

# Clean Cities Alternative Fuel Price Report

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*October 2013*



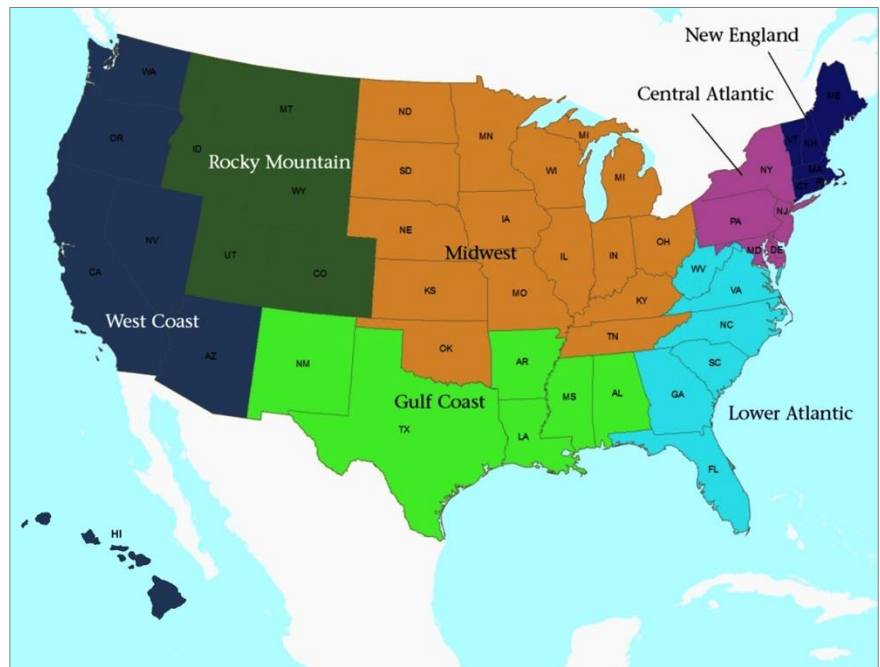
U. S. Department of Energy

## WELCOME!

Welcome to the October 2013 issue of the Clean Cities Alternative Fuel Price Report, a quarterly report designed to keep Clean Cities coalitions and other interested parties up to date on the prices of alternative and conventional fuels in the United States. This issue summarizes prices that were collected between October 4, 2013 and October 18, 2013 from Clean Cities Coordinators, fuel providers, and other Clean Cities stakeholders.

## METHODOLOGY

In order to collect price information for both alternative and conventional fuels from areas across the country, Clean Cities coordinators, fuel providers, and other key stakeholders were requested to provide prices for fuels in their areas on a voluntary basis. Prices were collected on all major alternative fuels currently in widespread use (natural gas, propane, biodiesel, and ethanol), as well as prices for conventional fuels at stations that also sell alternative fuels (or stations nearby). Prices were collected from public and private refueling stations throughout the country between October 4, 2013 and October 18, 2013. Prices were then averaged to determine regional price trends by fuel and variability in fuel price within and among regions.<sup>1</sup> Consistent with the fuel price reporting format the U.S. Energy Information Administration (EIA) uses, prices in this report are grouped by the Petroleum Administration for Defense Districts (PADD); the districts are illustrated in the map to the right.



This report's prices represent retail, at-the-pump sales prices for each fuel, including federal and state motor fuel taxes. In some cases, prices were collected from government or utility refueling facilities and these taxes were not included in the prices reported to Clean Cities. In these instances, although these users are not required to pay these taxes, the appropriate federal and state taxes were added to the reported prices to provide a more representative basis for comparison. In some cases, states may charge a flat annual fee for state motor fuel taxes, especially for gaseous fuels like compressed natural gas (CNG) and liquefied petroleum gas (LPG or propane). These flat fees are not considered in the prices reported in these pages.

<sup>1</sup> Fuel price averages for this report are determined by simply averaging the individual data points received. A comparison of average fuel prices for private and for public stations by region can be found on pages 13-14.

## SUMMARY OF CURRENT REPORT INFORMATION

Table 1 shows overall nationwide average prices for conventional and alternative fuels.<sup>2</sup> As this table illustrates, alternative fuel prices relative to conventional fuels vary, with some (B20, B99-B100) higher and some (CNG, E85 and propane) lower. On an energy-equivalent basis, CNG is about \$1.36 less than gasoline. On a per-gallon basis, E85 is about 41 cents less than gasoline, and propane is about 49 cents less than gasoline. B20 prices are higher than regular diesel by about 11 cents, while B99/B100 blends have a cost of about 27 cents per gallon more than regular diesel.<sup>3</sup>

**Table 1. Overall Average Fuel Prices**

|                      | Nationwide Average Price for Fuel This Report | Nationwide Average Price for Fuel Last Report | Change in Price This Report vs. Last Report | Units of Measurement |
|----------------------|---|---|---|----------------------|
| Gasoline (Regular)   | \$3.45  | \$3.65  | (\$0.20)                                    | per gallon           |
| Diesel               | \$3.91  | \$3.91  | \$0.00                                      | per gallon           |
| CNG                  | \$2.09  | \$2.14  | (\$0.05)                                    | per GGE              |
| Ethanol (E85)        | \$3.04  | \$3.23  | (\$0.19)                                    | per gallon           |
| Propane              | \$2.96  | \$2.73  | \$0.23                                      | per gallon           |
| Biodiesel (B20)      | \$4.02  | \$3.89  | \$0.13                                      | per gallon           |
| Biodiesel (B99-B100) | \$4.18  | \$4.19  | (\$0.01)                                    | per gallon           |

Relative to the last report from July 2013, the average prices for most of the liquid fuels have decreased by as much as 20 cents, while B20 increased by 13 cents. The gaseous fuel prices experienced a decrease of 5 cents for CNG and an increase of 23 cents for propane. It should be noted that the price changes occur as a result of a number of factors, including an actual change in price, a slightly differing sample of prices (both location and quantity), and seasonal variations of demand.

Prices in this report were collected and are reported in the units in which they are typically sold (dollars per gallon or dollars per gasoline gallon equivalent). Because these fuels have differing energy contents per gallon, the price paid per unit of energy content can differ somewhat from the price paid per gallon. Table 2 shows the fuel prices from Table 1 for the current reporting period normalized to a price per gasoline gallon equivalent (GGE), per diesel gallon equivalent (DGE), or per million British thermal units (BTUs) of energy. This calculation uses the nominal lower heating values in BTUs per gallon of fuel from the Oak Ridge National Laboratory's Transportation Energy Data Book.<sup>4</sup> Prices for the alternative fuels in terms of price per gallon equivalent are generally higher than their price per gallon because of their lower energy content per gallon.<sup>5</sup> However, consumer interest in alternative fuels generally increases when the alternative fuel price is less than the conventional fuel price and as the price differential per gallon increases, even if that differential does not directly translate to savings on an energy-equivalent basis.

**Table 2. October 2013 Overall Average Fuel Prices on Energy-Equivalent Basis**

|                      | Nationwide Average Price in Gasoline Gallon Equivalents | Nationwide Average Price in Diesel Gallon Equivalents | Nationwide Average Price in Dollars per Million Btu |
|----------------------|---|---|---|
| Gasoline             | \$3.45  | \$3.84  | \$29.85   |
| Diesel               | \$3.51  | \$3.91  | \$30.39   |
| CNG                  | \$2.09  | \$2.33  | \$18.07   |
| Ethanol (E85)        | \$4.30  | \$4.80  | \$37.29   |
| Propane              | \$4.09  | \$4.56  | \$35.46   |
| Biodiesel (B20)      | \$3.67  | \$4.09  | \$31.79   |
| Biodiesel (B99-B100) | \$4.12  | \$4.59  | \$35.70   |

<sup>2</sup> A very small sample (5 points) of hydrogen information was received: One of the five locations for which data was received reported hydrogen at zero cost for vehicle use, with an average price for the four other hydrogen stations of \$2.77 per gasoline gallon equivalent.

<sup>3</sup> ASTM specifications now include blends of up to 5% biodiesel as regular diesel fuel; therefore the separate listing for B2/B5 was discontinued as of October 2009.

<sup>4</sup> A listing of the conversion factors used appears as an appendix at the end of this report.

<sup>5</sup> For ethanol flexible-fuel vehicles (FFVs), the actual difference in fuel used per mile is somewhat less than would be calculated simply on the difference in energy content of the fuels, as some sources have noted that some FFVs can achieve better energy efficiency (miles per unit of energy) on E85 than on gasoline. This effect is not currently included in these calculations as the magnitude of the effect varies by specific FFV model.

## GASOLINE AND DIESEL PRICES

Table 3 shows average prices for gasoline and diesel as collected by Clean Cities coordinators and other stakeholders (supplemented where necessary with other EIA reference sources for conventional fuels). These prices were collected from refueling stations selling both conventional fuels and alternative fuels, and from conventional refueling stations near alternative fuel stations. There were 516 price points collected for gasoline and 350 for diesel. The average price for gasoline ranged from a low of \$3.11 per gallon in the Gulf Coast region to a high of \$3.78 per gallon in the West Coast region. Diesel prices ranged from \$3.78 per gallon in the Central Atlantic and Gulf Coast regions to \$4.11 per gallon in the West Coast region. Because prices for conventional fuels were collected from stations and regions providing alternative fuel price information, data collection was not uniform across the regions of the country. However, the information is representative of refueling stations selling both alternative fuels and conventional fuels.

**Table 3. Average Gasoline and Diesel Prices by Region from Clean Cities Sources**

|                         | Regular Gasoline Information<br>Reported by Clean Cities (\$/gal) |                       | Diesel Information<br>Reported by Clean Cities (\$/gal) |                       |
|-------------------------|---|-----------------------|---|-----------------------|
|                         | Average Price   | Number of Data Points | Average Price   | Number of Data Points |
| New England             | \$3.76  | 27                    | \$4.09  | 33                    |
| Central Atlantic        | \$3.41  | 54                    | \$3.78  | 47                    |
| Lower Atlantic          | \$3.34  | 62                    | \$3.83  | 42                    |
| Midwest                 | \$3.32  | 138                   | \$3.81  | 87                    |
| Gulf Coast              | \$3.11  | 40                    | \$3.78  | 18                    |
| Rocky Mountain          | \$3.42  | 94                    | \$3.89  | 45                    |
| West Coast              | \$3.78  | 101                   | \$4.11  | 78                    |
| <b>NATIONAL AVERAGE</b> | <b>\$3.45</b>   | <b>516</b>            | <b>\$3.91</b>   | <b>350</b>            |

Table 4 shows average prices as provided by EIA on the petroleum information section of its website.<sup>6</sup> These prices are averages of prices from a selection of 900 gasoline and 350 diesel retail fuel stations across the country. Note that EIA's average nationwide prices match relatively closely with the average prices reported by Clean Cities stakeholders. Prices differed by 10 cents or less for gasoline and 6 cents or less for diesel in each region on a per gallon basis, with the exceptions of New England, where EIA average prices for gasoline differed by 23 cents, and the Central Atlantic, where EIA average prices for diesel differed by 18 cents from the average prices reported by Clean Cities stakeholders. Comparisons in this document between conventional and alternative fuel prices will be made using prices collected from Clean Cities sources wherever possible, as these prices are most representative of stations selling both conventional and alternative fuels.

**Table 4. EIA Gasoline and Diesel Price Averages**

|                         | Gasoline Average<br>Price from EIA,<br>Week of 10/14/13 | Diesel Average<br>Price from EIA,<br>Week 10/14/13 |
|-------------------------|---|--|
| New England             | \$3.53  | \$4.03   |
| Central Atlantic        | \$3.40  | \$3.96   |
| Lower Atlantic          | \$3.26  | \$3.84   |
| Midwest                 | \$3.30  | \$3.85   |
| Gulf Coast              | \$3.11  | \$3.80   |
| Rocky Mountain          | \$3.46  | \$3.89   |
| West Coast              | \$3.68  | \$4.05   |
| <b>NATIONAL AVERAGE</b> | <b>\$3.35</b>   | <b>\$3.89</b>                                      |

<sup>6</sup> <http://www.eia.doe.gov/petroleum/>

## COMPRESSED NATURAL GAS (RELATIVE TO GASOLINE)

Table 5 shows average prices for compressed natural gas (CNG) for vehicle use, grouped by region, as well as regular gasoline prices, as provided by Clean Cities representatives. These prices were collected from across the country from Clean Cities coordinators, fuel providers, and other stakeholders on a voluntary basis.

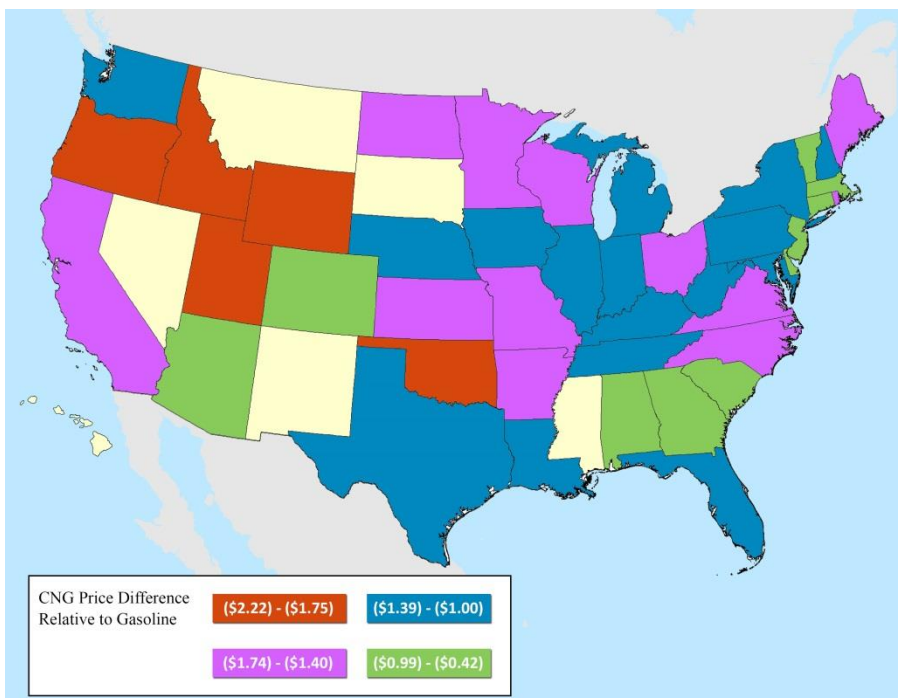
As Table 5 illustrates, CNG has a lower average price than gasoline for all regions of the country, with the largest difference (\$1.60 per GGE) being in the Rocky Mountain region. On average, CNG costs about \$1.36 less than gasoline on a per gasoline gallon equivalent basis.

The map to the right illustrates price differentials by state for natural gas relative to gasoline, based on differentials between natural gas and gasoline prices for each state (as opposed to the regional averages illustrated in Table 5). In this map, negative numbers represent prices for CNG lower than gasoline. States not highlighted with a color did not have any CNG data points in the current report. As the map illustrates, CNG prices (per GGE) were favorable relative to gasoline in all states for which pricing data was reported, with the most favorable pricing found in states located in the Rocky Mountain, Midwest and West Coast regions.

*Tech Note: Prices for CNG were provided by the individual stakeholders in gasoline gallon equivalents from the "price at the pump." It should be noted that the internal conversion factor between the physical quantities of gas delivered and gasoline gallon equivalent was not collected from each of the refueling stations. Regional differences in gas heat content relative to the internal pump conversion factor may change the price per gasoline gallon equivalent, but this report did not determine these differences.*

**Table 5. Compressed Natural Gas Average Prices by Region from Clean Cities Sources**

|                         | Natural Gas (CNG) Information<br>Reported by Clean Cities (\$/GGE) |                       | Regular Gasoline Information<br>Reported by Clean Cities (\$/gal) |                       |
|-------------------------|--|-----------------------|---|-----------------------|
|                         | Average Price  | Number of Data Points | Average Price   | Number of Data Points |
| New England             | \$2.53   | 28                    | \$3.76  | 27                    |
| Central Atlantic        | \$2.19   | 104                   | \$3.41  | 54                    |
| Lower Atlantic          | \$2.06   | 27                    | \$3.34  | 62                    |
| Midwest                 | \$1.87   | 72                    | \$3.32  | 138                   |
| Gulf Coast              | \$2.02   | 29                    | \$3.11  | 40                    |
| Rocky Mountain          | \$1.82   | 106                   | \$3.42  | 94                    |
| West Coast              | \$2.31   | 103                   | \$3.78  | 101                   |
| <b>NATIONAL AVERAGE</b> | <b>\$2.09</b>  | <b>469</b>            | <b>\$3.45</b>   | <b>516</b>            |



## COMPRESSED NATURAL GAS (RELATIVE TO DIESEL)<sup>7</sup>

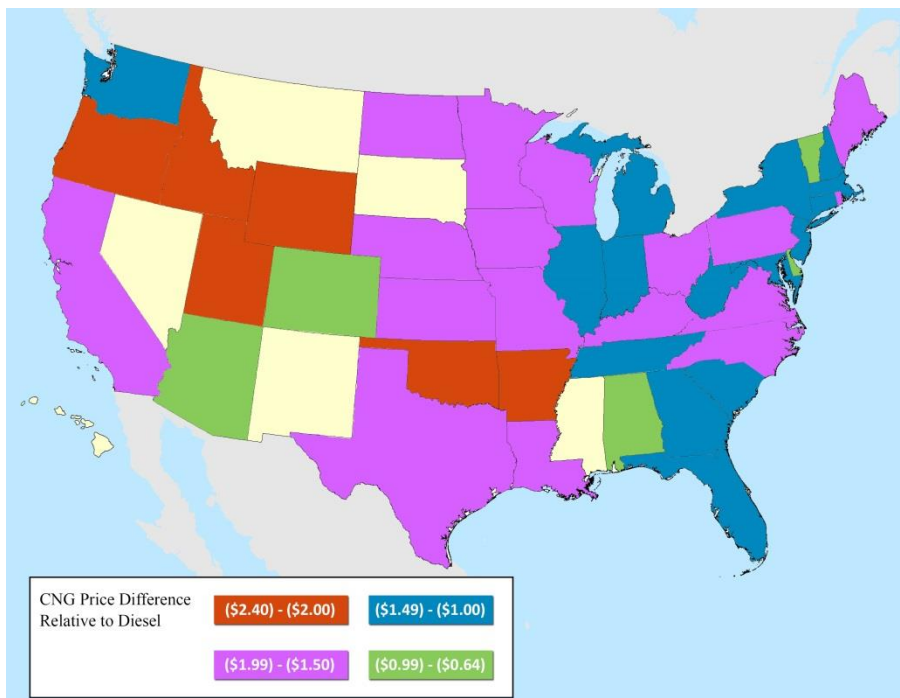
Table 6 shows average prices for compressed natural gas (CNG) for vehicle use, grouped by region, as well as conventional diesel fuel prices, as provided by Clean Cities representatives and supplemental sources. These prices were collected from across the country from Clean Cities coordinators, fuel providers, and other stakeholders on a voluntary basis. The CNG prices in Table 6 are based upon the same group of prices as for Table 5, but converted to a cost per diesel gallon equivalent basis instead of a cost per gasoline gallon equivalent, to compare directly with diesel prices.

**Table 6. Compressed Natural Gas Average Prices by Region from Clean Cities Sources**

|                         | Natural Gas (CNG) Information<br>Reported by Clean Cities (\$/DGE) |                       | Diesel Information<br>Reported by Clean Cities (\$/gal) |                       |
|-------------------------|--|-----------------------|---|-----------------------|
|                         | Average Price  | Number of Data Points | Average Price   | Number of Data Points |
| New England             | \$2.82   | 28                    | \$4.09  | 33                    |
| Central Atlantic        | \$2.44   | 104                   | \$3.78  | 47                    |
| Lower Atlantic          | \$2.3  | 27                    | \$3.83  | 42                    |
| Midwest                 | \$2.09   | 72                    | \$3.81  | 87                    |
| Gulf Coast              | \$2.25   | 29                    | \$3.78  | 18                    |
| Rocky Mountain          | \$2.03   | 106                   | \$3.89  | 45                    |
| West Coast              | \$2.57   | 103                   | \$4.11  | 78                    |
| <b>NATIONAL AVERAGE</b> | <b>\$2.33</b>  | <b>469</b>            | <b>\$3.91</b>   | <b>350</b>            |

As Table 6 illustrates, CNG has a lower average price than diesel for all regions of the country, with the largest difference (\$1.86 per DGE) being in the Rocky Mountain region. On average, CNG costs about \$1.58 less than diesel on a per diesel gallon equivalent basis.

The map to the right illustrates price differentials by state for CNG relative to diesel, based on differentials between CNG prices and diesel prices for each state (as opposed to the regional averages illustrated in Table 6). In this map, negative numbers represent prices for CNG lower than prices for diesel. States not highlighted with a color did not have any CNG data points in the current report. As with the comparison to gasoline, CNG prices relative to diesel were favorable for all states for which pricing data was reported, with the most favorable pricing found in states located in the Rocky Mountain, Midwest and West Coast regions.



<sup>7</sup> A total of 19 liquefied natural gas (LNG) price points were collected with an average fuel price of \$2.34 per gallon, or \$4.03 per DGE. Because of the small number of price points, this data is not reflected in the report.



## ETHANOL (E85)

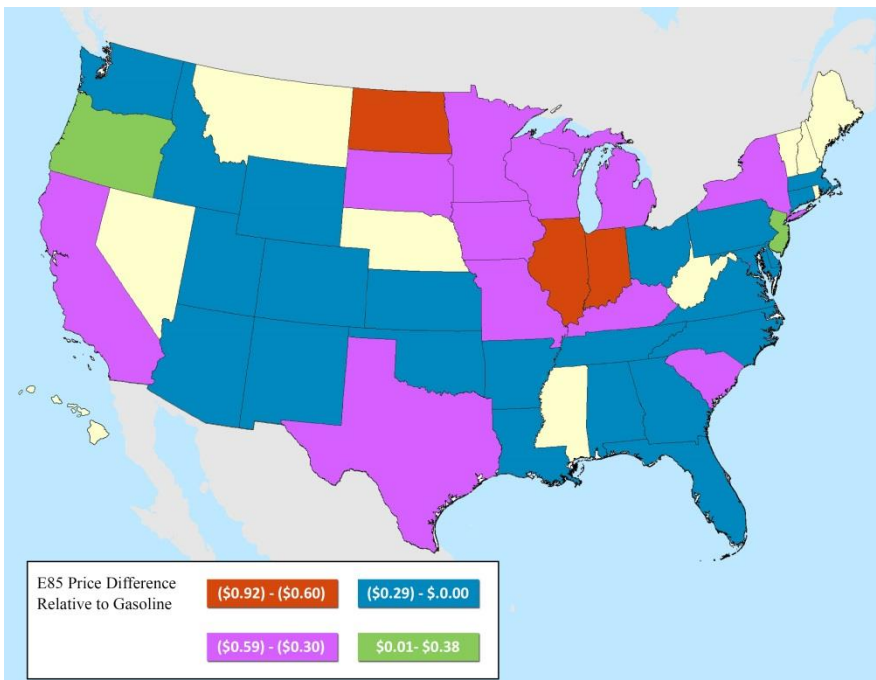
Table 7 shows average prices for an 85% ethanol/15% gasoline (E85) fuel blend, grouped by region, as well as regular gasoline prices, as provided by Clean Cities representatives. These prices were collected from across the country from Clean Cities coordinators, fuel providers, and other stakeholders on a voluntary basis.

As Table 7 illustrates, E85 has a lower average price per gallon than regular gasoline for each region, with the largest average differential (51 cents) being found in the West Coast region. On average, E85 is about 41 cents lower in price than regular gasoline on a per-gallon basis.

**Table 7. Ethanol (E85) Average Prices by Region from Clean Cities Sources**

|                         | Ethanol (E85) Information<br>Reported by Clean Cities (\$ per gal) |                       | Regular Gasoline Information<br>Reported by Clean Cities (\$ per gal) |                       |
|-------------------------|--|-----------------------|---|-----------------------|
|                         | Average Price  | Number of Data Points | Average Price   | Number of Data Points |
| New England             | \$3.46   | 3                     | \$3.76  | 27                    |
| Central Atlantic        | \$3.25   | 93                    | \$3.41  | 54                    |
| Lower Atlantic          | \$3.11   | 47                    | \$3.34  | 62                    |
| Midwest                 | \$2.84   | 182                   | \$3.32  | 138                   |
| Gulf Coast              | \$2.92   | 51                    | \$3.11  | 40                    |
| Rocky Mountain          | \$3.11   | 65                    | \$3.42  | 94                    |
| West Coast              | \$3.27   | 70                    | \$3.78  | 101                   |
| <b>NATIONAL AVERAGE</b> | <b>\$3.04</b>  | <b>511</b>            | <b>\$3.45</b>   | <b>516</b>            |

The map to the right illustrates price differentials between E85 and regular gasoline by state, based on differentials between E85 and gasoline prices for each state (as opposed to the regional averages illustrated in Table 7). In this map, negative numbers represent prices for E85 lower than for gasoline, and positive numbers represent prices for E85 higher than gasoline, on a per-gallon basis. States not highlighted with a color did not have any E85 data points in the current report. As the map illustrates, the states with the most favorable E85 pricing were located in the Midwest region.



*Tech Note: Ethanol (E85) contains about 30% less energy (BTUs) per volume than gasoline. Flexible fuel vehicles (FFVs) operating on E85 do not experience a loss in operational performance, but may experience a 25-30% decrease in miles driven per gallon compared to operation on gasoline. The appendix at the end of this report provides conversion factors for calculating E85 prices on a GGE and DGE basis. For a side-by-side comparison of available flexible fuel and other alternatively fueled vehicles, visit [www.fueleconomy.gov](http://www.fueleconomy.gov).*

## PROPANE

Table 8 shows average prices for propane for vehicle use grouped by region, as well as regular gasoline prices, as provided by Clean Cities representatives. These prices were collected from across the country from Clean Cities coordinators, fuel providers, and other stakeholders on a voluntary basis. Some stations charge a different price for propane used in vehicles versus other uses. Where provided, the vehicle price has been included in this report.

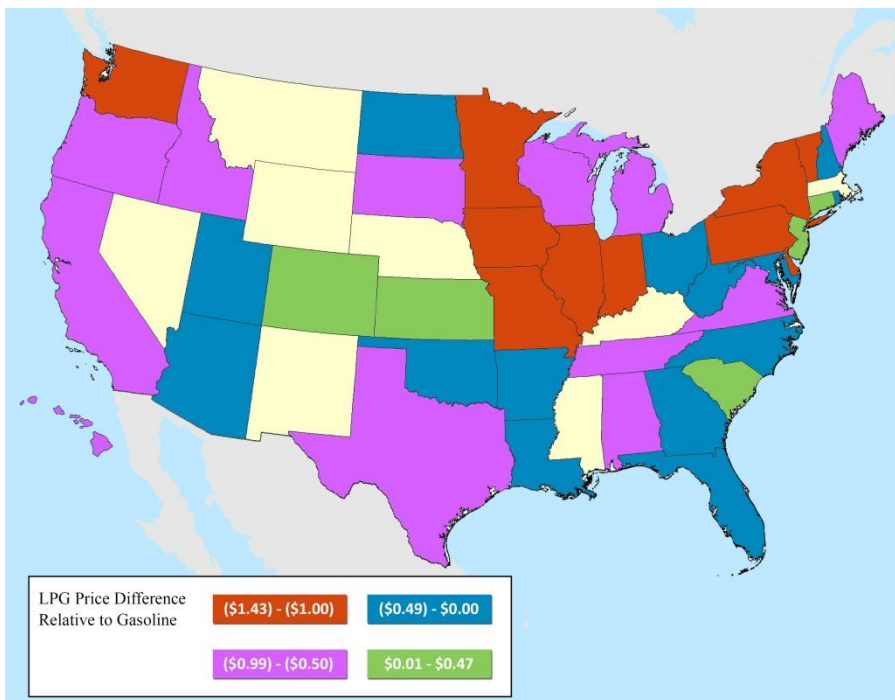
**Table 8. Propane Average Prices by Region from Clean Cities Sources**

|                         | Propane Information<br>Reported by Clean Cities (\$ per gal) |                       | Regular Gasoline Information<br>Reported by Clean Cities (\$ per gal) |                       |
|-------------------------|--|-----------------------|---|-----------------------|
|                         | Average Price  | Number of Data Points | Average Price   | Number of Data Points |
| New England             | \$3.28   | 16                    | \$3.76  | 27                    |
| Central Atlantic        | \$2.87   | 55                    | \$3.41  | 54                    |
| Lower Atlantic          | \$3.00   | 46                    | \$3.34  | 62                    |
| Midwest                 | \$2.67   | 59                    | \$3.32  | 138                   |
| Gulf Coast              | \$2.80   | 47                    | \$3.11  | 40                    |
| Rocky Mountain          | \$3.22   | 58                    | \$3.42  | 94                    |
| West Coast              | \$3.06   | 88                    | \$3.78  | 101                   |
| <b>NATIONAL AVERAGE</b> | <b>\$2.96</b>  | <b>369</b>            | <b>\$3.45</b>   | <b>516</b>            |

As Table 8 illustrates, propane prices are lower than gasoline in all regions of the country on a per-gallon basis. Overall, propane was about 49 cents per gallon less than gasoline, with the largest average price differential of \$.72 per gallon found in the West Coast region. Propane prices in this report are from both private fleet refueling stations and public refueling sites that can provide propane for vehicles and for other uses.

The map to the right illustrates price differentials between propane and regular gasoline on a per-gallon basis, based on differentials between propane and gasoline prices for each state (as opposed to the regional averages illustrated in Table 8). In this map, negative numbers represent prices for propane lower than gasoline, and positive numbers represent propane prices higher than gasoline. States not highlighted with a color did not have any propane data points in the current report. As the map illustrates, the most favorable prices were found in the Midwest and Central Atlantic regions, as well as some states in the New England and West Coast regions.

*Tech Note: Propane contains about 25% less energy (BTUs) per volume than gasoline and about 35% less energy (BTUs) per volume than diesel. The appendix at the end of this report provides conversion factors for calculating propane prices on a GGE and DGE basis.*





## BIODIESEL BLENDS: B20

Table 9 shows average prices for B20, a 20% biodiesel/80% diesel fuel blend, grouped by region, as well as regular diesel prices, as provided by Clean Cities representatives. These prices were collected from across the country from Clean Cities coordinators, fuel providers, and other stakeholders on a voluntary basis.

As Table 9 illustrates, prices for B20 are between 2 cents and 26 cents per gallon higher than conventional diesel fuel in six regions. This quarter's data shows one region, New England, with B20 prices less than diesel.

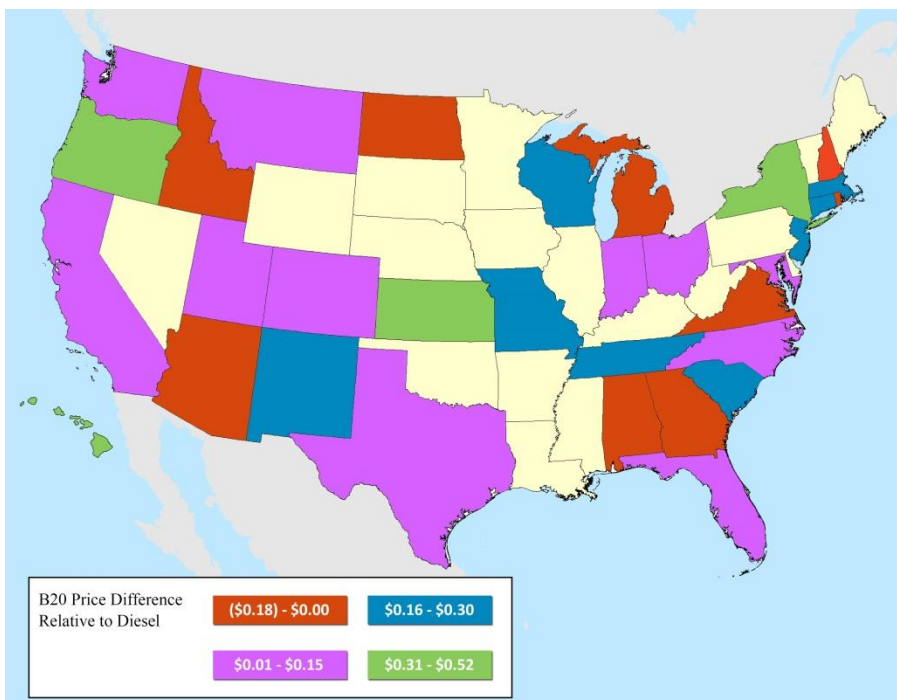
On average in the U.S., biodiesel in a B20 blend costs about 11 cents more per gallon than conventional diesel fuel, based on current information.

The map to the right illustrates price differentials between B20 and diesel on a per-gallon basis, based on differentials between B20 and diesel prices for each state (as opposed to the regional averages illustrated in Table 9). In this map, negative numbers represent prices for B20 lower than diesel, and positive numbers represent B20 prices higher than diesel. States not highlighted with a color did not have any B20 data points in the current report. B20 had favorable pricing (per gallon) in a number of states located around the country.

*Tech Note: B20 contains only about 2% less energy (BTUs) per volume than diesel. The appendix at the end of this report provides conversion factors for calculating B20 prices on a GGE and DGE basis.*

**Table 9. Biodiesel (B20) Average Prices by Region from Clean Cities Sources**

|                         | Biodiesel (B20) Information<br>Reported by Clean Cities (\$ per gal) |                       | Diesel Information<br>Reported by Clean Cities (\$ per gal) |                       |
|-------------------------|--|-----------------------|---|-----------------------|
|                         | Average Price  | Number of Data Points | Average Price   | Number of Data Points |
| New England             | \$3.94   | 8                     | \$4.09  | 33                    |
| Central Atlantic        | \$4.04   | 31                    | \$3.78  | 47                    |
| Lower Atlantic          | \$3.85   | 22                    | \$3.83  | 42                    |
| Midwest                 | \$3.83   | 35                    | \$3.81  | 87                    |
| Gulf Coast              | \$3.83   | 7                     | \$3.78  | 18                    |
| Rocky Mountain          | \$3.95   | 17                    | \$3.89  | 45                    |
| West Coast              | \$4.26   | 52                    | \$4.11  | 78                    |
| <b>NATIONAL AVERAGE</b> | <b>\$4.02</b>  | <b>172</b>            | <b>\$3.91</b>   | <b>350</b>            |



## BIODIESEL BLENDS: B99/B100

Table 10 shows average prices for high-level blends of biodiesel (99% or 100% biodiesel with diesel fuel), grouped by region, as well as regular diesel prices, as provided by Clean Cities representatives. These prices were collected from across the country from Clean Cities coordinators, fuel providers, and other stakeholders on a voluntary basis.

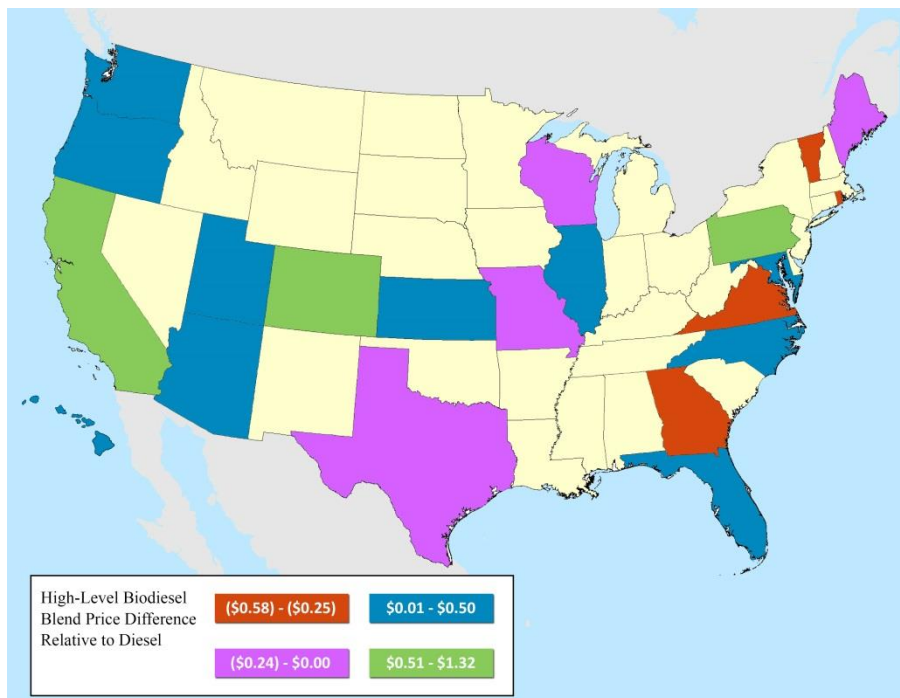
The price of B99/B100 is higher than the price of diesel fuel on a per gallon basis in four of the regions for which data was collected, ranging from 29 cents higher in the West Coast region to 70 cents higher in the Central Atlantic and Rocky Mountain regions. In the New England and Gulf Coast regions, prices for B99/B100 were lower than conventional diesel, by 39 cents and 21 cents, respectively. In the Midwest, the average prices for B99/B100 and conventional diesel were the same. On average across the nation, the price of B99/B100 is about 27 cents per gallon higher than the price of regular diesel.

The map to the right illustrates price differentials between high-level biodiesel blends and regular diesel on a per-gallon basis, based on differentials between biodiesel and diesel prices for each state (as opposed to the regional averages illustrated in Table 10). In this map, negative numbers represent prices for these blends that are lower than diesel, and positive numbers represent prices for these blends that are higher than diesel. States not highlighted with a color did not have any high-level biodiesel blend data points in the current report. Where data was available for this report, prices for B99/B100 (per gallon) were most favorable in states located in the New England and Lower Atlantic regions.

*Tech Note: B100 contains about 10% less energy (BTUs) per volume than diesel. The appendix at the end of this report provides conversion factors for calculating B100 prices on a GGE and DGE basis.*

**Table 10. Biodiesel (B99/B100) Average Prices by Region from Clean Cities Sources**

|                         | Biodiesel (B99/B100) Information<br>Reported by Clean Cities (\$ per gal) |                       | Diesel Information<br>Reported by Clean Cities (\$ per gal) |                       |
|-------------------------|---|-----------------------|---|-----------------------|
|                         | Average Price   | Number of Data Points | Average Price   | Number of Data Points |
| New England             | \$3.70  | 4                     | \$4.09  | 33                    |
| Central Atlantic        | \$4.48  | 5                     | \$3.78  | 47                    |
| Lower Atlantic          | \$4.02  | 17                    | \$3.83  | 42                    |
| Midwest                 | \$3.81  | 5                     | \$3.81  | 87                    |
| Gulf Coast              | \$3.57  | 3                     | \$3.78  | 18                    |
| Rocky Mountain          | \$4.59  | 3                     | \$3.89  | 45                    |
| West Coast              | \$4.40  | 25                    | \$4.11  | 78                    |
| <b>NATIONAL AVERAGE</b> | <b>\$4.18</b>   | <b>62</b>             | <b>\$3.91</b>   | <b>350</b>            |



## COMPARISON OF PRICES OF THIS REPORT VERSUS LAST REPORT

Table 11, below, summarizes the average prices collected for this report by region, and compares them to prices collected in the Price Report from July, 2013. It should be noted that a portion of the price changes could be attributed to differing sample sizes and locations between the two reports.

**Table 11. Comparison of Prices, Last Price Report versus Current Price Report**

|  |                                      | <i>Price for October 2013 Period</i> | <i>Price for July 2013 Period</i> | <i>Price Differential<br/>October vs. July</i> |
|--|--------------------------------------|--------------------------------------|-----------------------------------|--|
| <i>Gasoline (\$ per gallon)</i>            | <i>National Average</i>              | \$3.45                               | \$3.65                            | (\$0.20) / (6%)                                |
|  | New England                          | \$3.76                               | \$3.88                            | (\$0.12) / (3%)                                |
|  | Central Atlantic                     | \$3.41                               | \$3.63                            | (\$0.22) / (6%)                                |
|  | Lower Atlantic                       | \$3.34                               | \$3.49                            | (\$0.15) / (4%)                                |
|  | Midwest                              | \$3.32                               | \$3.63                            | (\$0.31) / (9%)                                |
|  | Gulf Coast                           | \$3.11                               | \$3.42                            | (\$0.31) / (9%)                                |
|  | Rocky Mountain                       | \$3.42                               | \$3.55                            | (\$0.13) / (4%)                                |
|  | West Coast                           | \$3.78                               | \$3.93                            | (\$0.15) / (4%)                                |
|  | <i>Diesel (\$ per gallon)</i>        | <i>National Average</i>              | \$3.91                            | \$3.91   |
| New England                                |                                      | \$4.09                               | \$4.07                            | \$0.02 / 1%                                    |
| Central Atlantic                           |                                      | \$3.78                               | \$3.81                            | (\$0.03) / (1%)                                |
| Lower Atlantic                             |                                      | \$3.83                               | \$3.82                            | \$0.01 / 0%                                    |
| Midwest                                    |                                      | \$3.81                               | \$3.86                            | (\$0.05) / (1%)                                |
| Gulf Coast                                 |                                      | \$3.78                               | \$3.82                            | (\$0.04) / (1%)                                |
| Rocky Mountain                             |                                      | \$3.89                               | \$3.86                            | \$0.03 / 1%                                    |
| West Coast                                 |                                      | \$4.11                               | \$4.08                            | \$0.03 / 1%                                    |
| <i>Compressed Natural Gas (\$ per GGE)</i> |                                      | <i>National Average</i>              | \$2.09                            | \$2.14   |
|  | New England                          | \$2.53                               | \$2.57                            | (\$0.04) / (1%)                                |
|  | Central Atlantic                     | \$2.19                               | \$2.22                            | (\$0.03) / (2%)                                |
|  | Lower Atlantic                       | \$2.06                               | \$2.01                            | \$0.05 / 3%                                    |
|  | Midwest                              | \$1.87                               | \$1.86                            | \$0.01 / 0%                                    |
|  | Gulf Coast                           | \$2.02                               | \$2.03                            | (\$0.01) / (1%)                                |
|  | Rocky Mountain                       | \$1.82                               | \$1.82                            | \$0 / 0%                                       |
|  | West Coast                           | \$2.31                               | \$2.43                            | (\$0.12) / (5%)                                |
|  | <i>Ethanol (E85) (\$ per gallon)</i> | <i>National Average</i>              | \$3.04                            | \$3.23   |
| New England                                |                                      | \$3.46                               | \$3.58                            | (\$0.12) / (3%)                                |
| Central Atlantic                           |                                      | \$3.25                               | \$3.44                            | (\$0.19) / (5%)                                |
| Lower Atlantic                             |                                      | \$3.11                               | \$3.25                            | (\$0.14) / (4%)                                |
| Midwest                                    |                                      | \$2.84                               | \$3.15                            | (\$0.31) / (10%)                               |
| Gulf Coast                                 |                                      | \$2.92                               | \$3.13                            | (\$0.21) / (7%)                                |
| Rocky Mountain                             |                                      | \$3.11                               | \$3.08                            | \$0.03 / 1%                                    |
| West Coast                                 |                                      | \$3.27                               | \$3.40                            | (\$0.13) / (4%)                                |

Table 11. Comparison of Prices, Last Price Report versus Current Price Report

|   |  | <i>Price October 2013 Period</i> | <i>Price for July 2013 Period</i> | <i>Price Differential<br/>October vs. July</i> |
|---|--|----------------------------------|-----------------------------------|--|
| <i>Propane (\$ per gallon)</i>              | <i>National Average</i>                | \$2.96                           | \$2.73                            | \$0.23 / 9%                                    |
|   | New England                            | \$3.28                           | \$3.14                            | \$0.14 / 4%                                    |
|   | Central Atlantic                       | \$2.87                           | \$2.76                            | \$0.11 / 4%                                    |
|   | Lower Atlantic                         | \$3.00                           | \$2.83                            | \$0.17 / 6%                                    |
|   | Midwest                                | \$2.67                           | \$2.47                            | \$0.20 / 8%                                    |
|   | Gulf Coast                             | \$2.80                           | \$2.30                            | \$0.50 / 22%                                   |
|   | Rocky Mountain                         | \$3.22                           | \$2.91                            | \$0.31 / 11%                                   |
|   | West Coast                             | \$3.06                           | \$2.99                            | \$0.07 / 2%                                    |
|   | <i>Biodiesel (B20) (\$ per gallon)</i> | <i>National Average</i>          | \$4.02                            | \$3.89   |
| New England                                 |  | \$3.94                           | \$3.92                            | \$0.02 / 0%                                    |
| Central Atlantic                            |  | \$4.04                           | \$3.87                            | \$0.17 / 5%                                    |
| Lower Atlantic                              |  | \$3.85                           | \$3.88                            | (\$0.03) / (1%)                                |
| Midwest                                     |  | \$3.83                           | \$3.54                            | \$0.29 / 8%                                    |
| Gulf Coast                                  |  | \$3.83                           | \$3.86                            | (\$0.03) / (1%)                                |
| Rocky Mountain                              |  | \$3.95                           | \$3.89                            | \$0.06 / 2%                                    |
| West Coast                                  |  | \$4.26                           | \$4.13                            | \$0.13 / 3%                                    |
| <i>Biodiesel (B99/B100) (\$ per gallon)</i> |  | <i>National Average</i>          | \$4.18                            | \$4.19   |
|   | New England                            | \$3.70                           | \$3.80                            | (\$0.10) / (3%)                                |
|   | Central Atlantic                       | \$4.48                           | \$4.62                            | (\$0.14) / (3%)                                |
|   | Lower Atlantic                         | \$4.02                           | \$4.05                            | (\$0.03) / (1%)                                |
|   | Midwest                                | \$3.81                           | \$3.96                            | (\$0.15) / (4%)                                |
|   | Gulf Coast                             | \$3.57                           | \$3.70                            | (\$0.13) / (3%)                                |
|   | Rocky Mountain                         | \$4.59                           | \$4.45                            | \$0.14 / 3%                                    |
|   | West Coast                             | \$4.40                           | \$4.37                            | \$0.03 / 1%                                    |

## COMPARISON OF PRICES BY REGION FOR PUBLIC AND PRIVATE REFUELING STATIONS

Table 12, below, summarizes the comparison of fuel prices included in this report, separated into averages for privately-owned stations or stations available only to selected fleets (private refueling stations) and stations open to the public (public refueling stations). Private fleet fueling stations can typically negotiate prices lower than retail public stations, if they are willing to commit to purchasing large quantities of fuel over an extended period of time. However, private fleet pricing can sometimes be higher than retail public stations if there are unusual circumstances (remote locations, sites that use very small quantities of fuel, or special contracts where unique billing, accounting, or fleet service management fees are rolled into the price of the fuel).

As with the other prices in this report, all of these averages are prices with state and federal taxes included, using the protocols outlined at the beginning of this document.

**Table 12. Comparison of Prices by Fuel Type, Region, and Station Type**

|                                   |                         | <i>Private Refueling Station Average</i> | <i>Public Refueling Station Average</i> |
|-----------------------------------|-------------------------|--|---|
|                                   |                         | <i>Price</i>                             | <i>Price</i>                            |
| <i>Gasoline (\$/gallon)</i>       | <i>National Average</i> | \$3.45                                   | \$3.44                                  |
|                                   | New England             | \$3.64                                   | \$3.77                                  |
|                                   | Central Atlantic        | \$3.43                                   | \$3.41                                  |
|                                   | Lower Atlantic          | \$3.21                                   | \$3.36                                  |
|                                   | Midwest                 | \$3.42                                   | \$3.31                                  |
|                                   | Gulf Coast              | \$--.--                                  | \$3.11                                  |
|                                   | Rocky Mountain          | \$3.42                                   | \$3.42                                  |
|                                   | West Coast              | \$3.59                                   | \$3.79                                  |
| <i>Diesel (\$/gallon)</i>         | <i>National Average</i> | \$3.74                                   | \$3.93                                  |
|                                   | New England             | \$3.95                                   | \$4.12                                  |
|                                   | Central Atlantic        | \$3.67                                   | \$3.88                                  |
|                                   | Lower Atlantic          | \$3.25                                   | \$3.88                                  |
|                                   | Midwest                 | \$3.59                                   | \$3.81                                  |
|                                   | Gulf Coast              | \$4.03                                   | \$3.76                                  |
|                                   | Rocky Mountain          | \$3.84                                   | \$3.89                                  |
|                                   | West Coast              | \$3.93                                   | \$4.13                                  |
| <i>Natural Gas (CNG) (\$/GGE)</i> | <i>National Average</i> | \$1.81                                   | \$2.19                                  |
|                                   | New England             | \$2.29                                   | \$2.56                                  |
|                                   | Central Atlantic        | \$1.97                                   | \$2.38                                  |
|                                   | Lower Atlantic          | \$1.77                                   | \$2.10                                  |
|                                   | Midwest                 | \$1.97                                   | \$1.85                                  |
|                                   | Gulf Coast              | \$1.67                                   | \$2.03                                  |
|                                   | Rocky Mountain          | \$1.57                                   | \$2.01                                  |
|                                   | West Coast              | \$1.65                                   | \$2.36                                  |
| <i>Ethanol (E85) (\$/gallon)</i>  | <i>National Average</i> | \$3.15                                   | \$3.04                                  |
|                                   | New England             | \$--.--                                  | \$3.46                                  |
|                                   | Central Atlantic        | \$3.35                                   | \$3.24                                  |
|                                   | Lower Atlantic          | \$3.33                                   | \$3.10                                  |
|                                   | Midwest                 | \$2.83                                   | \$2.84                                  |
|                                   | Gulf Coast              | \$--.--                                  | \$2.92                                  |
|                                   | Rocky Mountain          | \$3.32                                   | \$3.11                                  |
|                                   | West Coast              | \$3.45                                   | \$3.26                                  |
| <i>Propane (\$/gallon)</i>        | <i>National Average</i> | \$2.21                                   | \$3.03                                  |
|                                   | New England             | \$3.28                                   | \$3.28                                  |
|                                   | Central Atlantic        | \$2.09                                   | \$3.11                                  |
|                                   | Lower Atlantic          | \$--.--                                  | \$3.00                                  |
|                                   | Midwest                 | \$2.04                                   | \$2.73                                  |
|                                   | Gulf Coast              | \$2.03                                   | \$2.89                                  |
|                                   | Rocky Mountain          | \$1.87                                   | \$3.24                                  |
|                                   | West Coast              | \$2.56                                   | \$3.10                                  |

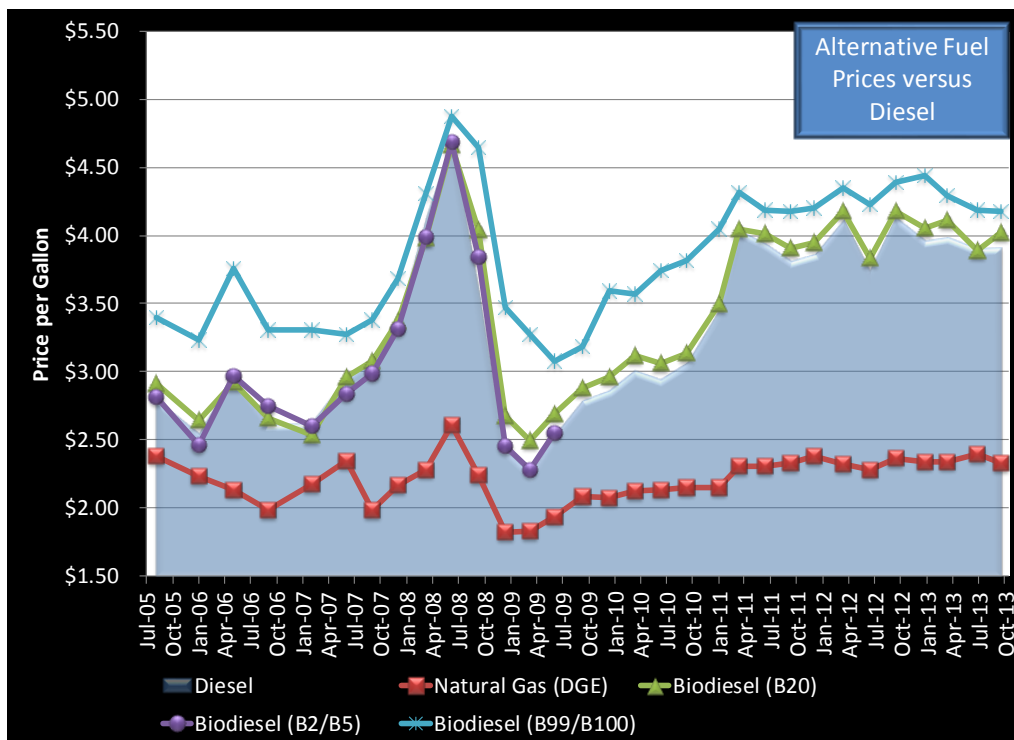
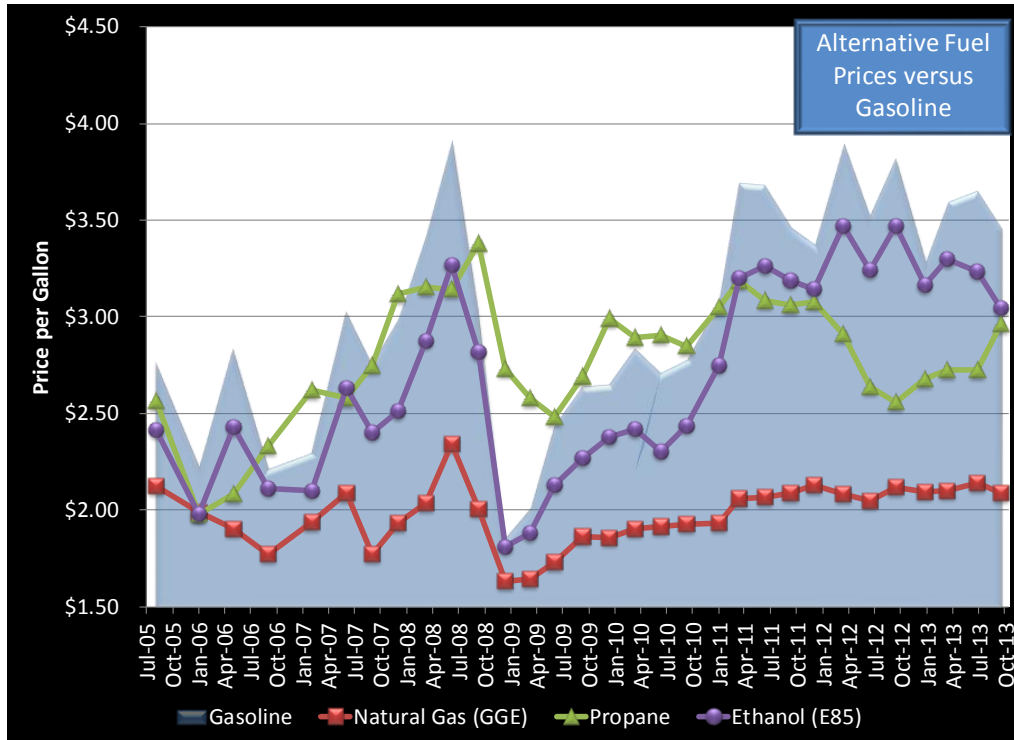


**Table 12. Comparison of Prices by Fuel Type, Region, and Station Type**

|   |                         | <i>Private Refueling Station Average</i> | <i>Public Refueling Station Average</i> |
|---|-------------------------|--|---|
|   |                         | <i>Price</i>                             | <i>Price</i>                            |
| <i>Biodiesel (B20) (\$/gallon)</i>      | <i>National Average</i> | \$4.08                                   | \$3.99                                  |
|   | New England             | \$3.97                                   | \$3.89                                  |
|   | Central Atlantic        | \$4.03                                   | \$4.09                                  |
|   | Lower Atlantic          | \$3.66                                   | \$3.87                                  |
|   | Midwest                 | \$3.93                                   | \$3.82                                  |
|   | Gulf Coast              | \$3.79                                   | \$3.83                                  |
|   | Rocky Mountain          | \$3.62                                   | \$4.00                                  |
|   | West Coast              | \$4.41                                   | \$4.20                                  |
|   | <i>National Average</i> | \$4.64                                   | \$4.16                                  |
| <i>Biodiesel (B99/B100) (\$/gallon)</i> | New England             | \$--.--                                  | \$3.70                                  |
|   | Central Atlantic        | \$--.--                                  | \$4.48                                  |
|   | Lower Atlantic          | \$--.--                                  | \$4.02                                  |
|   | Midwest                 | \$--.--                                  | \$3.81                                  |
|   | Gulf Coast              | \$4.43                                   | \$3.14                                  |
|   | Rocky Mountain          | \$--.--                                  | \$4.59                                  |
|   | West Coast              | \$4.74                                   | \$4.37                                  |

### HISTORICAL ALTERNATIVE FUEL PRICES FROM PREVIOUS REPORTS

The graphs on this page illustrate the historical prices for the alternative fuels included in these reports (specifically natural gas, propane, ethanol (E85), and biodiesel) relative to gasoline and diesel. These graphs include prices collected as part of the current Price Report activity, which began in September 2005. Natural gas (in GGE), propane, and ethanol (E85) have been graphed against gasoline prices, while natural gas (in DGE) and biodiesel have been graphed against diesel prices.



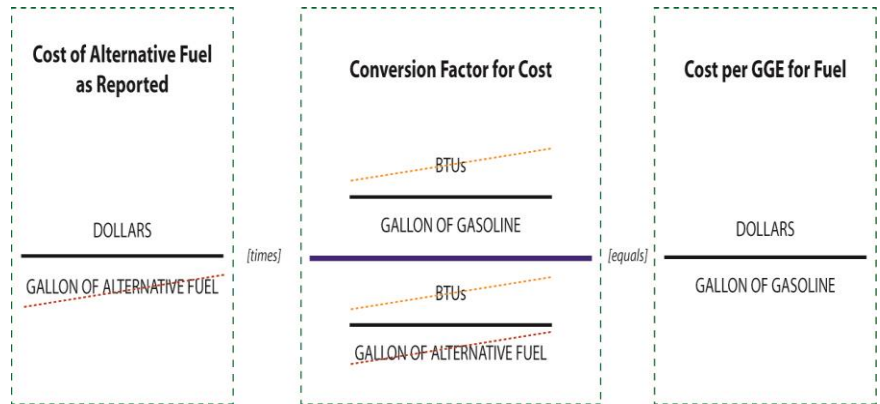
## ILLUSTRATION OF CONVERSION FACTORS FOR FUELS

The standard lower heating values for fuels from the Transportation Energy Data Book 30 are listed below.

|                        | Lower Heating Value |
|------------------------|---------------------|
| Gasoline               | 115,400 BTU/gal     |
| Diesel                 | 128,700 BTU/gal     |
| Compressed Natural Gas | 960 BTU/cubic foot  |
| Ethanol                | 75,700 BTU/gal      |
| Propane                | 83,500 BTU/gal      |
| Biodiesel              | 117,093 BTU/gal     |

Conversion factors to establish prices in dollars per gasoline gallon equivalent (GGE) are illustrated below, and were developed using the lower heating values outlined above. The conversion factors are derived in the manner shown in the graphic to the right.

In the case of CNG, prices are provided to us in GGE, so no conversion is necessary (the representative heating value of CNG is provided above as a reference). To convert a price from dollars per gallon to dollars per GGE, multiply the price per gallon of the alternative fuel by the conversion factor.



Note that the units of BTU and Gallon of Alternative Fuel cancel out, leaving Dollars per Gallon of Gasoline (or GGE)

|                  | Conversion factor to GGE |
|------------------|--------------------------|
| CNG              | 1.00                     |
| Ethanol (E85)    | 1.41                     |
| Propane          | 1.38                     |
| Biodiesel (B20)  | 0.91                     |
| Biodiesel (B100) | 0.99                     |

Conversion factors to establish prices in dollars per diesel gallon equivalent (DGE) are illustrated below, and were developed using the lower heating values outlined above. To convert a price from dollars per gallon to dollars per DGE, multiply the price per gallon of the alternative fuel by the conversion factor.

|                  | Conversion factor to DGE |
|------------------|--------------------------|
| CNG (in GGE)     | 1.12                     |
| Ethanol (E85)    | 1.58                     |
| Propane          | 1.54                     |
| Biodiesel (B20)  | 1.02                     |
| Biodiesel (B100) | 1.10                     |

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## WOULD YOU LIKE TO PARTICIPATE?

If you would like to provide prices for alternative fuels in your region and be part of the data collection effort for this report, or if you have any questions, please contact:

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