

2019 Transportation Technology Deployment Report:

State of Delaware Clean Cities
Expanded Edition

March 2020



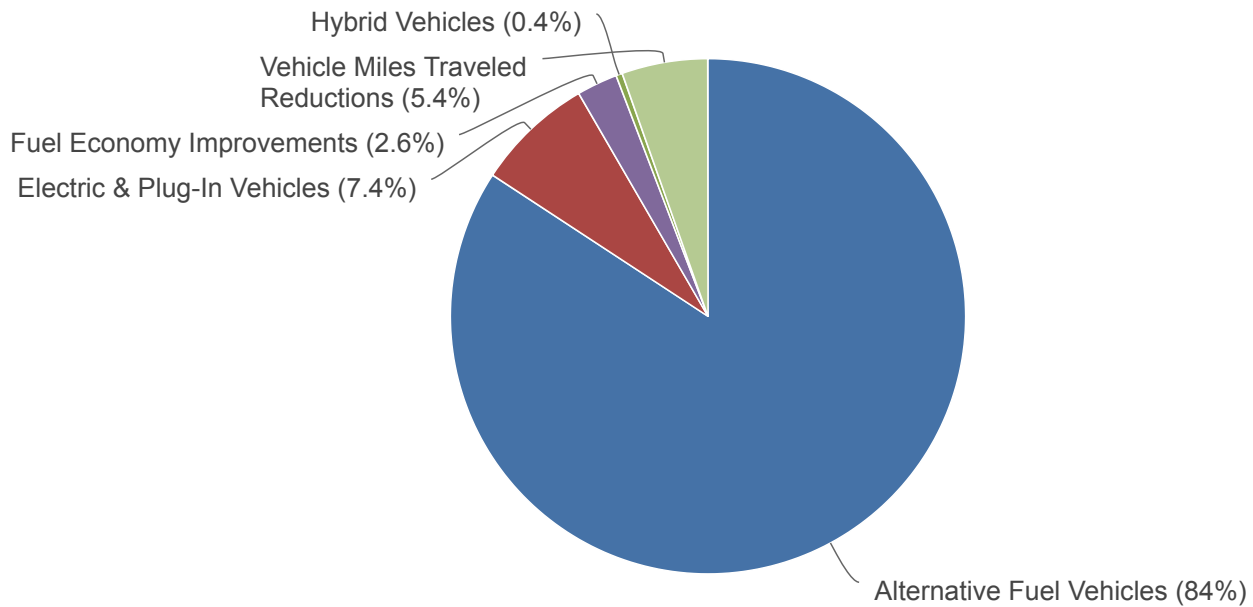
The U.S. Department of Energy's (DOE) Clean Cities program advances the nation's economic, environmental, and energy security by supporting local actions to reduce petroleum use in transportation. A national network of nearly 100 Clean Cities coalitions brings together stakeholders in the public and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

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

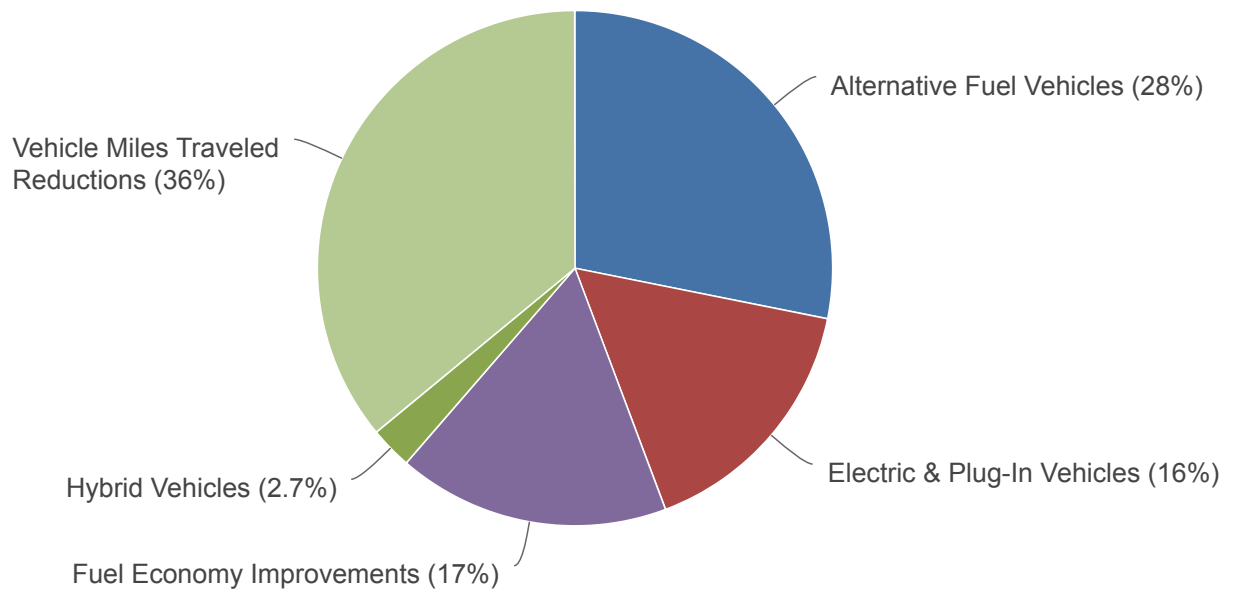
2019 Gallons of Gasoline Equivalent Reduced

2,206,065 gallons

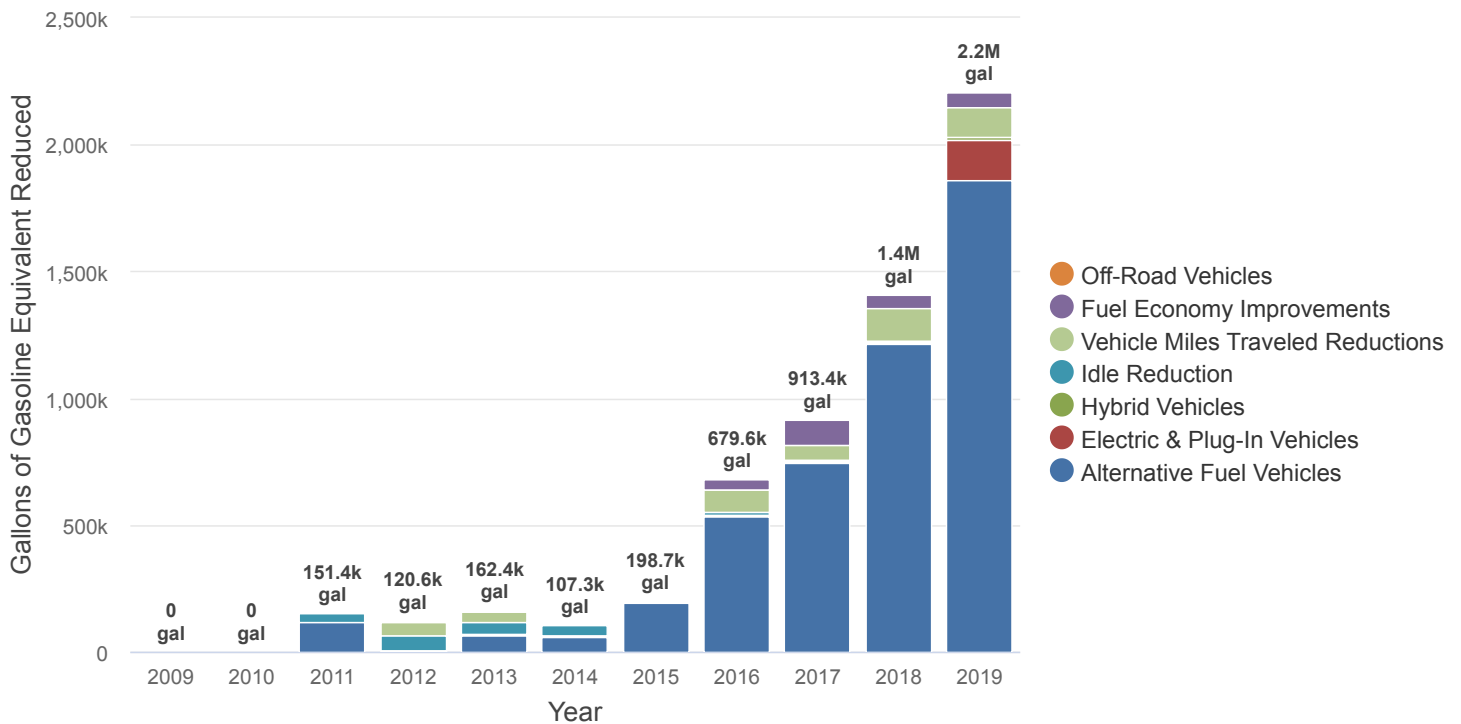


2019 Greenhouse Gas Emissions Reduced

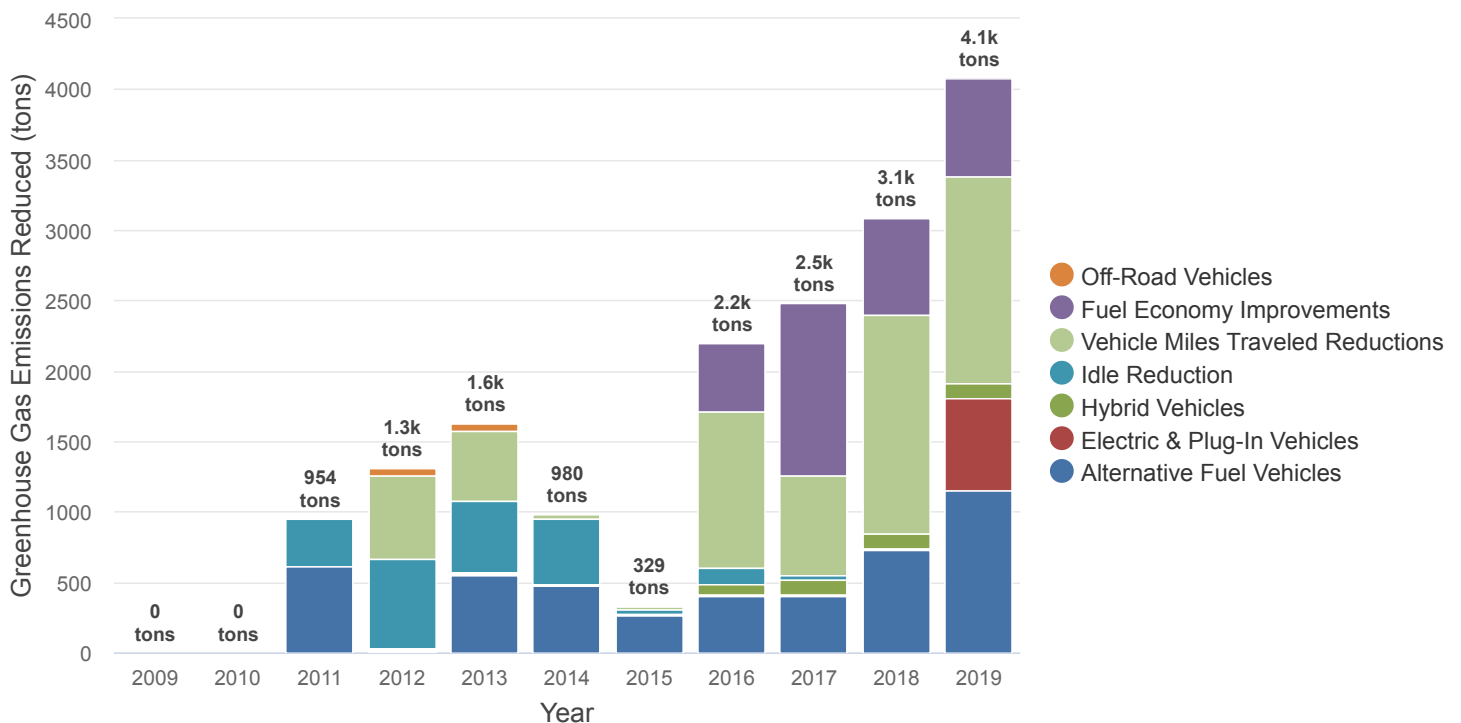
4,082 tons



Historical Gallons of Gasoline Equivalent Reduced

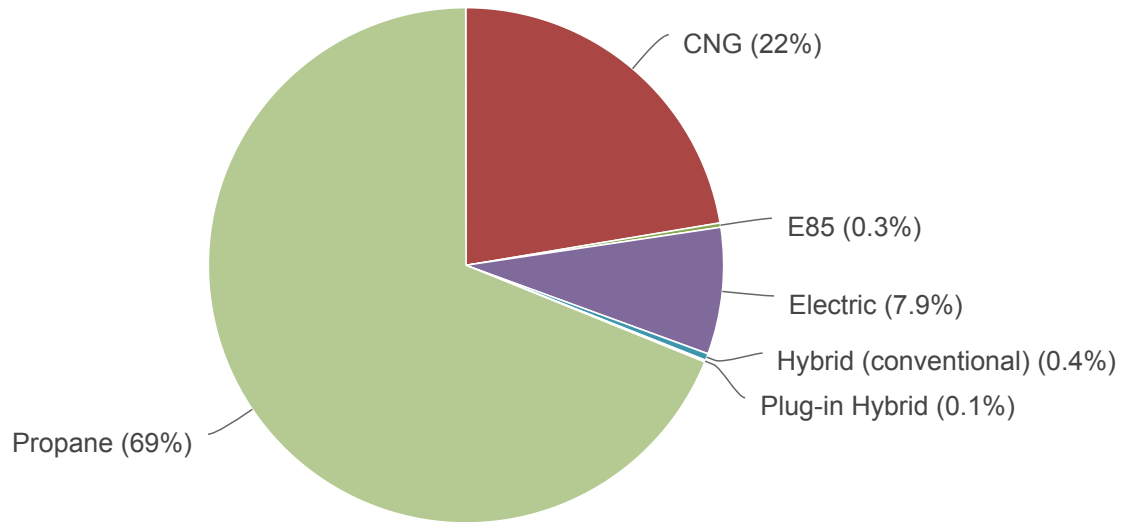


Historical Greenhouse Gas Emissions Reduced



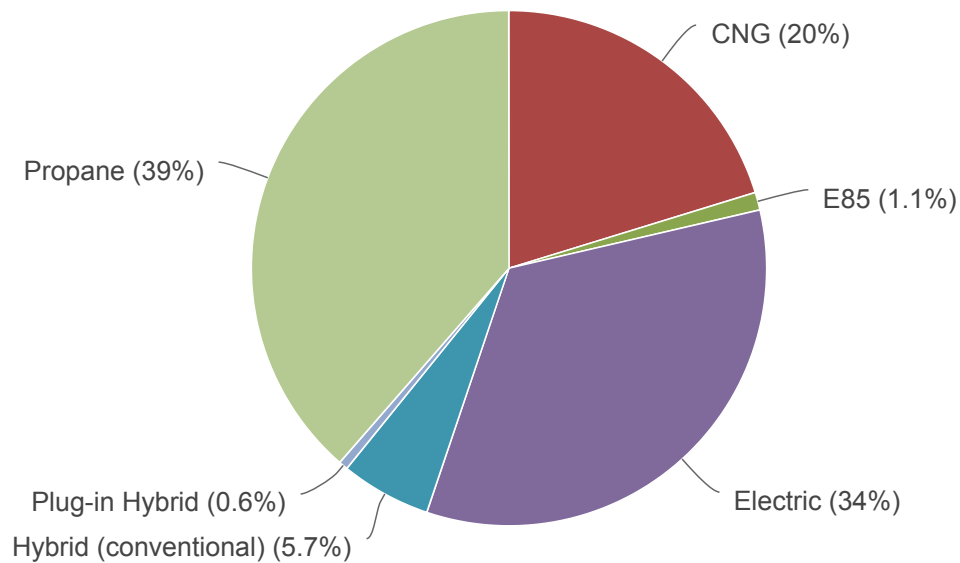
2019 Gallons of Gasoline Equivalent Reduced by Fuel Type for Alternative Fuel Projects

2,030,238 gallons



2019 Greenhouse Gas Emissions Reduced by Fuel Type for Alternative Fuel Projects

1,917 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. Criteria pollutants include nitrogen oxides (NOx) and volatile organic compounds (VOC), both precursors to ozone pollution or smog. They also include particulate matter (PM) grouped into 10 and 2.5 micron sizes. 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. Upstream emissions from electric power plants, refineries, and biofuel feedstock farms are not included in this summary since those operations typically do not take place in or near population centers where the vehicles are operated and health effects can be documented. 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. Carbon Monoxide benefits are not included since no Clean Cities coalitions are in nonattainment areas for CO. 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 Technology* | NOx | VOC** | PM10 | PM2.5 |
|------------------------------|------------------|------------------|---------------|---------------|
| CNG - Compressed Natural Gas | 18,463 lb | 20 lb | 0 lb | 0 lb |
| E85 - 85% Ethanol | 4,387 lb | -75 lb | 30 lb | 7 lb |
| Electric (all-electric) | 4,737 lb | 111 lb | 23 lb | 22 lb |
| Hybrid (conventional) | 19 lb | 52 lb | 0 lb | 0 lb |
| Plug-in Hybrid | 16 lb | 25 lb | 1 lb | 1 lb |
| Propane | 41,062 lb | -2,789 lb | 65 lb | 45 lb |
| VMT Reduction (Gasoline) | 576 lb | 921 lb | 231 lb | 51 lb |
| Total: | 69,260 lb | -1,735 lb | 350 lb | 125 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.

** VOC is interchangeable with NMOG (non-methane organic gases) and NMHC (non-methane hydrocarbons) for all purposes relevant to the Clean Cities suite of technologies.

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 10B Dover, DE 19904 | 302-735-3366 | |

| | |
|---|----------|
| 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? | 1 year |

OPERATING INFORMATION

| | |
|------------------------------------|-------------------------------------|
| Coalition organizational structure | Hosted in a state government agency |
|------------------------------------|-------------------------------------|

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 |

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 |
|---|----|

2019 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 2019 | \$0 |
| Total non-DOE or ARRA funding in 2019 | \$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 | | | | | | |
| Chesapeake Utilities | Light-Duty | CNG | 18 | 90% of time | 8,379 gal | 10.9 tons |
| Miles traveled per vehicle: 12,000 mi Average vehicle fuel economy: 17 MPGge Market: Utility Vehicle type: Pickup/SUV/Van Percentage from coalition: 75% National Clean Fleets Partnership: No | | | | | | |
| Delaware Transit Corporation | 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 | | | | | | |
| Delaware Transit Corporation | Heavy-Duty | Propane | 58 | 100% of time | 186,594 gal | 73.1 tons |
| Miles traveled per vehicle: 22,679 mi Average vehicle fuel economy: 8 MPGde 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 | 35 | 138,000 gal | 94,019 gal | 36.9 tons |
| Market: Commuters Vehicle type: Bus: School Percentage from coalition: 100% National Clean Fleets Partnership: No <i>These are school buses from 4 different school buses that were replaced using VW funding.</i> | | | | | | |
| 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 | | | | | | |
| Schwan's - Medium-duty Propane | Heavy-Duty | Propane | 13 | 50,385 gal | 34,327 gal | 13.5 tons |

| Fleet/Station Name | Vehicle Class | Fuel | Number of Vehicles | Fuel Used | GGE Reduced | GHG Reduced |
|--|---------------|---------|--------------------|-------------|-------------|-------------|
| 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 | 3,740 gal | 14.6 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 | | | | | | |
| State of Delaware | Light-Duty | E85 | 427 | 2% of time | 1,741 gal | 6.8 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 | | | | | | |
| State of Delaware Fleet Services | Heavy-Duty | E85 | 20 | 0% of time | 0 gal | 0.0 tons |
| Miles traveled per vehicle: 25,594 mi Average vehicle fuel economy: 4 MPG Market: Government - State Vehicle type: Unknown/Other Percentage from coalition: 75% National Clean Fleets Partnership: No <i>Ford Transit Passenger Vehicles. Delaware does not have any E85 stations; therefore, there is no place to fuel.</i> | | | | | | |
| State of Delaware Fleet Services | Light-Duty | E85 | 119 | 0 gal | 0 gal | 0.0 tons |
| Market: Government - State Vehicle type: Pickup/SUV/Van Percentage from coalition: 75% National Clean Fleets Partnership: No <i>Dodge Caravan - Delaware does not have any E85 stations to fuel vehicles.</i> | | | | | | |
| State of Delaware Fleet Services | Light-Duty | E85 | 68 | 0 gal | 0 gal | 0.0 tons |
| Market: Government - State Vehicle type: Car Percentage from coalition: 75% National Clean Fleets Partnership: No <i>Delaware does not have any E85 stations to fuel vehicles.</i> | | | | | | |
| State of Delaware Fleet Services | Light-Duty | E85 | 52 | 0 gal | 0 gal | 0.0 tons |
| Market: Government - State Vehicle type: Pickup/SUV/Van Percentage from coalition: 75% National Clean Fleets Partnership: No <i>Delaware does not have any E85 stations to fuel vehicles.</i> | | | | | | |

| Fleet/Station Name | Vehicle Class | Fuel | Number of Vehicles | Fuel Used | GGE Reduced | GHG Reduced |
|--|---------------|------|--------------------|--------------|----------------------|-------------------|
| State of Delaware Fleet Services | Light-Duty | E85 | 32 | 0 gal | 0 gal | 0.0 tons |
| Market: Government - State Vehicle type: Pickup/SUV/Van Percentage from coalition: 75% National Clean Fleets Partnership: No <i>Delaware does not have any E85 stations to fuel vehicles.</i> | | | | | | |
| Waste Management | Heavy-Duty | CNG | 9 | 100% of time | 62,239 gal | 52.4 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 | | | | | | |
| Waste Management | Heavy-Duty | CNG | 32 | 100% of time | 379,361 gal | 319.4 tons |
| Miles traveled per vehicle: 40,000 mi Average vehicle fuel economy: 3 MPGde Market: Corporate Fleet Vehicle type: Truck: Refuse Percentage from coalition: 75% National Clean Fleets Partnership: Yes | | | | | | |
| Total: | | | 2,118 | | 1,858,234 gal | 1,149 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 | 4 | 449 gal | 2.3 tons |
| Average electric fuel economy: 31 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 Workplace Charging Challenge: - | | | | | |
| Delaware Sustainable Energy Utility | 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 Workplace Charging Challenge: - | | | | | |
| Delaware Transit Corporation | Heavy-Duty | Electric | 14 | 158,723 gal | 635.5 tons |
| Average electric fuel economy: 167 kWh/100mi Miles traveled per vehicle per year: 34,012 mi Market: Commuters Vehicle type: Bus: Transit Percentage from coalition: 100% National Clean Fleets Partnership: No Workplace Charging Challenge: - | | | | | |
| State of Delaware Fleet Services | Light-Duty | Electric | 6 | 1,028 gal | 5.3 tons |
| Average electric fuel economy: 28 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 Workplace Charging Challenge: - | | | | | |

| Fleet/Station Name | Vehicle Class | Fuel | Number of Vehicles | GGE Reduced | GHG Reduced |
|---|---------------|------|--------------------|-------------|-------------|
| State of Delaware Fleet Services 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: - | Light-Duty | HEV | 111 | 8,430 gal | 103.8 tons |
| State of Delaware Fleet Services 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 Workplace Charging Challenge: - | Light-Duty | HEV | 5 | 380 gal | 4.7 tons |
| State of Delaware Fleet Services Average vehicle fuel economy: 90 MPG Miles traveled per vehicle per year: 5,480 mi Market: National Parks Vehicle type: Car Percentage from coalition: 75% National Clean Fleets Partnership: No Workplace Charging Challenge: - | Light-Duty | PHEV | 16 | 2,128 gal | 11.1 tons |
| Total: | | | 157 | 172,004 gal | 767 tons |

FUEL ECONOMY

Fuel Economy Improvements

| Fleet Name | Previous Fuel | Current Fuel | Number of Vehicles | Miles Traveled per Vehicle | GGE Reduced | GHG Reduced |
|--|---------------|--------------|--------------------|----------------------------|-------------|-------------|
| State of Delaware Fleet Services Method: Telematics Vehicle class: Light-Duty Market: Government - State Vehicle type: Pickup/SUV/Van Percentage from coalition: 75% National Clean Fleets Partnership: No | 23 MPG | 25 MPG | 2,418 | 8,973 mi | 56,600 gal | 697.2 tons |
| Total: | | | 2,418 | 8,973 mi | 56,600 gal | 697 tons |

Vehicle Miles Traveled Reductions

| Project Name | Method | Vehicle Class | GGE Reduced | GHG Reduced |
|--|------------|---------------|-------------|-------------|
| RideShare Delaware Fuel saved: 80,029 gallons Percentage from coalition: 100% National Clean Fleets Partnership: No | Carpooling | Light-Duty | 80,029 gal | 985.8 tons |
| State of Delaware Employees Van Pool | Vanpooling | Light-Duty | 39,198 gal | 482.8 tons |

| Project Name | Method | Vehicle Class | GGE Reduced | GHG Reduced |
|--|--------|---------------|-------------|-------------|
| Fuel type of vehicles driven less: Gasoline Fuel economy of vehicles driven less: 23 MPG Number of vehicles driven less: 159 VMT project 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: 22,000 mi Percentage from coalition: 50% National Clean Fleets Partnership: No | | | | |
| Total: | | | 119,227 gal | 1,469 tons |

FUEL STATIONS

New Stations

| Fuel | Public Stations | Private Stations |
|--|-----------------|------------------|
| Biodiesel | - | - |
| CNG - Compressed Natural Gas | - | 1 |
| E85 - 85% Ethanol | - | - |
| Electric Charging Outlets: Level 1 & Level 2 | - | - |
| Electric Charging Outlets: DC Fast Chargers | - | - |
| Hydrogen | - | - |
| LNG - Liquefied Natural Gas | - | - |
| Propane | - | 5 |
| Total: | 0 | 6 |

OUTREACH ACTIVITIES

| Activity Name | Dates | Activity Type | Percentage from Coalition | Persons Reached |
|---|---------------------------|----------------------------|---------------------------|-----------------|
| Wilmington Earth/Arbor Day 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> | 04/17/2019 | Literature Distribution | 100% | 250 |
| Sustainable Fleet Management Summit Technology: Electric vehicles, Natural gas vehicles, Propane Audience: General Public, Government, Private Fleets, Transit, Utility, Waste <i>This summit, which the Coalition sponsored, was hosted by Chesapeake Utilities consisted of presentations from a variety of organizations and partners, tabling, and a CNG station ribbon cutting.</i> | 04/02/2019 | Conference Participation | 100% | 100 |
| Stakeholder Meeting Technology: Electric vehicles, Hybrid electric vehicles, Natural gas vehicles, Propane Audience: General Public, Government, Private Fleets, Transit, Utility | 03/06/2019, 05/29/2019 | Meeting - Stakeholder | 100% | 15 |
| Ribbon Cutting for Energy Lane CNG Technology: Natural gas vehicles Audience: Delivery, General Public, Private Fleets, Transit, Utility, Waste | 02/20/2019 | Media Event | 100% | 200 |
| National Drive Electric Week Event | 09/21/2019 | Workshop Held By Coalition | 100% | 100 |

| Activity Name | Dates | Activity Type | Percentage from Coalition | Persons Reached |
|---|------------|--------------------------|---------------------------|-----------------|
| Technology: Electric vehicles, Hybrid electric vehicles Audience: General Public, Private Fleets, Transit | | | | |
| Drive Change Drive Electric | 11/07/2019 | Meeting - Other | 75% | 50 |
| Technology: Electric vehicles, Hybrid electric vehicles Audience: Government, Other | | | | |
| Delaware Resilient and Sustainable Communities Summit | 11/15/2019 | Conference Participation | 100% | 200 |
| Technology: Electric vehicles, Hybrid electric vehicles, Natural gas vehicles, Propane Audience: General Public, Government, Private Fleets, Transit | | | | |
| Total: | | | | 915 |