

AUGUST 2015 UPDATE [View it in your browser.](#)



Visit our [website](#) for resource links and events!

[Surf the web!](#)

[U.S. Dept. of Energy Funding Opportunities](#)

Upcoming Events:

Massachusetts Clean Cities Stakeholder Meeting, August 12, 2015, Boston, MA

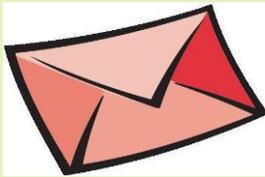
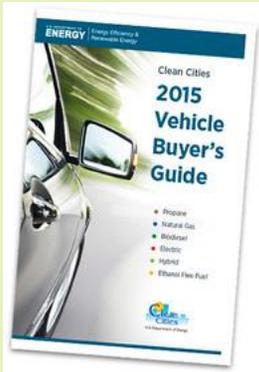
This meeting features electric vehicle charging station (EVSE) vendors. Contact Stephen Russell for more information (Stephen.Russell@state.ma.us).

New Hampshire Celebrates Drive Electric Week, September 12, 2015, 8:30-noon, Concord, NH

Due to Main Street construction, this year's event will be on the **lawn of the NH State House** (directly in front of the steps). Come view the wide selection of electric transportation available in our state. Event runs adjacent to the Concord Farmers Market too. Celebrate with us!

NH Bicycle Pedestrian Transportation Biennial Conference, September 30, 2015, Concord, NH

A full day of networking,



Join our mailing list!



planning, collaboration with NH and National experts in planning and design of infrastructure to support walking and biking. For more information and to register, [click here](#).

**Tenth Annual AltWheels Fleet Day,
October 7, 2015, Norwood, MA**

Hear presentations from those in the industry, talk with vendors or just peruse the alt fuel vehicle exhibit. A *no miss* annual event! For more information, visit: www.altwheels.org.

**GSCCC Stakeholder Meeting, October
29, 2015, Concord, NH**

Meet Tom Weber of Student Transportation of America, the "driving" force in Peterborough School District's transition to dedicated propane fueled school buses. Tom will provide an overview on why buses that run on propane are a sound financial and environmental decision, and provide an update on how things are going for the school district's new fleet.

Did you know Toyota and Hyundai are producing fuel cell vehicles? Charles Myers of the Massachusetts Hydrogen Coalition will provide an update on this exciting new technology and why the big car companies are investing in the production of vehicles that run on hydrogen.

**Save the Date! Stakeholder Meeting,
December 3, 2015, Concord, NH**

We will wrap up the calendar year with American Power Group's David Melnick to talk about APG's Gas Duel system, which converts trucks to run on natural gas *and* diesel.

News of Interest:

New Hampshire Coalition Helps Devoted Alternative Fuel Advocate Leave Lasting Legacy. *Clean Cities Now*, a popular alternative fuels publication, gives tribute to **Joe McCarthy of Patsy's Bus Sales** for his efforts to promote propane in our community. Check out the article on page 14. [Click here to read *Clean Cities Now*.](#)

U.S. Congress adjusts taxing of LNG (from *NGVAmerica*). NGVAmerica celebrates the passage of legislation by the House of Representative and the Senate that corrects a longstanding inequity in the way liquefied natural gas (LNG) is taxed. This change will provide incentive to further expand the use of clean-burning domestic natural gas as a transportation fuel. To read the article, [click here](#).

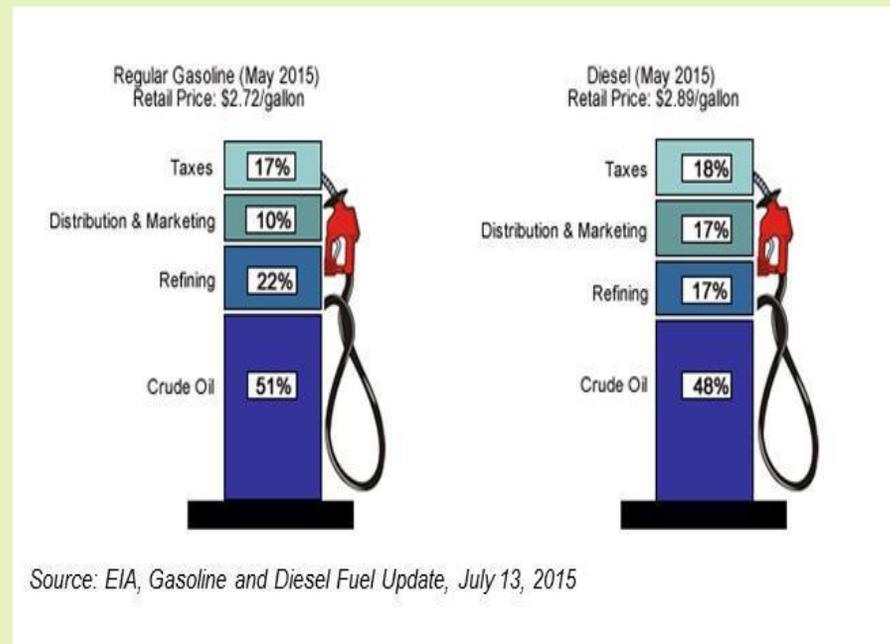
US DOE Alternative Fuel Data Center's Station Locator Changes Search Criteria for Propane Stations. The National Renewable Energy Laboratory has been working closely with the Propane Education & Research Council to establish "primary" and "secondary" fueling station categories. The result is a change in the Station Locator search criteria. Secondary locations will no longer be listed on the basic search. However, the user has the option to display secondary locations by clicking the "More Search Options" button. The difference between primary and secondary? Locations with a "primary" designation accept credit cards, offer fuel priced specifically for use in vehicles, and are available to fuel vehicles during normal business hours (e.g., 8am-5pm M-F). Secondary locations do not meet this criteria. To check out the Station Locator page, [click here](#).

~~~~~  
***Question of the Month:*** *What factors affect fuel prices?*

This Question of the Month will be posted on the Clean Cities Blog (<http://www.eereblogs.energy.gov/cleancities/>).

**Answer:** When gasoline and diesel prices spike, we often want to blame someone for our pain at the pump. The reality is that the oil industry is a complex market. Though there are numerous factors that could ultimately influence the price of fuel, such as weather, government policies, and international relations, there are four factors that have the most significant influence. These factors include the cost of crude oil, refining costs and profits, distribution and marketing costs, and fuel taxes. Alternative fuels, such as natural gas, propane, electricity, and biofuels, can mitigate some price fluctuations attributable to short-term events, like natural disasters, because they diversify the fuel supply; however, some alternative fuel prices are also dependent on similar factors.

In May 2015, the average retail price of regular grade gasoline was \$2.72, according to the Energy Information Administration (EIA). Below is a summary of the factors that affect gasoline prices, and the relative percentage of each component. We have also described how each of these factors may affect alternative fuel prices.



#### Crude Oil

As of May, approximately **51%** of the cost of gasoline was related to the price of crude oil. The fluctuation in crude oil price is the biggest factor in the volatility of the price of gasoline, as the other costs (described below) are relatively static.

Crude oil prices are largely a product of supply and demand. Global demand has grown in recent years due to world economic growth and increased access to vehicles, particularly in developing nations. The Organization of Petroleum Exporting Countries (OPEC), which produced about 40% of the world's crude oil between 2000 and 2014, also has significant influence on oil prices by setting production limits among members. Part of the reason oil prices have declined significantly since July 2014 is that OPEC nations are not limiting production, resulting in a global 'glut' of crude oil. Much of this glut stems from a surge in oil production in the United States and Canada over the last few years from unconventional sources, like shale. This price could change dramatically, however, if there is a major global supply disruption.

With the exception of electricity and natural gas, alternative fuel prices can also be impacted by the price of crude oil and the price and demand for petroleum products. Higher or lower demand for gasoline also influences ethanol demand, for example, and ethanol is closely linked to the price of gasoline, as shown in the Clean Cities Alternative Fuel Price Report. Biodiesel wholesale costs are largely influenced by the price of diesel. Propane costs historically tend to follow crude oil prices, though not to the same extent as other fuels, and change seasonally because of the demand for propane as heating fuel in the winter.

Alternative fuel prices are also affected by the applicable commodity price, though the impact varies by fuel. For example, the price of natural gas only comprises 20% of the compressed natural gas (CNG) price at the pump, according to the American Gas Association (AGA). Because the natural gas is a relatively small percentage of the overall fuel price, a swing in the natural gas commodity prices has less of an effect on the CNG price at the pump. In addition, natural gas costs are typically regulated and less expensive than petroleum (on a gasoline gallon equivalent, or GGE, basis) and the infrastructure is independent of oil infrastructure.

#### *Refining Costs and Profits*

Crude oil must be refined into gasoline and diesel so it is compatible with our vehicles. Refining oil takes energy and costs may vary based on the type and origin of the crude oil used in the process. In May, refinery costs and profits represented about **22%** of the cost of a gallon of gasoline.

Alternative fuels, such as propane, natural gas, and biofuels, are also “refined” or otherwise altered before they can be used in vehicles. Propane is a by-product of crude oil refining and is also produced as a liquid from natural gas and oil wells. Propane from natural gas liquids does not require refining; however, it must go through a scrubbing process to remove contaminants, as well as a separation process. Natural gas is produced from natural gas and oil wells, and is also subject to a separation and treatment process to remove contaminants. It must also be compressed in order to be transported in major distribution pipelines. Biofuel production facilities are often called ‘biorefineries’ because they produce and refine crude biofuels at the same location.

#### *Distribution and Marketing*

Since many of us do not live next to oil refineries, gasoline and diesel must be transported to local fueling stations first through a sophisticated system of pipelines, trucks, or barges to a network of fuel terminals, which can also be referred to as a distribution rack. The distributors, also called jobbers, load and blend the gasoline and diesel with other products (e.g., ethanol, biodiesel) in tanker trucks, which is driven to your local retail outlets and placed in underground storage tanks. In every part of the supply chain there are costs associated with employee salaries and benefits, equipment, taxes, insurance, and other

types of overhead. In May, these resulting costs equaled about **10%** of the price of a gallon of gasoline.

#### *Taxes*

Finally, motor fuel taxes contribute to the construction and maintenance of the roads we use on a regular basis. In the early 1900s, state governments devised ways to collect taxes on each gallon of fuel to help cover these costs and increase revenue. In May, federal, state, and local taxes accounted for **17%** of the average retail price of a gallon of gasoline. Federal excise taxes are currently \$0.184 per gallon of gasoline or ethanol and \$0.244 per gallon of diesel or biodiesel. Propane and CNG are taxed at \$0.183 per gallon of propane or GGE of CNG, and liquefied natural gas is taxed at \$0.243 per gallon. The September Question of the Month will delve into this topic in more detail.

State and local fuel taxes vary widely by jurisdiction. Though motor fuel taxes are applied to each gallon of gasoline or diesel sold, alternative fuels can also be taxed on an energy equivalent basis with gasoline and/or diesel. Some states use alternatives to traditional state fuel taxes, such as annual fees for alternative fuel vehicles or taxes based on the number of miles traveled. Look for the August Question of the Month for more information on these alternatives.

Though the alternative fuel supply chain differs slightly from conventional fuels, many of the same factors influencing oil prices also impact alternative fuels. Now when you fill up your vehicle, take a moment to think about all the infrastructure and people required to process and deliver fuel from the field to the pump.

For more information on fuel prices, please refer to the following websites:

- EIA's [Factors Affecting Gasoline Prices](http://www.eia.gov/energyexplained/index.cfm?page=gasoline_factors_affecting_prices)  
([http://www.eia.gov/energyexplained/index.cfm?page=gasoline\\_factors\\_affecting\\_prices](http://www.eia.gov/energyexplained/index.cfm?page=gasoline_factors_affecting_prices))
- EIA's Gasoline and Diesel Fuel Update (<http://www.eia.gov/petroleum/gasdiesel/>)
- Clean Cities' Alternative Fuel Price Report  
(<http://www.afdc.energy.gov/fuels/prices.html>)
- U.S. Internal Revenue Service (IRS)'s Quarterly Federal Excise Tax Return, Form 720  
(<http://www.irs.gov/pub/irs-pdf/f720.pdf>)
- AGA's 2015 Playbook (<https://www.aga.org/playbook>)

Clean Cities Technical Response Service Team  
[technicalresponse@icfi.com](mailto:technicalresponse@icfi.com) 800-254-6735

NH Department of Environmental Services  
29 Hazen Drive  
PO Box 95  
Concord , New Hampshire 03302  
This email was sent to: [dolores.rebolledo@des.nh.gov](mailto:dolores.rebolledo@des.nh.gov)  
[Unsubscribe](#) | [Forward to a Friend](#)