

2015 Transportation Technology Deployment Report:

State of West Virginia Clean Cities

Expanded Edition

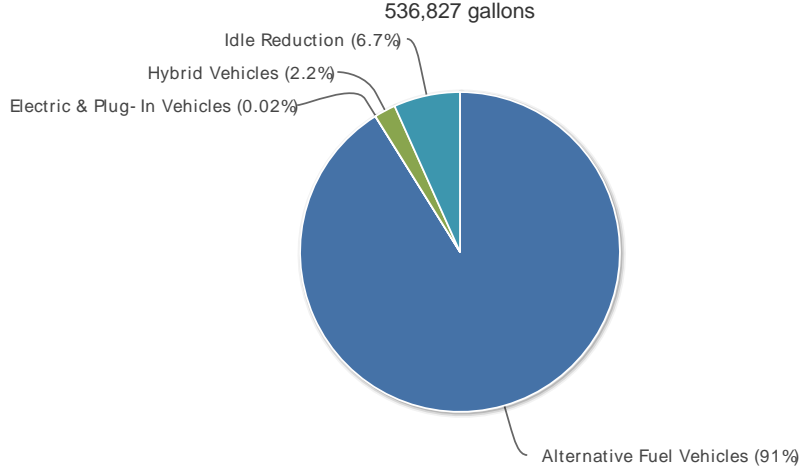
March 2016

The U.S. Department of Energy's (DOE) Clean Cities program advances the nation's economic, environmental, and energy security by supporting local actions to reduce petroleum use in transportation. A national network of nearly 100 Clean Cities coalitions brings together stakeholders in the public and private sectors to deploy alternative and renewable fuels, idle-reduction measures, fuel economy improvements, and new transportation technologies, as they emerge.

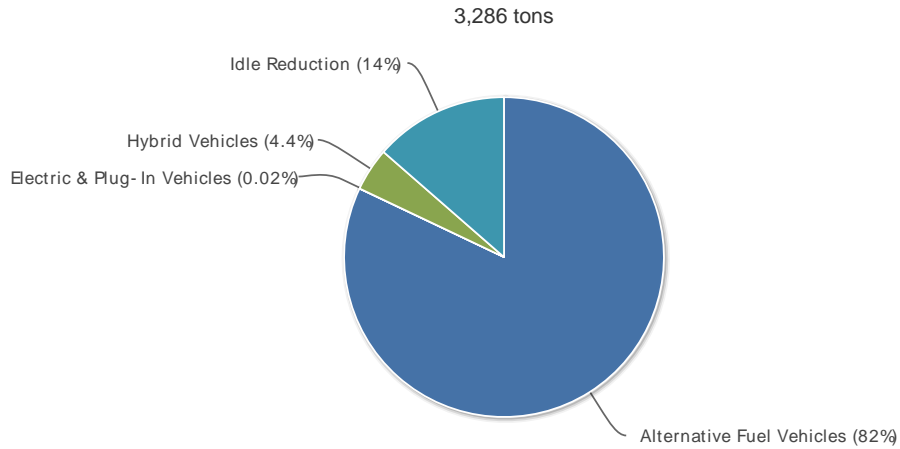
Every year, each Clean Cities coalition submits to DOE an annual report of its activities and accomplishments for the previous calendar year. Coalition coordinators, who lead the local coalitions, provide information and data via an online database managed by the National Renewable Energy Laboratory (NREL). The data characterize membership, funding, projects, and activities of the coalitions. The coordinators also submit data on the sales of alternative fuels, deployment of alternative fuel vehicles and hybrid electric vehicles, idle-reduction initiatives, fuel economy activities, and programs to reduce vehicle miles traveled. NREL and DOE analyze the data and translate them into petroleum-use and greenhouse gas reduction impacts for individual coalitions and the program as a whole. This report summarizes those impacts for State of West Virginia Clean Cities.

To view aggregated data for all local coalitions that participate in the Clean Cities program, visit www.eere.energy.gov/cleancities/accomplishments.html.

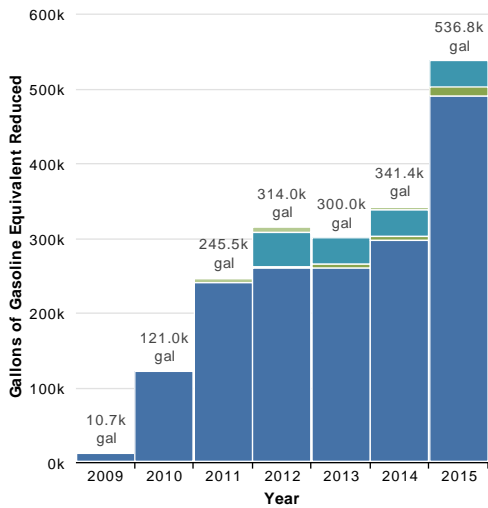
2015 Gallons of Gasoline Equivalent Reduced



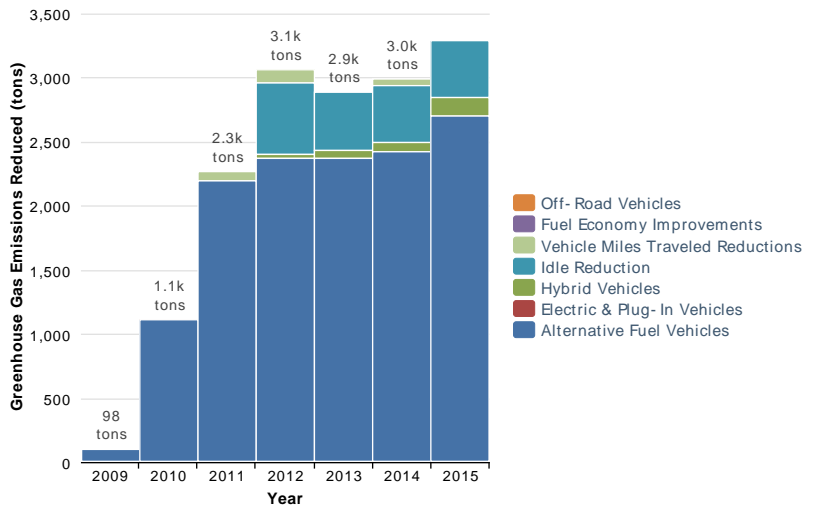
2015 Greenhouse Gas Emissions Reduced



Historical Gallons of Gasoline Equivalent Reduced

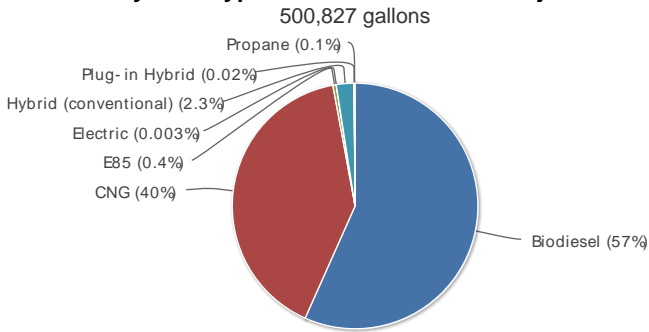


Historical Greenhouse Gas Emissions Reduced

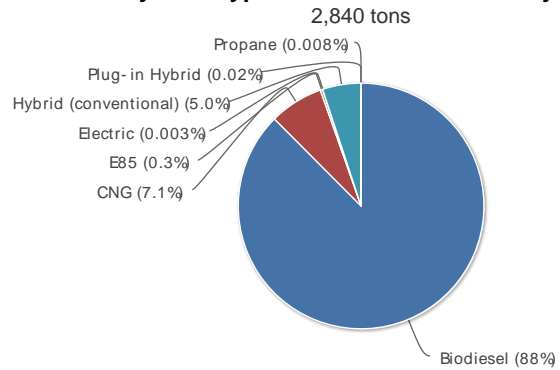


- Off-Road Vehicles
- Fuel Economy Improvements
- Vehicle Miles Traveled Reductions
- Idle Reduction
- Hybrid Vehicles
- Electric & Plug-In Vehicles
- Alternative Fuel Vehicles

2015 Gallons of Gasoline Equivalent Reduced by Fuel Type for Alternative Fuel Projects



2015 Greenhouse Gas Emissions Reduced by Fuel Type for Alternative Fuel Projects



COALITION

State of West Virginia Clean Cities - WV

<http://www.energywv.org/CleanStateProgram>

Designated: 10/18/1994

Boundaries: Entire state of West Virginia

COORDINATORS

	Address	Telephone	Fax
Tiffany Bailey	1900 Kanawha Blvd E Bldg 6, Rm 620 Charleston, WV 25305		
Kelly Bragg	1900 Kanawha Blvd E Bldg 6, Rm 620 Charleston, WV 25305		

Number of coordinators	2
Coordinator(s) hours per week on Clean Cities	12 hours
Other staff hours per week on Clean Cities	0 hours
How long have you been the coordinator?	10 years

OPERATING INFORMATION

Host organization Government - State

Stakeholders

Number of stakeholders	65
Number of private stakeholders	38
Does the State Energy Office provide any financial support to the coalition or stakeholders?	Yes

Explain State Energy Office's support

The W.Va. Clean State Program coordinator and co-coordinator are employees of the W.Va. Division of Energy, the state energy office. Program activities are directed by WVDOE's director. Office space, computers, phones, etc. are provided by WVDOE.

How would you rate the quality of the data on your survey? Excellent

How do you obtain most of your data for the survey?

Paper, e-mail,
or spreadsheet
questionnaire to
stakeholders, Phone
calls to stakeholders

Has your coalition registered with www.grants.gov?

Yes

2015 Outside Funding

Stakeholder dues collected	\$0
How much funding is obtained from other sources to cover coalition operating expenses?	\$0
Non-DOE or ARRA grant and matching funds spent in 2015	\$0
Total non-DOE or ARRA funding in 2015	\$0

VEHICLE & FUEL INVENTORY

Alternative Fuel & Vehicles

Fleet/Station Name	Vehicle Class	Fuel	Number of Vehicles	Fuel Used	GGE Reduced	GHG Reduced
Antero Resources Market: Corporate Fleet Vehicle type: Pickup/SUV/Van Percentage from coalition: 100% National Clean Fleets Partnership: No	Light-Duty	CNG	60	51,805 GGE	49,215 gal	63.8 tons
Kanawha County Schools Market: General/Unknown Vehicle type: Bus: School Percentage from coalition: 100% National Clean Fleets Partnership: No	Heavy-Duty	Propane	3	809 gal	551 gal	0.2 tons
Mountaineer Gas Company Market: Utility Vehicle type: Truck: No Trailer Percentage from coalition: 75% National Clean Fleets Partnership: No	Heavy-Duty	CNG	6	298 GGE	201 gal	0.2 tons
State of WV CNG Market: Government - State Vehicle type: Pickup/SUV/Van Percentage from coalition: 75% National Clean Fleets Partnership: No	Light-Duty	CNG	21	26,739 GGE	19,052 gal	24.7 tons
State of WV E85 Market: Government - State Vehicle type: Pickup/SUV/Van Percentage from coalition: 75% National Clean Fleets Partnership: No	Light-Duty	E85	44	5,162 gal	2,238 gal	8.7 tons
UPS CNG Market: Corporate Fleet Vehicle type: Unknown/Other Percentage from coalition: 100% National Clean Fleets Partnership: Yes <i>This includes class 4-6 package delivery trucks and class 7-8 tractors</i>	Heavy-Duty	CNG	60	148,856 GGE	133,970 gal	112.8 tons

Fleet/Station Name	Vehicle Class	Fuel	Number of Vehicles	Fuel Used	GGE Reduced	GHG Reduced
WV county school bus fleets	Heavy-Duty	Biodiesel (5%)	3,134	5,325,631 gal	283,856 gal	2,485.7 tons
<p>Market: Government - Local Vehicle type: Bus: School Percentage from coalition: 100% National Clean Fleets Partnership: No</p> <p><i>School buses in 44 of West Virginia's 55 counties used 5,325,631 gallons of diesel blended with 5 percent biodiesel for the 2014-15 school year.</i></p>						
Total:			3,328		489,082 gal	2,696 tons

Electric, Hybrid & Plug-in Vehicles

Fleet/Station Name	Vehicle Class	Fuel	Number of Vehicles	GGE Reduced	GHG Reduced
C&H Taxi	Light-Duty	HEV	2	4,673 gal	57.6 tons
<p>Average vehicle fuel economy: 45 MPG Miles traveled per vehicle per year: 52,573 mi Market: Taxis Vehicle type: Car Percentage from coalition: 100% National Clean Fleets Partnership: No</p> <p><i>From stakeholder C&H Taxi: For 2015 one Prius put on 50,484 and the other 54,661 for a total of 105,145. At an average of 45 MPG, gallons used would be 105,145 / 45 = 2,336.56 gallons. Compared to the Crown Victoria which averages 15 MPG so the gallons used would be 105,145 / 15 = 7,009.67 gallons. Thus the gallons saved would be estimated at 7,009.67 - 2,336.56 = 4,673.11.</i></p>					
Kanawha Valley Rapid Transit Authority	Heavy-Duty	HEV	4	6,771 gal	83.4 tons
<p>Average electric fuel economy: - kWh/100mi Average vehicle fuel economy: 5 MPG Miles traveled per vehicle per year: 30,301 mi Market: General/Unknown Vehicle type: Bus: Transit Percentage from coalition: 100% National Clean Fleets Partnership: No</p>					
NAFTC EV	Light-Duty	Electric	1	14 gal	0.1 tons
<p>Electricity used: 131 kWh Market: Government - State Vehicle type: Car Percentage from coalition: 75% National Clean Fleets Partnership: No</p> <p><i>West Virginia University's National Alternative Fuels Training Consortium reported metrics for four vehicles in 2015. One is an EV, a 2013 Leaf, reported here. The other three include two PHEVs and one conventional hybrid, reported separately. All are state fleet vehicles.</i></p>					
NAFTC hybrid	Light-Duty	HEV	1	35 gal	0.4 tons
<p>Average vehicle fuel economy: 49 MPG Miles traveled per vehicle per year: 1,555 mi Market: Government - State Vehicle type: Car Percentage from coalition: 75% National Clean Fleets Partnership: No</p> <p><i>West Virginia University's National Alternative Fuels Training Consortium reported metrics for four vehicles in 2015. One, a 2010 Prius, is reported here. The other three include two PHEVs and one EV, reported separately.</i></p>					
NAFTC PHEVs	Light-Duty	PHEV	2	27 gal	0.1 tons
<p>Electricity used: 354 kWh Market: Government - State Vehicle type: Car Percentage from coalition: 75% National Clean Fleets Partnership: No</p> <p><i>West Virginia University's National Alternative Fuels Training Consortium reported metrics for four vehicles in 2015. Two are plug-in hybrids, reported here: a 2011 Volt and a 2013 Prius. The other vehicles are a 2013 Leaf and a 2010 Prius, reported separately. All are state fleet vehicles.</i></p>					

Fleet/Station Name	Vehicle Class	Fuel	Number of Vehicles	GGE Reduced	GHG Reduced
W.Va. Department of Environmental Protection (Prius)	Light-Duty	HEV	1	118 gal	1.5 tons
Average vehicle fuel economy: 50 MPG Miles traveled per vehicle per year: 6,769 mi Market: Government - State Vehicle type: Car Percentage from coalition: 75% National Clean Fleets Partnership: No					
W.Va. Department of Environmental Protection (Volt)	Light-Duty	PHEV	1	89 gal	0.5 tons
Average vehicle fuel economy: 40 MPG Miles traveled per vehicle per year: 6,521 mi Market: Government - State Vehicle type: Car Percentage from coalition: 75% National Clean Fleets Partnership: No					
W.Va. Division of Energy	Light-Duty	HEV	1	17 gal	0.2 tons
Average vehicle fuel economy: 28 MPG Miles traveled per vehicle per year: 3,060 mi Market: Government - State Vehicle type: Car Percentage from coalition: 75% National Clean Fleets Partnership: No					
<i>At the end of 2013, the car's odometer was 77758. At the end of 2014, it was 84861. At the end of 2015, it was 87921.</i>					
Total:			13	11,745 gal	144 tons

IDLE REDUCTION

Idle Reduction

Project Name	Number of Vehicles	Idling Reduced per Vehicle	Fuel Saved per Vehicle	GGE Reduced	GHG Reduced
WV county school bus fleets	3,000	10 mins/day 180 days/year	1 gal/hr	36,000 gal	446.4 tons
Type of project: Policies Type of vehicle: School Bus Percentage from coalition: 80% National Clean Fleets Partnership: No <i>From Policy 4336, West Virginia School Bus Transportation Policy and Procedures Manual: School bus operators are prohibited from idling the buses for more than 10 minutes unless defrosting of windows is needed; in this case idling shall be limited to thirty minutes. Estimates for this annual report are based on information from the WV Department of Environmental Protection - Division of Air Quality. Using a baseline that idling a bus for 1 hour wastes 1/2 gallon of diesel fuel, the division calculates that idling 1/2 hour less saves 45 gallons of fuel per bus annually. Conservatively, the program reduces idling by 10 minutes per day, which would be 15 gallons of fuel per bus annually. With 3,000 buses in the fleet, the fuel savings are estimated at 45,000 gallons.</i>					
Total:	3,000			36,000 gal	446 tons

OUTREACH ACTIVITIES

Activity Name	Dates	Activity Type	Percentage from Coalition	Persons Reached
Spring stakeholders' meeting	03/27/2015	Meeting - Stakeholder	100%	10
Technology: E85, Hybrid electric vehicles Audience: Government, Private Fleets, Other <i>Students from West Virginia University's EcoCAR 3 program presented on the premier, student-led vehicle competition in North America with 16 teams throughout the US and Canada participating in a redesign of the iconic Chevrolet Camaro. This redesign will produce an alternative, hybrid vehicle at the end of the four-year competition, lowering environmental impact without sacrificing the Camaro's powerful performance.</i>				

Activity Name	Dates	Activity Type	Percentage from Coalition	Persons Reached
WV Propane School Bus Demonstration Project	04/03/2015, 04/08/2015, 04/16/2015, 04/23/2015, 05/29/2015, 06/01/2015, 07/02/2015	Meeting - Other	100%	20
<p>Technology: Propane Audience: Government</p> <p><i>The WV Propane School Bus Demonstration Project ranged from an initial meeting with the W.Va. Department of Education's Office of School Transportation on 4/3/15 to a post-survey of bus drivers on 7/2/15. Activities included meeting with Kanawha County Schools financial and transportation personnel to discuss program parameters on 4/8/15 and 4/16/15; safety training for drivers who participated in the demo on 4/23/15; a pre-demo survey for drivers on their diesel experiences on 5/29/15; an inspection of the propane-powered buses on 6/1/15; and finally, the actual demo period from 6/8/15 to 6/27/15. The project showed that diesel buses were preferred 16 percent over propane buses by the participating drivers. Using the AFLEET tool on collected data, the project demonstrated that a propane-powered bus is \$702 cheaper to operate annually than a diesel bus with an 11-year payback. The project used 809 gallons of propane, accounted for in the "Vehicle & Fuel Inventory" portion of this report.</i></p>				
Office of School Transportation Spring Workshop	05/15/2015	Meeting - Other	100%	60
<p>Technology: Propane Audience: Government</p> <p><i>W.Va. Department of Education's Office of School Transportation is a stakeholder in the W.Va. Clean State Program and provided us with the opportunity to unveil plans for the summer's WV Propane School Bus Demonstration Project to county school transportation directors at the 5/15/15 Office of School Transportation Spring Workshop. The opportunity also allowed us to discuss Clean Cities, our local coalition and to present the Clean Cities Learning Program Petroleum Reduction Technologies presentation, "The Importance of Propane."</i></p>				
West Virginia Association for Pupil Transportation's 73rd Annual School Transportation Conference	07/15/2015	Meeting - Other	100%	100
<p>Technology: Propane Audience: Government</p> <p><i>The W.Va. Clean State Program presented the results of the WV Propane School Bus Demonstration Project at the 73rd Annual School Transportation Conference 7/15/15, reaching transportation directors and staff in West Virginia's 55 county school systems. Our program also sponsored an appearance at this conference by West Virginia University's National Alternative Fuels Training Consortium, which continued its "Natural Gas for Fleets Workshop" series focusing on the use of propane.</i></p>				
Natural Gas for Fleets Workshop	07/30/2015	Meeting - Other	100%	15
<p>Technology: Natural gas vehicles Audience: Private Fleets</p> <p><i>The W.Va. Clean State Program sponsored the presentation of a Natural Gas for Fleets workshop in partnership with West Virginia University's National Alternative Fuels Training Consortium. In an event held at a Ryder facility in Dunbar, WV, presentations were made on "Prepping for Gaseous Fuels" and "Applicable Codes and Standards, Laws, Incentives, and More." The workshop ended with a tour of Ryder's new CNG-ready facility.</i></p>				
WV Fleet Management Office Agency Fleet Coordinator Seminar	09/09/2015	Meeting - Other	100%	55
<p>Technology: E85, Fuel economy improvements, Hybrid electric vehicles, Natural gas vehicles Audience: Government</p> <p><i>The director of the W.Va. Fleet Management Office is a stakeholder in the W.Va. Clean State Program and offered the opportunity to present alternative fuels and vehicle strategies to representatives from 35 state agencies at the annual Agency Fleet Coordinator Seminar. We discussed alt fuel vehicles available on the state contract. We used tools and calculators on the AFDC website to compare costs among four fuel types on one vehicle: FFV, hybrid, CNG and regular gasoline.</i></p>				
EV outreach at 2015 Governor's Energy Summit	10/27/2015	Meeting - Other	100%	250
<p>Technology: Electric vehicles Audience: General Public</p> <p><i>The W.Va. Clean State Program organized an electric vehicle display and presentation at the 2015 Governor's Energy Summit at Stonewall Resort in Roanoke, W.Va. Stakeholders who own electric vehicles were asked to participate and summit-goers heard an informative presentation from Marty Weirick, a stakeholder and a member of the W.Va. Electric Auto Association (WVEAA), West Virginia's chapter of the Electric Auto Association. Weirick and WVEAA President Larry Harris, also a WVCS stakeholder, had their Chevrolet Volts on display throughout the summit and were joined by fellow WVEAA members Robbie Romaine and John Dixon, who displayed their Teslas. Most of the vehicles charged overnight with the cooperation of Stonewall Resort. Even on a rainy Tuesday, summit-goers took every opportunity to check out the EVs parked out front, including W.Va. Gov. Earl Ray Tomblin, who got behind the wheel of Romaine's Model S.</i></p>				

Total:

510