

2017 Transportation Technology Deployment Report:

State of Delaware Clean Cities

Expanded Edition

March 2018

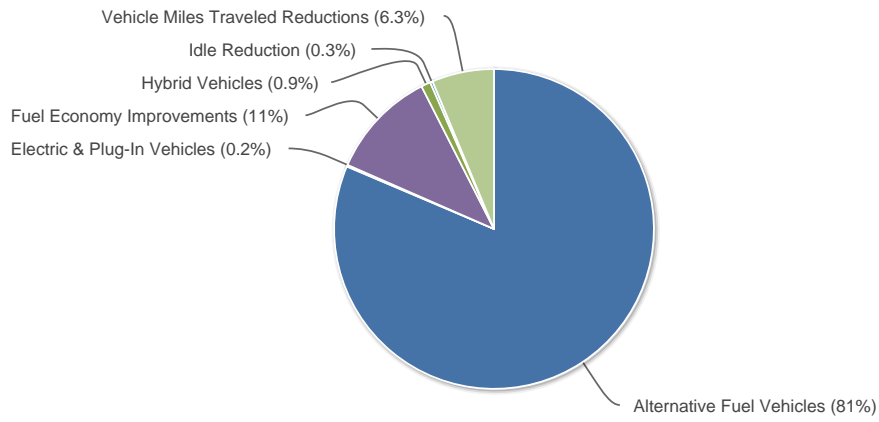
The U.S. Department of Energy's (DOE) Clean Cities program advances the nation's economic, environmental, and energy security by supporting local actions to reduce petroleum use in transportation. A national network of nearly 100 Clean Cities coalitions brings together stakeholders in the public and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

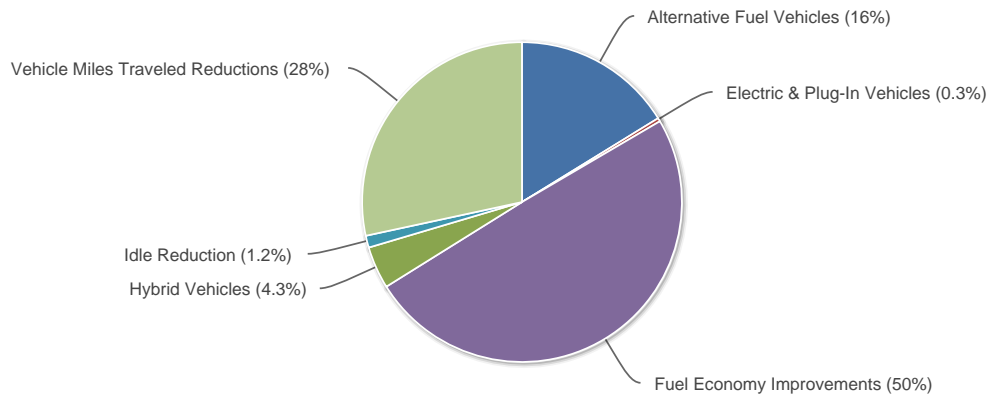
2017 Gallons of Gasoline Equivalent Reduced

913,409 gallons

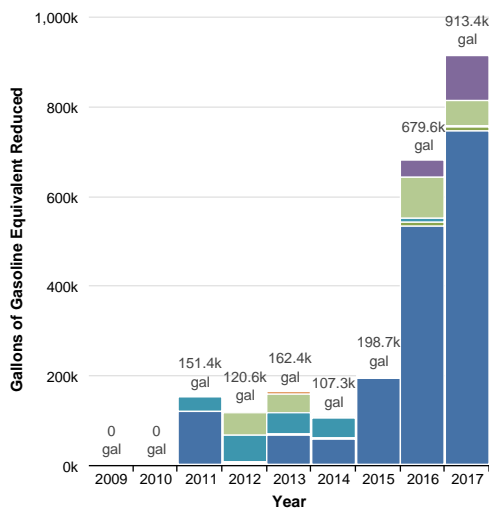


2017 Greenhouse Gas Emissions Reduced

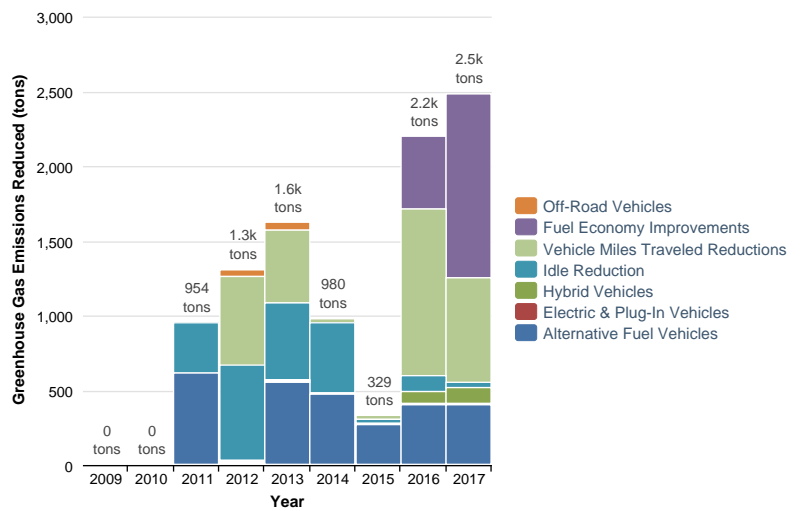
2,486 tons



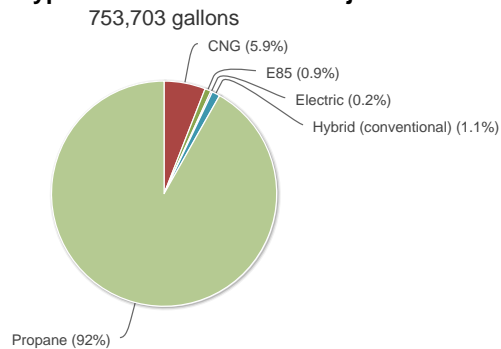
Historical Gallons of Gasoline Equivalent Reduced



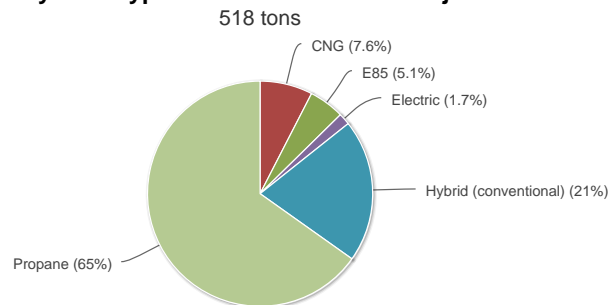
Historical Greenhouse Gas Emissions Reduced



2017 Gallons of Gasoline Equivalent Reduced by Fuel Type for Alternative Fuel Projects



2017 Greenhouse Gas Emissions Reduced by Fuel Type for Alternative Fuel Projects



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.org).

Reductions by Fuel Type*	NOx	VOC	CO	PM10	PM2.5
CNG - Compressed Natural Gas	1,533 lb	3 lb	-5,878 lb	0 lb	0 lb
E85 - 85% Ethanol	0 lb	230 lb	0 lb	0 lb	0 lb
Electric (all-electric)	7 lb	11 lb	205 lb	0 lb	0 lb
Hybrid (conventional)	19 lb	52 lb	0 lb	0 lb	0 lb
Propane	19,150 lb	-987 lb	-29,652 lb	41 lb	23 lb
VMT Reduction (Gasoline)	292 lb	467 lb	8,378 lb	117 lb	26 lb
Total:	21,002 lb	-223 lb	-26,947 lb	159 lb	49 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
Kathy Harris	100 W Water St, Ste 5A Dover, DE 19904		

Number of coordinators	1
Coordinator(s) hours per week on Clean Cities	15 hours
Other staff hours per week on Clean Cities	5 hours
How long have you been the coordinator?	2 years

OPERATING INFORMATION

Host organization	Government - State
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Stakeholders

Number of stakeholders	55
Number of private stakeholders	26
Does the State Energy Office provide any financial support to the coalition or stakeholders?	Yes
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
Has your coalition registered with www.grants.gov ?	No

2017 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 2017	\$0
Total non-DOE or ARRA funding in 2017	\$0

VEHICLE & FUEL INVENTORY

Alternative Fuel & Vehicles

Fleet/Station Name	Vehicle Class	Fuel	Number of Vehicles	Fuel Used	GGE Reduced	GHG Reduced
Chesapeake Utilities Market: Utility Vehicle type: Car Percentage from coalition: 75% National Clean Fleets Partnership: No	Light-Duty	CNG	1	240 GGE	171 gal	0.2 tons
Chesapeake Utilities Market: Utility Vehicle type: Pickup/SUV/Van Percentage from coalition: 75% National Clean Fleets Partnership: No	Light-Duty	CNG	6	3,858 GGE	2,749 gal	3.6 tons
Delaware Transit Market: Commuters Vehicle type: Bus: Shuttle Percentage from coalition: 100% National Clean Fleets Partnership: No	Heavy-Duty	Propane	130	709,688 gal	483,510 gal	189.5 tons
Easter Seals Market: Corporate Fleet Vehicle type: Pickup/SUV/Van Percentage from coalition: 100% National Clean Fleets Partnership: No	Light-Duty	Propane	1	2,820 gal	2,135 gal	3.0 tons
Johnson Transportation Market: Corporate Fleet Vehicle type: Bus: Shuttle Percentage from coalition: 100% National Clean Fleets Partnership: No	Heavy-Duty	Propane	4	13,356 gal	9,099 gal	3.6 tons
Kent Sussex Industries Market: Corporate Fleet Vehicle type: Pickup/SUV/Van Percentage from coalition: 100% National Clean Fleets Partnership: No	Light-Duty	Propane	14	25,325 gal	19,171 gal	27.1 tons
Prime Care Medical Market: Corporate Fleet Vehicle type: Pickup/SUV/Van Percentage from coalition: 100% National Clean Fleets Partnership: No	Light-Duty	Propane	6	13,816 gal	10,459 gal	14.8 tons
School Buses Market: Commuters Vehicle type: Bus: School Percentage from coalition: 100% National Clean Fleets Partnership: No <i>These school buses are from 9 school districts and contractors in Delaware.</i>	Heavy-Duty	Propane	54	135,587 gal	92,375 gal	36.2 tons
Schwan's - Medium-duty Propane Market: Corporate Fleet Vehicle type: Truck: No Trailer Percentage from coalition: 100% National Clean Fleets Partnership: Yes	Heavy-Duty	Propane	14	61,432 gal	41,854 gal	16.4 tons
Sharp Energy Market: Corporate Fleet Vehicle type: Pickup/SUV/Van Percentage from coalition: 100% National Clean Fleets Partnership: No	Light-Duty	Propane	33	44,000 gal	33,308 gal	47.1 tons

Fleet/Station Name	Vehicle Class	Fuel	Number of Vehicles	Fuel Used	GGE Reduced	GHG Reduced
State of Delaware	Light-Duty	E85	1,598	2% of time	6,739 gal	26.3 tons
Miles traveled per vehicle: 8,713 mi Average vehicle fuel economy: 19 MPG Market: Government - State Vehicle type: Car Percentage from coalition: 75% National Clean Fleets Partnership: No						
Sustainable Energy Utility	Light-Duty	CNG	1	100% of time	343 gal	0.4 tons
Miles traveled per vehicle: 12,000 mi Average vehicle fuel economy: 35 MPGge Market: Corporate Fleet Vehicle type: Car Percentage from coalition: 100% National Clean Fleets Partnership: No						
Waste Management	Heavy-Duty	CNG	5	100% of time	41,493 gal	34.9 tons
Miles traveled per vehicle: 25,000 mi Average vehicle fuel economy: 3 MPGde Market: Corporate Fleet Vehicle type: Truck: Refuse Percentage from coalition: 75% National Clean Fleets Partnership: Yes						
Total:			1,867		743,406 gal	403 tons

Electric, Hybrid & Plug-in Vehicles

Fleet/Station Name	Vehicle Class	Fuel	Number of Vehicles	GGE Reduced	GHG Reduced
State of Delaware Fleet Services	Light-Duty	HEV	116	8,631 gal	106.3 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 Workplace Charging Challenge:					
State of Delaware OMB	Light-Duty	Electric	3	1,666 gal	8.7 tons
Average electric fuel economy: - kWh/100mi Miles traveled per vehicle per year: 13,001 mi Market: Government - State Vehicle type: Car Percentage from coalition: 100% National Clean Fleets Partnership: No Workplace Charging Challenge: All-electric Ford Focus Electric					
Total:			119	10,297 gal	115 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	33 MPG	514	8,713 mi	44,254 gal	545.1 tons
Method: Vehicle - Smaller Vehicle class: Light-Duty Market: Government - State Vehicle type: Car Percentage from coalition: 75% National Clean Fleets Partnership: No						

Fleet Name	Previous Fuel	Current Fuel	Number of Vehicles	Miles Traveled per Vehicle	GGE Reduced	GHG Reduced
Delaware Fleet Services	23 MPG	25 MPG	1,392	8,713 mi	31,640 gal	389.7 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 1,061 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.</i>						
State of Delaware Fleet Services	23 MPG	25 MPG	1,061	8,713 mi	24,116 gal	297.1 tons
Method: Telematics Vehicle class: Light-Duty Market: Government - State Vehicle type: Car Percentage from coalition: 75% National Clean Fleets Partnership: No <i>We have GPS units in each of Fleet's 1,061 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 onboard 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.</i>						
Total:			2,967	26,139 mi	100,009 gal	1,232 tons

Vehicle Miles Traveled Reductions

Project Name	Method	Vehicle Class	GGE Reduced	GHG Reduced
Delaware National Guard Vanpool	Vanpooling	Light-Duty	6,479 gal	79.8 tons
Fuel saved: 6,479 gallons Percentage from coalition: 100% National Clean Fleets Partnership: No				
RideShare Delaware	Carpooling	Light-Duty	2,102 gal	25.9 tons
Fuel type of vehicles driven less: Gasoline Fuel economy of vehicles driven less: 23 MPG Number of vehicles driven less: 74 VMT reduction per vehicle being driven less: 856 mi Percentage from coalition: 75% National Clean Fleets Partnership: No				
State of Delaware Employees Van Pool	Vanpooling	Light-Duty	48,687 gal	599.7 tons
Fuel type of vehicles driven less: Gasoline Fuel economy of vehicles driven less: 23 MPG Number of vehicles driven less: 184 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: 33 VMT per additional vehicle: 15,000 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 185 employees using 33 vanpools are currently enrolled in the vanpool program. GPS systems in the 33 vans log an average of 4,294 miles per day for an average trip of 90 miles per pool.</i>				
Total:			57,268 gal	705 tons

IDLE REDUCTION

Idle Reduction

Project Name	Number of Vehicles	Idling Reduced per Vehicle	Fuel Saved per Vehicle	GGE Reduced	GHG Reduced
State of Delaware Idling Policy	1,200	5 mins/day 257 days/year	0 gal/hr	2,429 gal	30.1 tons
Type of project: Policies Type of vehicle: Light-Duty Percentage from coalition: 35% National Clean Fleets Partnership: No					
Total:	1,200			2,429 gal	30 tons

FUEL STATIONS

New Stations

Fuel	Public Stations	Private Stations
Biodiesel	-	-
CNG - Compressed Natural Gas	-	-
E85 - 85% Ethanol	-	-
Electric Charging Outlets	30	8
Hydrogen	-	-
LNG - Liquefied Natural Gas	-	-
Propane	-	-
Total:	30	8

OUTREACH ACTIVITIES

Activity Name	Dates	Activity Type	Percentage from Coalition	Persons Reached
Wor-Wic Community College Technology: Natural gas vehicles Audience: Private Fleets <i>Discussed CNG for campus vehicles</i>	02/10/2017	Meeting - Other	50%	3
Bear Concrete Technology: Natural gas vehicles Audience: Waste <i>Discussed CNG for refuse trucks</i>	02/23/2017	Meeting - Other	50%	4
Cecil Community College Technology: Natural gas vehicles Audience: Private Fleets <i>CNG for campus fleet</i>	03/13/2017	Meeting - Other	50%	4
Visit with Kent County DE Tourism Technology: Natural gas vehicles Audience: Private Fleets <i>CNG for Transit (mobile tourism van)</i>	03/22/2017, 04/20/2017, 08/04/2017	Meeting - Other	50%	14

Activity Name	Dates	Activity Type	Percentage from Coalition	Persons Reached
Volkswagen Mitigation Plan Public Meeting	03/23/2017	Meeting - Other	75%	25
Technology: Electric vehicles, Hybrid electric vehicles, Natural gas vehicles, Propane Audience: General Public, Government, Private Fleets, Transit, Utility, Waste <i>This public meeting was held to solicit comments on the draft Volkswagen Mitigation Plan for the State of Delaware. The Delaware Clean Cities Coordinator will be managing the funds that are designated for electric vehicle charging infrastructure.</i>				
Propane Safety and Technology Training	04/19/2017	Workshop held by coalition	100%	50
Technology: Propane Audience: General Public, Private Fleets, Transit <i>There were approximately 50 school districts, bus drivers, and school bus contractors at the training. As an outcome of this training, we anticipate that additional Propane School Buses will be purchased by Delaware schools.</i>				
Meeting with Delmarva Power	04/21/2017, 06/16/2017, 09/01/2017	Meeting - Stakeholder	100%	2
Technology: Natural gas vehicles Audience: Private Fleets, Other <i>Discuss marketing joint outreach efforts</i>				
Wilmington Earth/Arbor Day	04/21/2017	Literature Distribution	100%	250
Technology: Electric vehicles, Natural gas vehicles, Propane Audience: General Public <i>At this year's event, the Coalition presented information on the new alternative fuel infrastructure that has been installed throughout the state over the past year including the new EV charging stations. This also allowed for the Coalition to promote the new grants and rebates that are available in the State of Delaware for individuals and fleets.</i>				
Stakeholder Meeting	04/25/2017, 11/02/2017	Meeting - Stakeholder	100%	10
Technology: Electric vehicles, Hybrid electric vehicles, Natural gas vehicles, Propane Audience: General Public, Government, Private Fleets, Transit, Utility				
Energy Services Coalition - DE chapter meeting	04/27/2017	Conference participation	50%	30
Technology: Natural gas vehicles Audience: General Public, Private Fleets, Other				
Junior Solar Sprint	04/27/2017	Media Event	50%	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>				
Dover Days	05/06/2017	Literature Distribution	100%	500
Technology: Electric vehicles, Fuel economy improvements, Hybrid electric vehicles, Natural gas vehicles, Propane Audience: General Public, Other <i>Dover Days is an annual community event in Dover, Delaware. At this event, the Delaware Clean Cities Coalition provided information to Delawareans about our rebate programs, gas saving tips, and the benefits of alternative fuels.</i>				
Delaware State Fair	07/21/2017, 07/22/2017, 07/23/2017, 07/24/2017, 07/25/2017, 07/26/2017, 07/27/2017, 07/28/2017, 07/29/2017	Literature Distribution	50%	1,000
Technology: Electric vehicles, Fuel economy improvements, Hybrid electric vehicles, Idle reduction, Natural gas vehicles, Propane, Vehicle miles traveled reduction Audience: General Public				

Activity Name	Dates	Activity Type	Percentage from Coalition	Persons Reached
Green Jobs Program	07/25/2017	Workshop held by coalition	100%	15
Technology: Electric vehicles, Hybrid electric vehicles, Natural gas vehicles, Propane Audience: General Public, Other <i>The Coordinator, along with five stakeholders, hosted a "Green Jobs Day," where eight high school and college students came to learn about opportunities and careers in the alternative fuel vehicle industry. Each stakeholder (representatives from propane, natural gas and electric) gave a presentation about what they do, the paths they took to get there, and opportunities that were available for students. Stakeholders also brought alternative fueled vehicles for the students to look at and ask questions. This program allowed for us to reach a demographic that our Coalition does not normally get to talk about alternative fuels.</i>				
Coast Day	10/01/2017	Literature Distribution	100%	500
Technology: 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>				
Downtown Dover Partnership	10/11/2017	Literature Distribution	100%	100
Technology: Electric vehicles, Hybrid electric vehicles Audience: General Public				
Delmarva Power and Light's New Technology Symposium	10/13/2017	Conference participation	100%	150
Technology: Electric vehicles, Hybrid electric vehicles, Natural gas vehicles Audience: General Public, Government, Private Fleets, Utility				
Amick Farms	10/24/2017	Meeting - Other	50%	4
Technology: Natural gas vehicles Audience: Private Fleets <i>Discussed CNG for Poultry fleet</i>				
Kent Tourism Bus Ribbon cutting	10/27/2017	Media Event	100%	100
Technology: Natural gas vehicles Audience: Government, Private Fleets, Utility <i>This event was a ribbon cutting for the CNG-powered Mobile Visitors Center in Dover, DE. This van will drive around Kent County and attend events to promote tourism. At this event, the coordinator gave a speech on natural gas vehicles and provided information on the State's rebate programs.</i>				
Delaware Resilient and Sustainable Communities Summit	11/27/2017	Conference participation	100%	200
Technology: Electric vehicles, Hybrid electric vehicles, Natural gas vehicles, Propane Audience: General Public, Government, Private Fleets				
Energy Efficiency Advisory Council Presentation	12/13/2017	Meeting - Other	100%	30
Technology: Electric vehicles, Hybrid electric vehicles, Natural gas vehicles Audience: Government, Utility <i>Discussed Electric Vehicles for the general public and presented on CNG and NGVs in the context of State energy conservation goals.</i>				
Dover/Kent MPO TAC/PAC meeting	12/13/2017	Meeting - Other	100%	25
Technology: Electric vehicles, Hybrid electric vehicles Audience: General Public, Government, Private Fleets				
Total:				3,216