

W.Va. Clean State Program



WV State Fleet Coordinators

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Clean Cities Mission

To advance the energy, economic, and environmental security of the U.S. by supporting local decisions to reduce petroleum use in transportation.

- Energy Policy Act of 1992 (EPAAct)
- Provides a framework for businesses and government agencies to work together
- Clean Cities activities are implemented by a national network of nearly 100 Clean Cities coalitions.
- Major milestone: In 2013, coalitions and stakeholders reduced U.S. petroleum consumption by 1 billion gallons in a single year
- Ahead of schedule on goal: Reduce U.S. petroleum use by 2.5 billion gallons per year

www.energywv.org/cleanstateprogram

Description of Area: State of West Virginia

When was coalition formed? Oct. 19, 1994;
re-designated in 1999, 2005 and 2012

Coalition Structure



- Host agency is W.Va. Division of Energy, the state energy office
- Activities set by WVDOE director
- 60 stakeholders
- Coalition funded through U.S. Department of Energy
- In 2014, stakeholders reduced 341,404 gasoline gallon equivalents through carpooling, reducing idling, hybrid vehicle use and the use of alternative fuels (biodiesel and CNG)

17,529 public alternative fuel stations in U.S.



Alternative Fueling Station Locator

Find alternative fueling stations near an address or ZIP code or along a route in the United States. Enter a state to see a station count.

Find Stations | Plan a Route

Q address, ZIP, or state... **Go**

All Fuels ▼

[more search options](#)

17,529
alternative fuel stations
in the United States

Excluding private stations

Location details are subject to change. We recommend calling the stations to verify location, hours of operation, and access.

ABOUT THE DATA

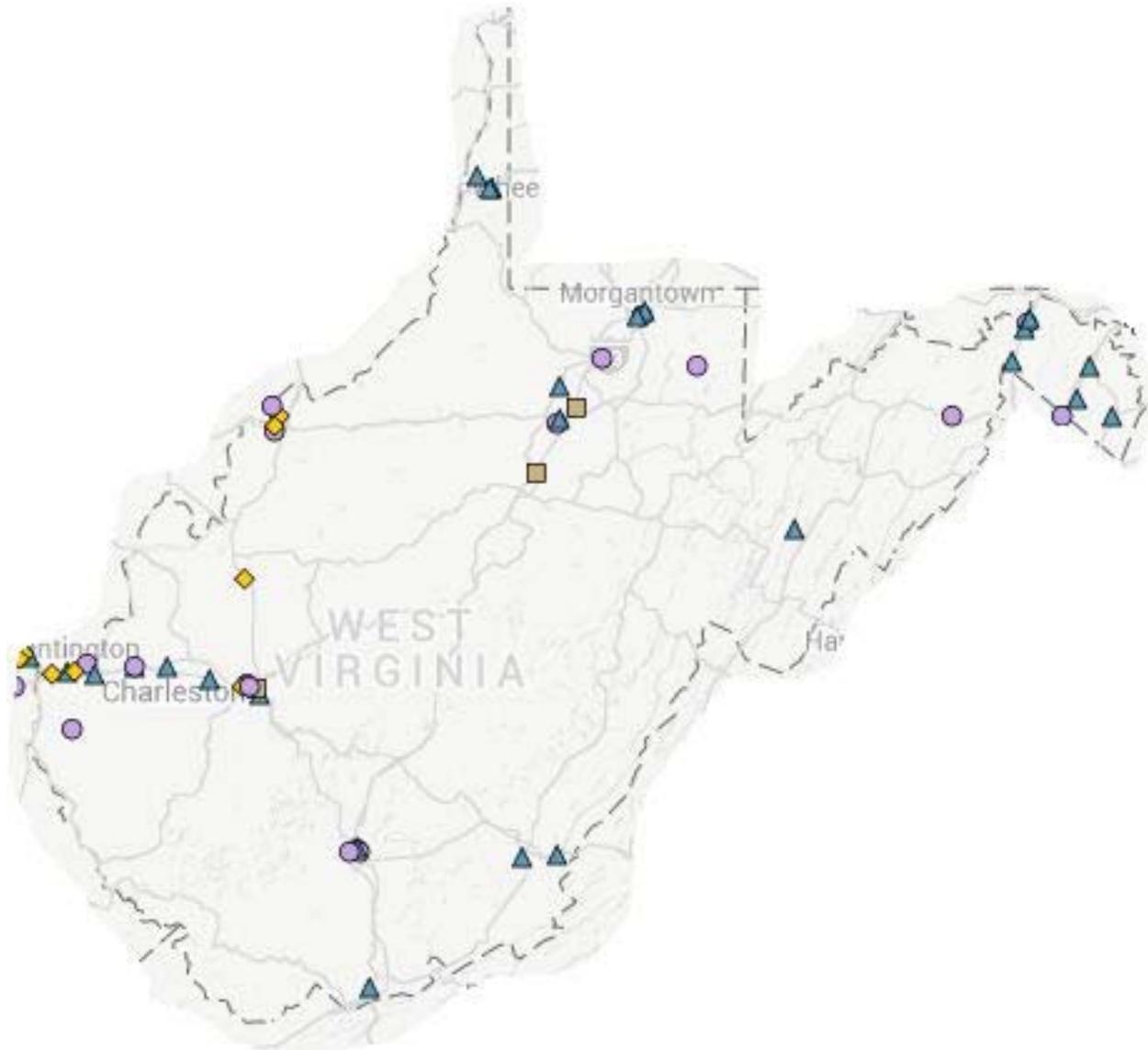
Embed | Submit New Station

Legend

- Biodiesel
- CNG
- Electric
- Ethanol
- Hydrogen
- LNG
- Propane

Map data ©2015 Google, INEGI Terms of Use

46 alternative fuel stations in WV



- 3 CNG
- ◆ 5 E85
- ▲ 24 Electric
- 14 Propane

WV Propane School Bus Demonstration: Three components



- Driver survey
- Running the buses
- Assessing the results

AFLEET results

- Propane buses \$702 cheaper annually
- Payback in 11 years
- If expected life is 13.5 years, counties could realize \$1,755 savings per bus

	Diesel	LPG
School Bus		
Number of vehicles	1	1
Annual Mileage (from KCS)	18,987	18,987
Fuel Economy	6.0 7.2 From KCS; converted to gasoline gallon equivalent	5.0 From demo
DEF Use (% of fuel consumption)	2%	0%
Purchase Price (\$/vehicle)	\$94,000 (From KCS)	\$101,676 (Average from WV bus vendors)
Maintenance & Repair (\$/mile)	\$0.165 Includes labor from case study: 7.5 cents/mile PLUS 9 cents/mile for diesel parts from Kanawha County Schools	\$0.126 Includes labor from case study: 7 cents/mile for propane PLUS 5.6 cents/mile for parts (an average from bus vendors and the case study)
Fuel and DEF Price		
Fuel (\$/gallon) retail, gasoline gallon equivalent	\$2.5820 AAA diesel price at end of demo: \$2.98; adjusted to GGE	\$2.21 Propane sold to KCS at GGE price
DEF (\$/gallon)	\$2.63	
Annual Operating Cost		
Fuel Cost	\$8,171	\$8,375
Diesel Exhaust Fluid Cost	\$166	\$0
Maintenance Cost	\$3,133	\$2,392
TOTAL	\$11,470	\$10,768
Annual Operating Savings		
Compared to Diesel HD Fleet		\$702
Simple Payback		
Miles		207,544.8
Years		10.9

Monongalia County Schools propane bus



AST MODIFIED: SATURDAY, AUGUST 01 10:20 PM

Mon County fields state's first propane powered bus

CONOR GRIFFITH
TheDPost.com

MORGANTOWN — Monon West Virginia to make use Representatives of scho presentation on the new County Schools Board Superintendent Donna this week, and the de

WV County Adds Propane-Powered School Bus To Fleet

Updated: Monday, August 3, 2015 | AP



NGT News | Next-Gen Transportation

A 'First' for West Virginia: District Buys Propane-Powered School Bus

in News Departments > New & Noteworthy
by NGT News on Wednesday August 12, 2015



Monongalia County Schools has purchased a propane-powered Blue Bird Vision bus, making the school district the first in West Virginia to have an alternative fuel school bus in its fleet, according to the parties involved.

Monongalia County Schools bought the autogas bus from local dealer Blue Bird Bus Sales of West Virginia and will start running the new bus on the first day of school this year.

"We are thrilled to introduce this new product into our fleet," says Jeff Meadows, the school district's Superintendent of Transportation. "It is a first not only for our district, but also for the entire state of West Virginia. We will start to see more Blue Bird

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wvgazette.com

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We get it! Nobody sells for

propane-powered school bus to fleet

Monongalia County Schools is adding a propane-powered school bus to its fleet. The bus will join the school system's fleet this week. The purchase was announced after the manufacturer Blue Bird gave a presentation on the new bus to the county board.

Business Wire

First Alternative-Fueled School Bus Rolls into West Virginia

Monongalia County Schools adds a Blue Bird propane-powered school bus to its fleet

August 10, 2015 09:07 PM Eastern Daylight Time

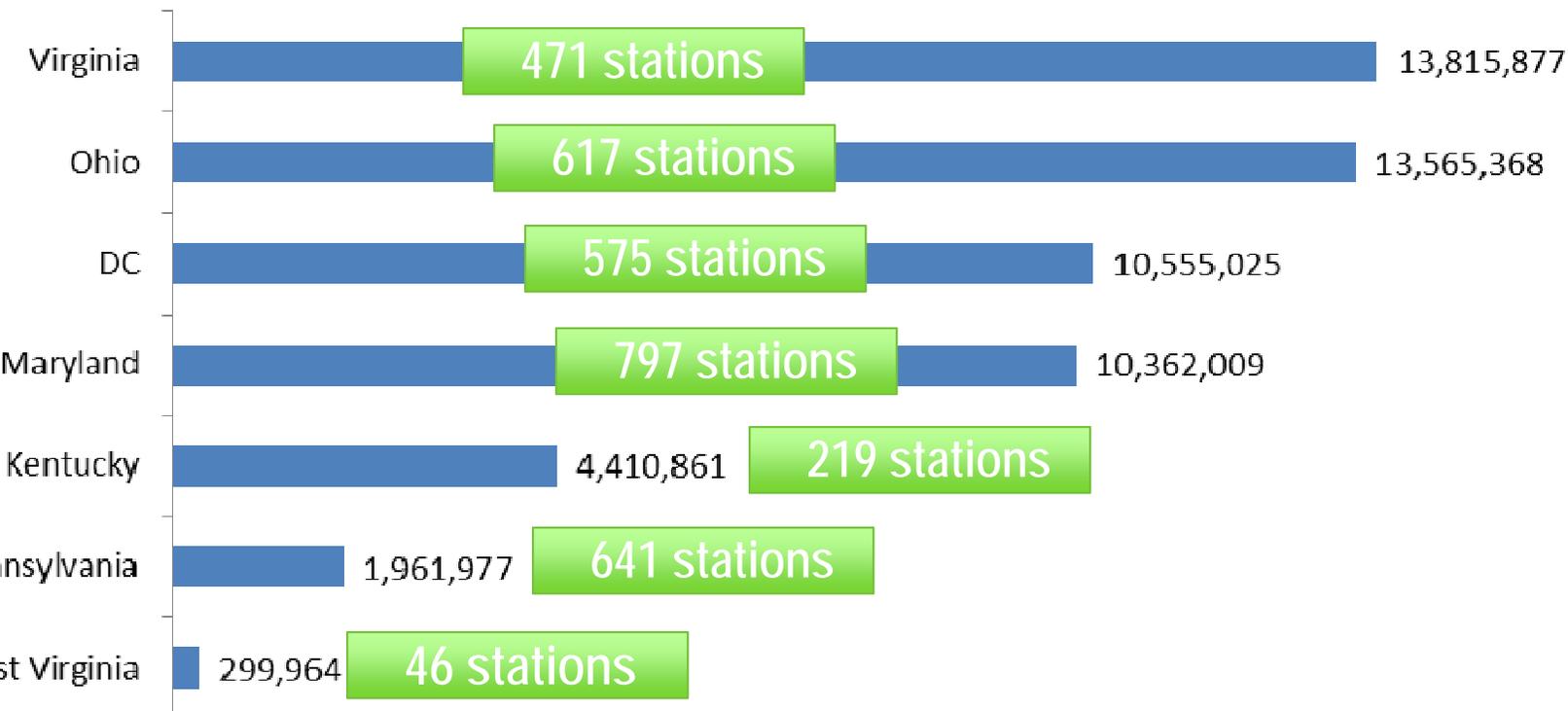
MORGANTOWN, W. Va. — (BUSINESS WIRE) — (Nasdaq: BLBD) — Many school districts across the nation are implementing a cleaner, lower total cost of ownership solution for their school transportation needs with Blue Bird propane autogas school buses. Monongalia County Schools is the first in West Virginia to reduce emissions and experience the savings other districts have realized through the purchase of the Blue Bird Propane-Powered Vision from their local dealer, Blue Bird Bus Sales of West Virginia.

"We are thrilled to introduce this new product into our fleet," says Jeff Meadows, Superintendent of Transportation. "It is a first for our district, but also for the entire state of West Virginia. We will start to see more Blue Bird

adjusted for population; 2013 metrics



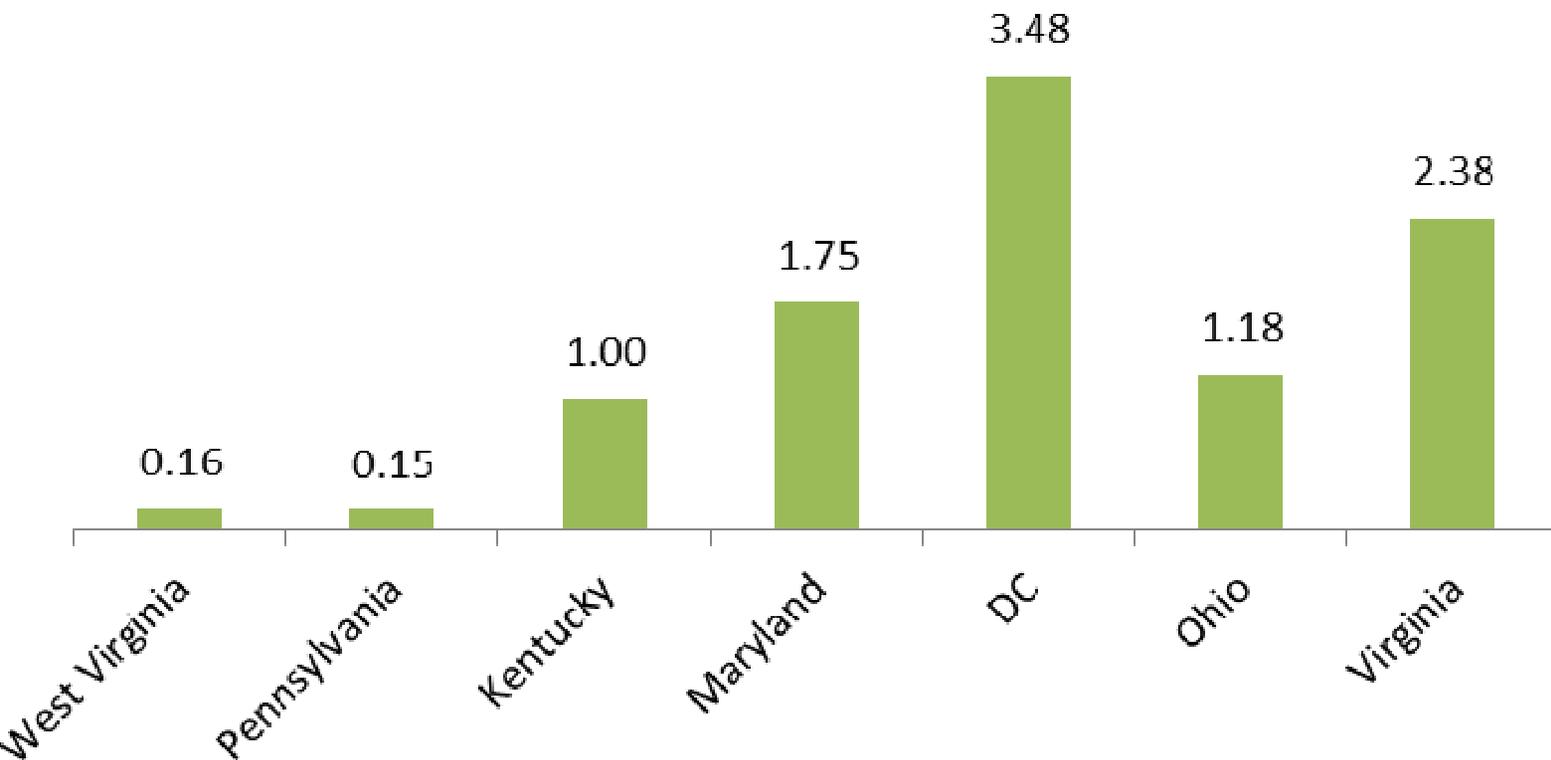
Gasoline gallon equivalents



IMPROVE YOUR SCORE: without
best measurement



GGEs/person



YOU CAN HELP!



15 lists 159 vehicles

are alt fuel

CNG bifuel (27)

Hybrid (4)

FV (49)



DC tools:



energy.gov/tools

an Cities: Clean C... Database of State In... City National Bank

Calculators

Vehicle Cost Calculator

Compare cost of ownership and emissions for most vehicle models. [mobile](#)

Petroleum Reduction Planning Tool

Create a plan for your fleet to reduce petroleum consumption and emissions.

CNG VICE Model 2.0

Evaluate ROI and payback period for natural gas vehicles and infrastructure.

AFLEET Tool

Calculate a fleet's petroleum use, cost of ownership, and air pollutant and GHG emissions.



Interactive Maps



Alternative Fueling Station Locator

Locate alternative fueling stations and get maps and driving directions. [mobile](#)



TransAtlas

Analyze vehicle densities and locations of fueling stations and production facilities.



BioFuels Atlas

Compare feedstocks and analyze biofuel production by location.



Truck Stop Electrification Sites

Locate truck stops with electrification sites to reduce the need for idling. [mobile](#)



Data Searches



Vehicle Search

Compare light-duty alternative fuel vehicles, electric vehicles, and hybrids.



Laws and Incentives Search

Search for laws and incentives related to alternative fuels and advanced vehicles.



Fuel Properties Comparison

Compare alternative fuel properties and characteristics.



Find a Car

Compare fuel efficiency, costs, carbon footprints, and emissions. [mobile](#)

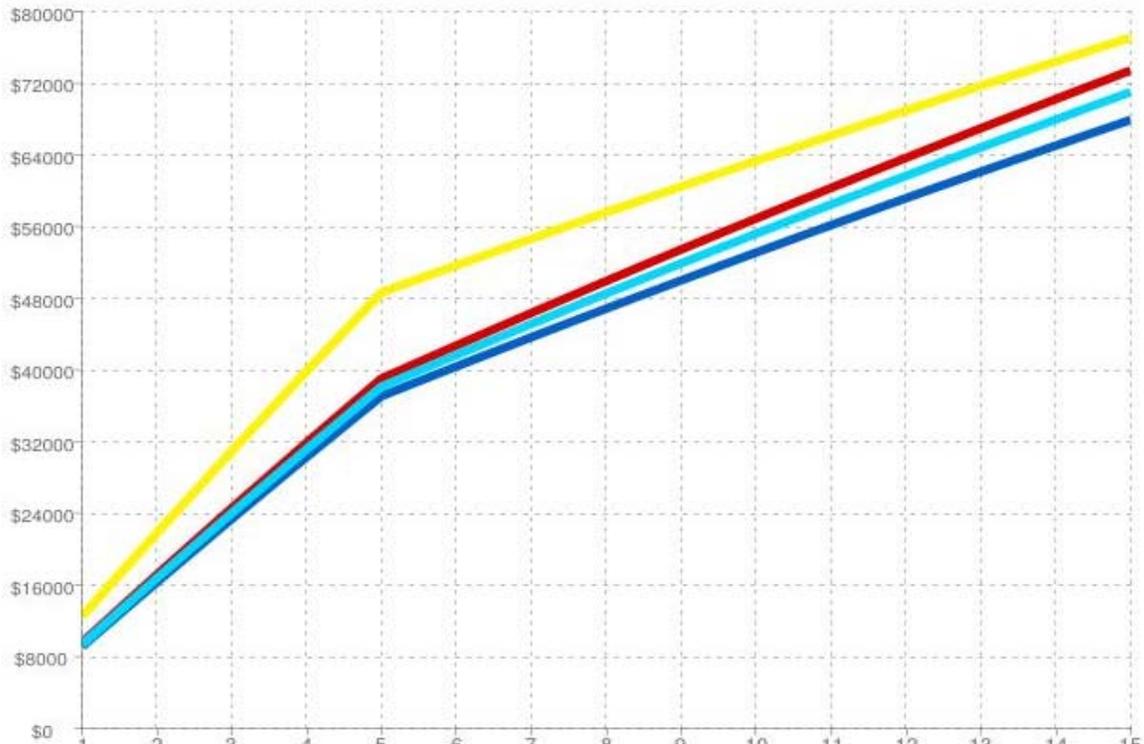
Like the Purchasing Division's "Vehicle Rental vs.

Lease" calculator, these tools facilitate discussion

	Annual Fuel Use	Annual Electricity Use	Annual Fuel/Elec Cost	Annual Operating Cost	Cost Per Mile	Annual Emissions (lbs CO2)
let Impala Gasoline	497 gal	0 kWh	\$1,271	\$3,587	\$0.28	11,917
let Impala FFV	775 gal	0 kWh	\$1,675	\$3,990	\$0.31	14,709
let Impala Dual-fuel (CNG) Bifuel (CNG)	630 gal	0 kWh	\$1,613	\$3,229	\$0.25	15,123
let Impala Gasoline	580 gal	0 kWh	\$1,486	\$3,801	\$0.29	13,929

Graph
Graph
Graph
Graph
Graph
Graph

Cumulative Cost of Ownership by Year (Dollars)



Personalize
Vehicles

Economy

MPG Estimates
from Owners
about "My MPG"

How much you spend*
Average 2015 vehicle

Total Cost*

Cost per 25 Miles

2015 Chevrolet Impala Dual-fuel (CNG) X	2015 Chevrolet Impala X	2015 Chevrolet Impala X	2015 Chevrolet Impala X
<p>CNG Dual-Fuel Vehicle Gasoline-Natural Gas</p>  <p>3.6 L, 6 cyl, Automatic (S6)</p>	<p>E85 Flexible-Fuel Vehicle Gasoline-Ethanol (E85)</p>  <p>3.6 L, 6 cyl, Automatic (S6) MSRP: \$26,910 - \$39,635</p>	<p>Gasoline Vehicle</p>  <p>3.6 L, 6 cyl, Automatic (S6) MSRP: \$26,910 - \$39,635</p>	<p>Gasoline Vehicle</p>  <p>2.5 L, 4 cyl, Automatic (S6) MSRP: \$26,910 - \$39,635</p>
<p>Regular Gasoline</p> <p>21 MPG combined 17 25 city/highway 4.8 gal/100mi</p> <p>Gasoline Only  426 miles Total Range</p>	<p>Regular Gasoline</p> <p>23 MPG combined 19 29 city/highway 4.3 gal/100mi</p> <p>Gasoline Only  426 miles Total Range</p>	<p>Regular Gasoline</p> <p>22 MPG combined 18 28 city/highway 4.5 gal/100mi</p> <p>Gasoline  407 miles Total Range</p>	<p>Regular Gasoline</p> <p>26 MPG combined 22 31 city/highway 3.8 gal/100mi</p> <p>Gasoline  481 miles Total Range</p>
<p>Natural Gas</p> <p>CNG 19 MPG combined 16 24 city/highway 5.3 gal/100mi</p>	<p>E85</p> <p>E85 17 MPG combined 14 20 city/highway 5.9 gal/100mi</p> <p>E85 Only  314 miles Total Range</p>		
User MPG estimates are not yet available for this vehicle	Average based on 1 vehicle 23.5 MPG View Individual Estimates	User MPG estimates are not yet available for this vehicle	User MPG estimates are not yet available for this vehicle
You SPEND \$1,000 more in fuel costs over 5 years compared to the average new vehicle	You SPEND \$250 more in fuel costs over 5 years compared to the average new vehicle	You SPEND \$500 more in fuel costs over 5 years compared to the average new vehicle	You SAVE \$500 in fuel costs over 5 years compared to the average new vehicle
Gas: \$1,600 CNG: \$1,550	Gas: \$1,450 E85: \$1,650	\$1,500	\$1,300
Gas: \$3.05 CNG: \$2.96	Gas: \$2.78 E85: \$3.18	\$2.91	\$2.46

Annual fuel cost against incremental cost of CNG and FFV vehicles vs. gasoline*



CNG bifuel: 3.78 years

Diesel: 2.25 years

Flex Fuel: 0.41 years

Gasoline: base

Model	Description	Unit Price from MV15	Fuel economy from reviews (EPA doesn't test H-D vehicles for FE)	Fuel economy	Annual miles	Fuel gallons needed	Fuel price	Incremental cost	Annual cost of fuel	Payback in years
Chevrolet Silverado-35943	Large PK/ Crew Cab/ Dual Rear Wheels...4WD or AWD, 5 seats, 4 doors, 167" WD, 8cyld	\$38,970	12 (Equipment World), 16 (ENR.com) HWY	14	15,000	1,071.43	\$2.25	\$9,112	\$2,409.64	3.78
Ford F350 Crew Cab W3D	Large PK/ Crew Cab/ Dual Rear Wheels...4WD or AWD, 5 seats, 4 doors, 167" WD, 8cyld	\$37,644	13.13 combined (Fueley)	13	15,000	1,153.85	\$3.00	\$7,786	\$3,460.38	2.25
GM Sierra 35943	Large PK/ Crew Cab/ Dual Rear Wheels...4WD or AWD, 5 seats, 4 doors, 167" WD, 8cyld	\$30,869	13 combined (fueleconomy.gov)	13	15,000	1,153.85	\$2.16	\$1,011	\$2,491.15	0.41
Edge Ram 3500 W D28L92	Large PK/ Crew Cab/ Dual Rear Wheels...4WD or AWD, 5 seats, 4 doors, 167" WD, 8cyld	\$29,858	11 city/17 highway (autotrader.com)	14	15,000	1,071.43	\$2.56	\$0	\$2,741.79	0.00

*Not adjusted for GGE, unknown what % reviewers drove on alt fuel

YOUR MILEAGE MAY VARY

AFV? Drive smarter!



Office of Transportation & Air Quality | U.S. ENVIRONMENTAL PROTECTION AGENCY

fuelconomy.gov

Government source for fuel economy information

Mobile Español Site Map Links FAQ Videos

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Selling Your Car?

Advertise its fuel economy with Used Car Label tool.

Can a Hybrid Save Me Money?

This tool compares the costs of a selected hybrid with a comparably equipped non-hybrid from the same manufacturer.

2015 Toyota Prius c One

Personalize

Vehicle Comparison

Hybrid

2015 Toyota Prius c One



1.5 L, 4 cyl, Automatic (variable gear ratios)

Non-hybrid

2015 Toyota Yaris 5-Door LE



1.5 L, 4 cyl, Automatic 4-spd

Combined MPG

49

33

MSRP

\$20,365

\$18,034

The hybrid vehicle's MSRP is \$2,331 more.

Fuel Cost Savings with Hybrid

Weekly

\$6.37

Monthly

\$27.58

Yearly

\$331

Payback Period

7.0 years

+ What if I add the extra cost to my loan?

Welcome to My MPG!

We've created "My MPG" to help you calculate and track your fuel economy and compare it with EPA test ratings. You can also share your MPG with other users.

Benefits of Registering

If you register, you will be able to save your MPG information and view, edit, or update it later. You will also be able to share your MPG with others. Fuelconomy.gov retains no information that could be used to identify any individual with a user name or password.

As a non-registered guest, you still have access to all MPG tools, but you cannot save your data or share your MPG.

We Can Help You...

[Calculate Your MPG](#)

[Maintain a Fuel Purchase Record](#)

Other Useful Tools

[Our Printable Form for Recording Fuel Purchases](#)

[MPG Estimates from Drivers Like You](#)

Tracking Your MPG Just Got Easier

Now you can enter "My MPG" data at the pump from your mobile device at fuelconomy.gov/m/

www.energywv.org/cleanstateprogram



Clean Cities

www.cleancities.energy.gov

Alternative Fuels & Advanced Vehicles Data Center

www.afdc.energy.gov

DOE Information Center and Technical Response Service

www.eere.energy.gov/afdc/informationcenter.html

Phone: 1-800-EERE-INFO (1-877-337-3463)

Email: technicalresponse@icfi.com

Thank you

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approaches...



1. Study, assess, pilot

2.

