out 2020 and swear-in the ultimate election winner. Many on the left side of the aisle have made it known that they plan to drastically change the climate for petroleum, and policy changes may have a similar large impact on gas prices, should one of these politicians win the election. Both sides of the political spectrum appear to be moving away from the center, and their policies with it.

Any crack down on U.S. oil production permitting or production would likely mean a hit to current or future oil production, with the possibilities that oil prices will rise as a result. In fact, some of the more extreme mentions could lead to less U.S. energy security and hand more power back to Middle East oil production nations. The potential impact at the pump should not be understated: the U.S. relies on 20 million barrels of oil production per day and policies that would undermine that may place the motorist in peril as well as the U.S. economy.

In addition, some states have taken aim at various sectors of the oil industry, including oil pipelines that ship oil to refiners to be processed. Shutting down pipelines that are relied on for millions of barrels of oil movement per day could push these products to riskier transit options or also cause a large increase in prices due to the inefficiency of other modes of transit. States that seek to shut down or hurt pipeline capacity could see price shocks as well. If the anti-oil trend continues, expect lasting impacts to gasoline and other fuel prices. Movements such as these may be popular, but with the U.S. heavily reliant on petroleum, there are sizeable risks.

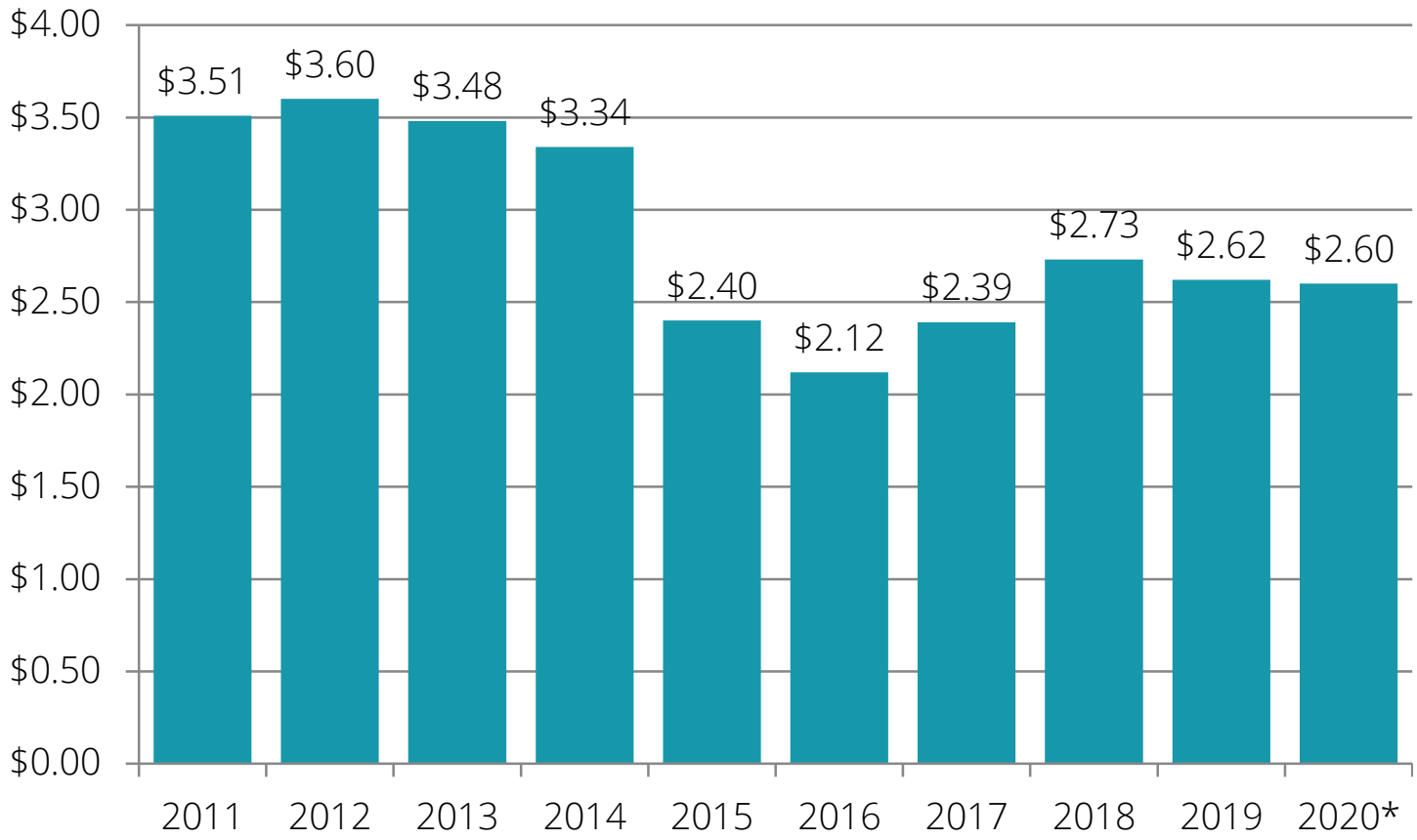
Our assumption is that some of these hardline policies are unlikely to gain significant public support, although if they do, our forecast does not reflect possible outcomes of such situations.

Fuel Outlook Commentary

GasBuddy projects that the yearly average gas price in 2019 will be $2.60 per gallon. The month of February will see the lowest prices at an average $2.41 per gallon, while May will average $2.84 per gallon, making it the priciest month of the year.

On a yearly basis, a total of $373.4 billion will be spent on gasoline in the United States, down $2.5 billion from the $372.2 billion spent in 2019. The increase in total gasoline spend comes as prices will be slightly lower in 2020 but offset by a 0.9% expected increase in gasoline demand as a result of an improving economy amidst reduced U.S./China trade tensions.

Yearly U.S. national average price of gasoline:



*Projected

Forecast Quotes

Motorists should be excited that for a sixth straight year, gasoline expenses will be affordable amidst a robust economy, with thanks to U.S. oil producers increasing our production to lead all nations and act as a price cap and insulation against unknowns that help put a lid on the price paid at the pump.

- Patrick De Haan, Head of Petroleum Analysis

Without increases to state gasoline taxes in recent years, we'd be seeing the national average move slightly lower each year. However, a myriad of states have raised gasoline taxes in this low gas price environment, undercutting the real benefit to consumers: affordable and lower pre-tax gasoline prices.

- Patrick De Haan, Head of Petroleum Analysis

Hit the road, America! It will be another year where gasoline prices can be counted on to be mostly affordable- but don't close your eyes- the different prices between stations and states will approach record levels. Never has there been a bigger opportunity to spend less, or to spend more, if that's what floats your boat.

- Patrick De Haan, Head of Petroleum Analysis

Trends for 2020: affordable gasoline prices, more fuel options including generally lower-priced ethanol, cleaner burning Tier 3 gasoline, and of course the seasonal spikes and plunges in the spring and fall, respectively. And be alert for the potential impact from major tropical systems in the year ahead. Never have gasoline prices been less predictable, and perhaps some of that comes from reliably unreliable politicians at all levels.

- Patrick De Haan, Head of Petroleum Analysis

About GasBuddy

GasBuddy's mission is to help consumers avoid paying full price for fuel. As the leading source for crowdsourced, real-time fuel prices at more than 150,000 gas station convenience stores in the U.S., Canada and Australia, millions of drivers use the GasBuddy app and website every day to find gas station convenience stores based on fuel prices, location and ratings/reviews. GasBuddy's first-of-its-kind fuel savings program, Pay with GasBuddy, has saved Americans more than $10 million at the pumps since its launch in 2017. The company's business solutions suite, GasBuddy Business Pages, provides Fuel Marketers and Retailers their best opportunity to maintain their station information, manage their brand, and promote to their target consumer audience. For more information, visit http://www.gasbuddy.com.

Market-specific and other forecasts are available from GasBuddy for a nominal charge. GasBuddy has provided forecasts for large end-users as well as smaller businesses. Other such forecast or data inquiries can be made via the contact information below.

To sign up to receive weekly gas price updates, alerts and other GasBuddy updates, e-mail the contact below with your state/province and e-mail address.

Contact:

Patrick De Haan, Head of Petroleum Analysis
Email: pdehaan@gasbuddy.com | Phone: 773-644-1427