

2018 Transportation Technology Deployment Report:

State of Delaware Clean Cities

Expanded Edition

March 2019

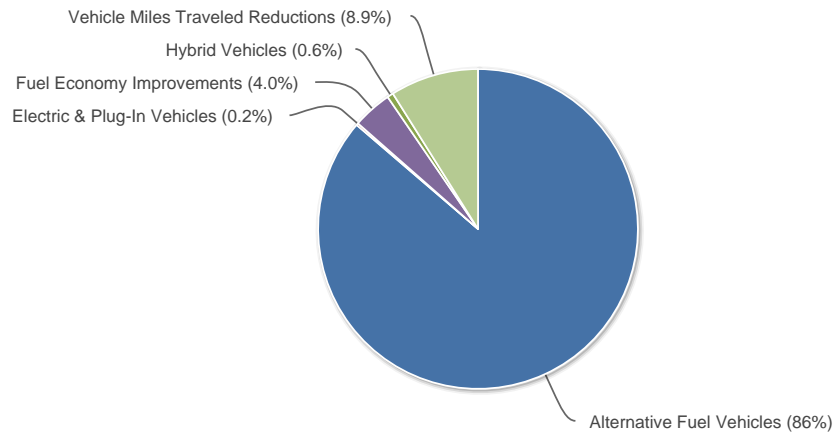
The U.S. Department of Energy's (DOE) Clean Cities program advances the nation's economic, environmental, and energy security by supporting local actions to reduce petroleum use in transportation. A national network of nearly 100 Clean Cities coalitions brings together stakeholders in the public and 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 Delaware Clean Cities.

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

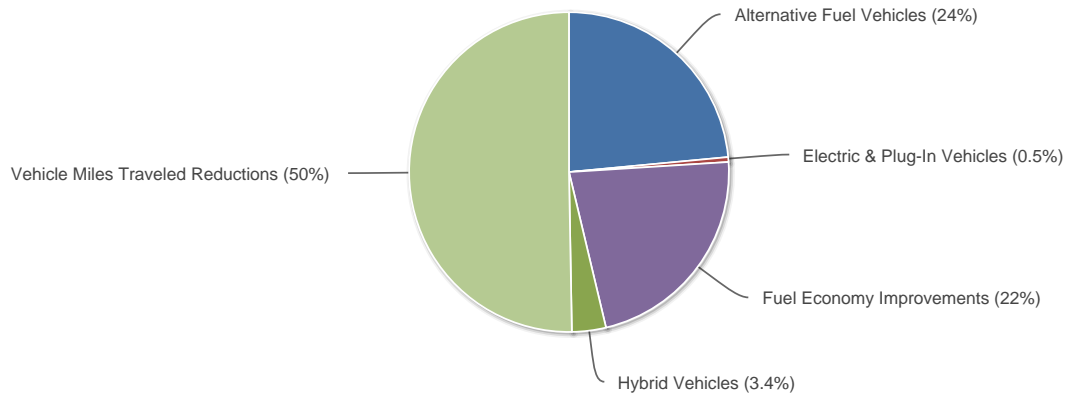
2018 Gallons of Gasoline Equivalent Reduced

1,408,606 gallons

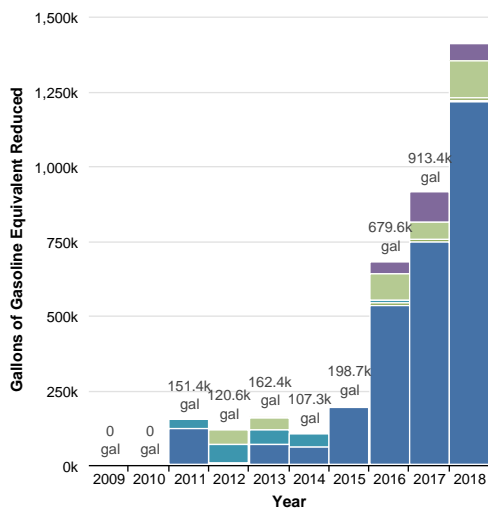


2018 Greenhouse Gas Emissions Reduced

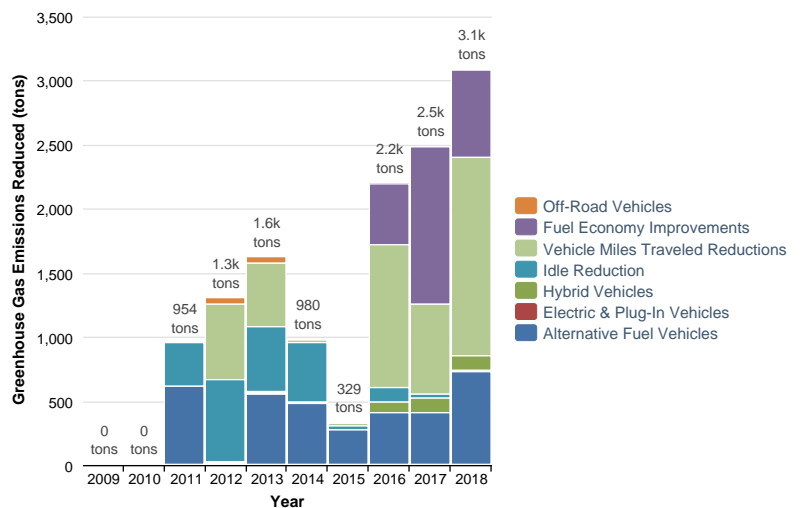
3,085 tons



Historical Gallons of Gasoline Equivalent Reduced

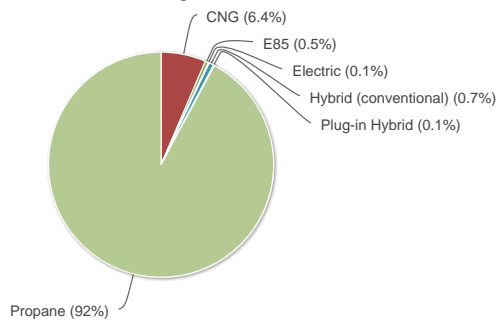


Historical Greenhouse Gas Emissions Reduced



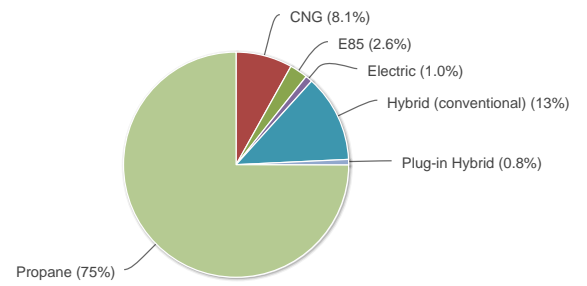
2018 Gallons of Gasoline Equivalent Reduced by Fuel Type for Alternative Fuel Projects

1,226,899 gallons



2018 Greenhouse Gas Emissions Reduced by Fuel Type for Alternative Fuel Projects

847 tons



Criteria Pollutant Emissions Reduced

Criteria pollutants are chemicals that have been linked to human health effects and therefore regulated in the Clean Air Act of 1970. The Clean Cities annual report calculates them using the same assumptions and default values as AFLEET 2016, with some adjustments to fit specific data inputs. They are quantified at vehicle tailpipes, as those are the emissions contributing to the regulated “ambient” air quality of a given city. This means that they omit emissions from sources such as electric power plants, refineries, and biofuel feedstock farms (where emissions are sufficiently removed from populations in order to minimize health effects). When a specific pollutant surpasses a given threshold for a given area, the area is considered to be in “nonattainment” for that pollutant. Nonattainment areas for given pollutants can be viewed at www.epa.gov/green-book. To learn more about what your emissions numbers mean, please take the Understanding Emissions or Emissions Compliance courses at [Clean Cities University](http://CleanCitiesUniversity).

Reductions by Fuel Type*	NOx	VOC	CO	PM10	PM2.5
CNG - Compressed Natural Gas	2,760 lb	9 lb	-10,581 lb	0 lb	0 lb
E85 - 85% Ethanol	0 lb	214 lb	0 lb	0 lb	0 lb
Electric (all-electric)	8 lb	12 lb	220 lb	0 lb	0 lb
Hybrid (conventional)	19 lb	52 lb	0 lb	0 lb	0 lb
Plug-in Hybrid	10 lb	16 lb	288 lb	0 lb	0 lb
Propane	32,249 lb	-1,970 lb	-58,710 lb	60 lb	37 lb
VMT Reduction (Gasoline)	601 lb	959 lb	17,224 lb	241 lb	53 lb
Total:	35,647 lb	-708 lb	-51,558 lb	302 lb	90 lb

* This table accounts for criteria pollutants from alternative fuel vehicle, hybrid vehicle, and VMT reduction projects only. It does not include fuel economy, idle reduction, or off-road projects. Negative values indicate an increase in emissions.

COALITION

State of Delaware Clean Cities - DE

<https://dnrec.alpha.delaware.gov/climate-coastal-energy/clean-transportation/delaware-clean-cities-coalition/>

Designated: 10/12/1993

Boundaries: Entire state of Delaware

COORDINATORS

	Address	Telephone	Fax
Breanne Preisen	Delaware Department of Natural Resources & Environmental Control 100 W Water St, Ste 5A Dover, DE 19904		
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Number of coordinators			1
Coordinator(s) hours per week on Clean Cities			20 hours
Other staff hours per week on Clean Cities			10 hours
How long have you been the coordinator?			3 years

OPERATING INFORMATION

Coalition organizational structure	Hosted in a state government agency
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Stakeholders	
Number of stakeholders	55
Number of private stakeholders	39
Does the State Energy Office provide any financial support to the coalition or stakeholders?	Yes
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Explain State Energy Office's support	
The State Energy Office provides office space, administrative support, and financial support for the coordinator.	
How would you rate the quality of the data on your survey?	Fair
How do you obtain most of your data for the survey?	Paper, e-mail, or spreadsheet questionnaire to stakeholders, Phone calls to stakeholders
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Has your coalition registered with www.grants.gov ?	No

2018 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 2018	\$0
Total non-DOE or ARRA funding in 2018	\$0

VEHICLE & FUEL INVENTORY

Alternative Fuel & Vehicles

Fleet/Station Name	Vehicle Class	Fuel	Number of Vehicles	Fuel Used	GGE Reduced	GHG Reduced
Chesapeake Utilities	Light-Duty	CNG	13	90% of time	4,388 gal	5.7 tons
Miles traveled per vehicle: 12,000 mi Average vehicle fuel economy: 24 MPGge Market: Utility Vehicle type: Car Percentage from coalition: 75% National Clean Fleets Partnership: No						
Delaware Transit	Heavy-Duty	Propane	180	1,040,840 gal	709,124 gal	278.0 tons
Market: Commuters Vehicle type: Bus: Shuttle Percentage from coalition: 100% National Clean Fleets Partnership: No						
Easter Seals	Light-Duty	Propane	1	2,147 gal	1,625 gal	2.3 tons
Market: Corporate Fleet Vehicle type: Pickup/SUV/Van Percentage from coalition: 100% National Clean Fleets Partnership: No						
Kent Sussex Industries	Light-Duty	Propane	14	22,535 gal	17,059 gal	24.1 tons
Market: Corporate Fleet Vehicle type: Pickup/SUV/Van Percentage from coalition: 100% National Clean Fleets Partnership: No						
Prime Care Medical	Light-Duty	Propane	6	16,973 gal	12,849 gal	18.2 tons
Market: Corporate Fleet Vehicle type: Pickup/SUV/Van Percentage from coalition: 100% National Clean Fleets Partnership: No						
School Buses	Heavy-Duty	Propane	71	274,432 gal	186,971 gal	73.3 tons
Market: Commuters Vehicle type: Bus: School Percentage from coalition: 100% National Clean Fleets Partnership: No <i>These school buses are from 16 school districts and contractors in Delaware.</i>						
Schwan's - Medium-duty Propane	Heavy-Duty	Propane	16	69,251 gal	47,181 gal	18.5 tons
Market: Corporate Fleet Vehicle type: Truck: No Trailer Percentage from coalition: 100% National Clean Fleets Partnership: Yes <i>Includes 2 Light HD Class 3 vehicles.</i>						
Sharp Energy	Light-Duty	Propane	33	205,837 gal	155,819 gal	220.2 tons
Market: Corporate Fleet Vehicle type: Pickup/SUV/Van Percentage from coalition: 100% National Clean Fleets Partnership: No						
State of Delaware	Light-Duty	E85	917	2% of time	3,841 gal	15.0 tons
Miles traveled per vehicle: 9,984 mi Average vehicle fuel economy: 19 MPG Market: Government - State Vehicle type: Car Percentage from coalition: 65% National Clean Fleets Partnership: No						

Fleet/Station Name	Vehicle Class	Fuel	Number of Vehicles	Fuel Used	GGE Reduced	GHG Reduced
State of Delaware	Light-Duty	E85	427	2% of time	1,788 gal	7.0 tons
Miles traveled per vehicle: 9,984 mi Average vehicle fuel economy: 19 MPG Market: Government - State Vehicle type: Pickup/SUV/Van Percentage from coalition: 65% National Clean Fleets Partnership: No						
Waste Management	Heavy-Duty	CNG	9	100% of time	74,687 gal	62.9 tons
Miles traveled per vehicle: 25,000 mi Average vehicle fuel economy: 3 MPGe Market: Corporate Fleet Vehicle type: Truck: Refuse Percentage from coalition: 75% National Clean Fleets Partnership: Yes						
Total:			1,687		1,215,330 gal	725 tons

Electric, Hybrid & Plug-in Vehicles

Fleet/Station Name	Vehicle Class	Fuel	Number of Vehicles	GGE Reduced	GHG Reduced
Delaware Department of Transportation	Light-Duty	Electric	2	224 gal	1.2 tons
Average electric fuel economy: 107 kWh/100mi Miles traveled per vehicle per year: 2,346 mi Market: Government - State Vehicle type: Car Percentage from coalition: 100% National Clean Fleets Partnership: No					
Delaware Sustainable Energy Utility (DESEU)	Light-Duty	Electric	1	867 gal	4.5 tons
Electricity used: 6,070 kWh Market: General/Unknown Vehicle type: Car Percentage from coalition: 100% National Clean Fleets Partnership: No					
State of Delaware Fleet Services	Light-Duty	Electric	3	531 gal	2.8 tons
Average electric fuel economy: 31 kWh/100mi Miles traveled per vehicle per year: 5,480 mi Market: Government - State Vehicle type: Car Percentage from coalition: 75% National Clean Fleets Partnership: No					
State of Delaware Fleet Services	Light-Duty	HEV	5	372 gal	4.6 tons
Average vehicle fuel economy: 40 MPG Miles traveled per vehicle per year: 5,480 mi Market: Government - State Vehicle type: Pickup/SUV/Van Percentage from coalition: 75% National Clean Fleets Partnership: No					
State of Delaware Fleet Services	Light-Duty	HEV	111	8,259 gal	101.7 tons
Average vehicle fuel economy: 40 MPG Miles traveled per vehicle per year: 5,480 mi Market: Government - State Vehicle type: Car Percentage from coalition: 75% National Clean Fleets Partnership: No					

Fleet/Station Name	Vehicle Class	Fuel	Number of Vehicles	GGE Reduced	GHG Reduced
State of Delaware Fleet Services	Light-Duty	PHEV	10	1,315 gal	6.8 tons
Average vehicle fuel economy: 90 MPG Miles traveled per vehicle per year: 5,480 mi Market: Government - State Vehicle type: Car Percentage from coalition: 75% National Clean Fleets Partnership: No					
Total:			132	11,569 gal	122 tons

FUEL ECONOMY

Fuel Economy Improvements

Fleet Name	Previous Fuel	Current Fuel	Number of Vehicles	Miles Traveled per Vehicle	GGE Reduced	GHG Reduced
Delaware Fleet Services	23 MPG	25 MPG	2,454	8,713 mi	55,778 gal	687.1 tons
Method: Telematics Vehicle class: Light-Duty Market: Government - State Vehicle type: Pickup/SUV/Van Percentage from coalition: 75% National Clean Fleets Partnership: No <i>We have GPS units in each of fleet's 2,454 vehicles. These units have reduced miles traveled and increased fuel economy. Increased fuel economy is recognized through speed reduction and better driving habits. In addition, the system monitors the condition of the vehicle through on-board diagnostics and will alert if problems such as emissions, maintenance problems etc. exist which allows us to repair the vehicle quickly. The system can also alert if excessive idling is occurring in a vehicle. Delaware is the only state fleet using telematics for automated annual emissions inspections through motor vehicles.</i>						
Total:			2,454	8,713 mi	55,778 gal	687 tons

Vehicle Miles Traveled Reductions

Project Name	Method	Vehicle Class	GGE Reduced	GHG Reduced
RideShare Delaware	Carpooling	Light-Duty	85,467 gal	1,052.8 tons
Fuel saved: 85,467 gallons Percentage from coalition: 100% National Clean Fleets Partnership: No				
State of Delaware Employees Van Pool	Vanpooling	Light-Duty	40,462 gal	498.4 tons
Fuel type of vehicles driven less: Gasoline Fuel economy of vehicles driven less: 23 MPG Number of vehicles driven less: 159 VMT reduction per vehicle being driven less: 15,000 mi Fuel type of additional vehicles: Gasoline Fuel economy of additional vehicles: 20 MPG Number of additional vehicles: 23 VMT per additional vehicle: 21,398 mi Percentage from coalition: 50% National Clean Fleets Partnership: No <i>The State of Delaware operates a state employees vanpool program that takes individual commuting vehicles off the road each day. Approximately 182 employees using 23 vanpools are currently enrolled in the vanpool program. GPS systems in the 23 vans log an average of 21,398 miles per year</i>				
Total:			125,929 gal	1,551 tons

FUEL STATIONS

New Stations

Fuel	Public Stations	Private Stations
Biodiesel	-	-
CNG - Compressed Natural Gas	1	-
E85 - 85% Ethanol	-	-

Fuel	Public Stations	Private Stations
Electric Charging Outlets	5	-
Hydrogen	-	-
LNG - Liquefied Natural Gas	-	-
Propane	-	-
Total:	6	0

OUTREACH ACTIVITIES

Activity Name	Dates	Activity Type	Percentage from Coalition	Persons Reached
Strategic Planning Session	01/26/2018	Meeting - Stakeholder	100%	15
Technology: Electric vehicles, Hybrid electric vehicles, Natural gas vehicles, Propane, Vehicle miles traveled reduction Audience: Government, Private Fleets, Transit, Utility, Waste				
WILMAPCO TAC meeting	03/15/2018	Meeting - Other	100%	25
Technology: Electric vehicles, Hybrid electric vehicles Audience: General Public, Government, Private Fleets <i>This presentation was to the New Castle County, Delaware/ Cecil County, Maryland MPO's Transportation Advisory Council. The coordinator presented on electric vehicles, the Coalition, and incentive programs available in Delaware.</i>				
Delaware National Guard Earth Day Expo	04/01/2018	Conference participation	75%	200
Technology: Electric vehicles, Hybrid electric vehicles, Vehicle miles traveled reduction Audience: General Public, Government				
Junior Solar Sprint	04/26/2018	Media Event	75%	200
Technology: Hybrid electric vehicles, Natural gas vehicles Audience: General Public, Government, Utility, Other <i>State-wide solar car sprint race competition for Junior High and High School students. This event showcased AFVs, electric vehicles and other PV technology.</i>				
JP Morgan Earth Day	04/27/2018	Conference participation	100%	150
Technology: Electric vehicles, Hybrid electric vehicles, Vehicle miles traveled reduction Audience: General Public, Private Fleets <i>This event consisted of a ride-and-drive and a table with information.</i>				
Transportation and Climate Initiative Listening Session	06/06/2018	Meeting - Stakeholder	75%	100
Technology: Electric vehicles, Fuel economy improvements, Hybrid electric vehicles, Idle reduction, Natural gas vehicles, Propane, Vehicle miles traveled reduction Audience: General Public, Government, Private Fleets, Transit, Utility <i>This event was part of a series of listening sessions host by the Georgetown Climate Transportation and Climate Initiative about the future of transportation policy in the region. The Division of Climate, Coastal, and Energy, the host agency for the Delaware Clean Cities Coalition, provided staff support for this event. The Coordinator facilitated a table. As a result of these listening sessions, TCI put together a summary document with the recommendations that they heard from this event.</i>				
Pathways to Green School Networking Event	06/19/2018	Meeting - Stakeholder	100%	10
Technology: Electric vehicles, Hybrid electric vehicles, Propane Audience: General Public, Government, Private Fleets, Transit, Other <i>This "speed-dating" style event allowed the coordinator to talk to approximately 10 representatives from different schools in Delaware</i>				
Stakeholder Meeting	08/29/2018, 11/28/2018	Meeting - Stakeholder	100%	10
Technology: Electric vehicles, Hybrid electric vehicles, Natural gas vehicles, Propane Audience: General Public, Government, Private Fleets, Transit, Utility				

Activity Name	Dates	Activity Type	Percentage from Coalition	Persons Reached
Drive Electric Event	09/11/2018	Workshop held by coalition	100%	200
Technology: Electric vehicles, Hybrid electric vehicles Audience: General Public, Private Fleets, Transit <i>The Delaware Clean Cities Coalition, along with the University of Delaware and the Delaware Chapter of the Sierra Club, held a National Drive electric week event in Newark, DE. This event include a vehicle display with six electric vehicles, four tables with information from our stakeholders, and seven speakers discussing clean transportation in Delaware.</i>				
Coast Day	10/07/2018	Literature Distribution	100%	500
Technology: Electric vehicles, Fuel economy improvements, Hybrid electric vehicles, Natural gas vehicles, Propane, Vehicle miles traveled reduction Audience: General Public, Government <i>This event is a public education event that allows attendees to learn about innovative programs related to the environment in Delaware.</i>				
Delaware/Maryland Chapter of the American Planning Association	10/24/2018	Conference participation	100%	15
Technology: Electric vehicles, Fuel economy improvements, Hybrid electric vehicles, Idle reduction, Vehicle miles traveled reduction Audience: General Public, Government, Private Fleets, Transit, Utility <i>This event mostly attracts city, municipality, regional, and state planners. There were approximately 15 people in attendance at this panel.</i>				
Delaware Resilient and Sustainable Communities Summit	12/05/2018	Conference participation	100%	175
Technology: Electric vehicles, Hybrid electric vehicles, Natural gas vehicles, Propane Audience: General Public, Government, Private Fleets				
Delaware Resilient and Sustainable Communities Summit	12/05/2018	Conference participation	100%	175
Technology: Electric vehicles, Hybrid electric vehicles, Natural gas vehicles, Propane Audience: General Public, Government, Private Fleets				
Total:				1,775