

2017 Transportation Technology Deployment Report:

Centralina Clean Fuels Coalition
Expanded Edition

March 2018

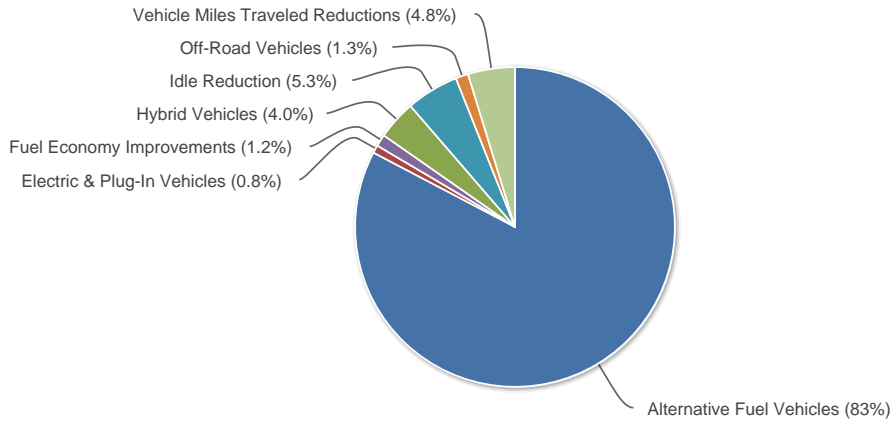
The U.S. Department of Energy's (DOE) Clean Cities program advances the nation's economic, environmental, and energy security by supporting local actions to reduce petroleum use in transportation. A national network of nearly 100 Clean Cities coalitions brings together stakeholders in the public and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

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

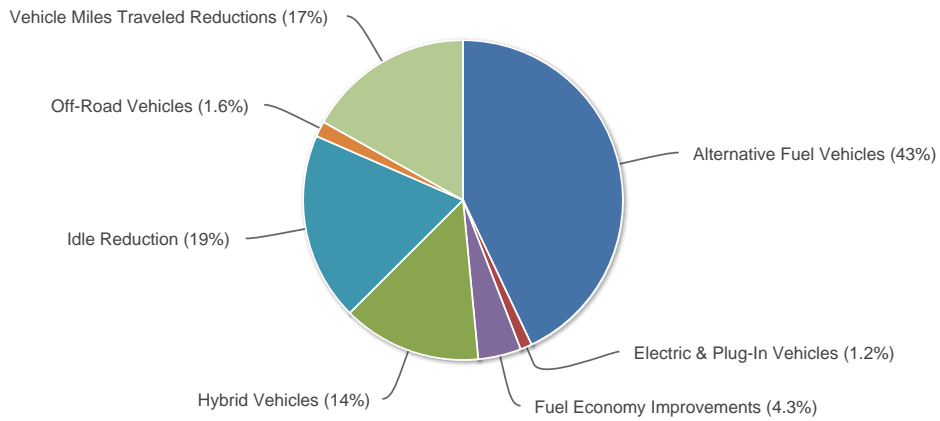
2017 Gallons of Gasoline Equivalent Reduced

4,881,139 gallons

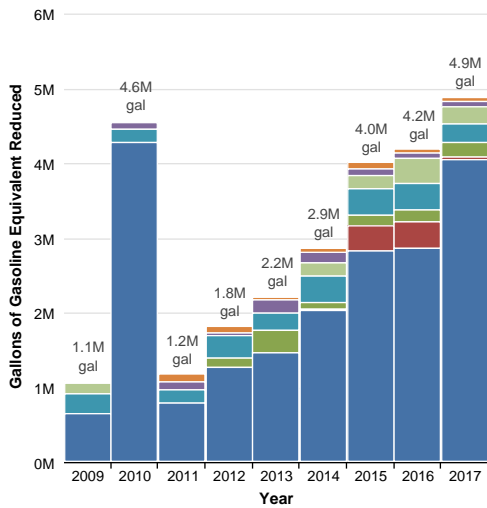


2017 Greenhouse Gas Emissions Reduced

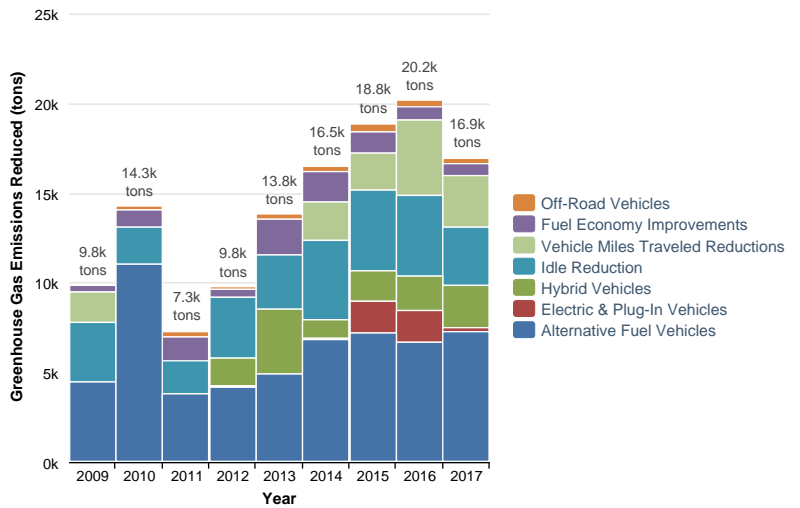
16,926 tons



Historical Gallons of Gasoline Equivalent Reduced

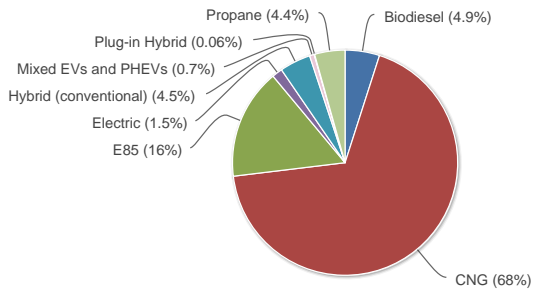


Historical Greenhouse Gas Emissions Reduced



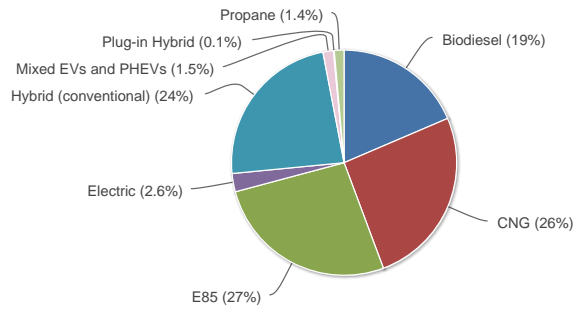
2017 Gallons of Gasoline Equivalent Reduced by Fuel Type for Alternative Fuel Projects

4,329,911 gallons



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

10,113 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.

Reductions by Fuel Type*	NOx	VOC	CO	PM10	PM2.5
Biodiesel	0 lb	0 lb	0 lb	0 lb	0 lb
CNG - Compressed Natural Gas	127,503 lb	221 lb	-275,449 lb	0 lb	0 lb
E85 - 85% Ethanol	8,210 lb	-278 lb	-13,547 lb	55 lb	13 lb
Electric (all-electric)	24 lb	32 lb	581 lb	1 lb	1 lb
Hybrid (conventional)	63 lb	167 lb	0 lb	0 lb	0 lb
Mixed EVs and PHEVs	98 lb	107 lb	2,009 lb	4 lb	4 lb
Plug-in Hybrid	484 lb	42 lb	732 lb	3 lb	3 lb
Propane	6,914 lb	-466 lb	-11,806 lb	48 lb	11 lb
VMT Reduction (Diesel)	1,213 lb	25 lb	152 lb	35 lb	9 lb
VMT Reduction (Gasoline)	909 lb	1,452 lb	26,070 lb	365 lb	80 lb
Total:	145,417 lb	1,302 lb	-271,258 lb	512 lb	121 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

Centralina Clean Fuels Coalition - NC

<http://www.4cleanfuels.com>

Designated: 10/15/2004

Boundaries: Counties: Anson, Cabarrus, Gaston, Iredell, Lincoln, Mecklenburg, Rowan, Stanly, Union; City of Charlotte

COORDINATORS

	Address	Telephone	Fax
Jason Wager	9815 David Taylor Dr Charlotte, NC 28262		

Number of coordinators	1
Coordinator(s) hours per week on Clean Cities	20 hours
Other staff hours per week on Clean Cities	20 hours
How long have you been the coordinator?	18 years

OPERATING INFORMATION

Host organization	Council of Governments (COG), Municipal Planning Organization (MPO), or Regional Planning Commission (RPC)
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Stakeholders

Number of stakeholders	200
Number of private stakeholders	100
Does the State Energy Office provide any financial support to the coalition or stakeholders?	No
How would you rate the quality of the data on your survey?	Excellent
How do you obtain most of your data for the survey?	Coalition records, Estimates, Paper, e-mail, or spreadsheet questionnaire to stakeholders, Phone calls to stakeholders
Has your coalition registered with www.grants.gov ?	Yes

2017 Outside Funding

Stakeholder dues collected	\$5,000
How much funding is obtained from other sources to cover coalition operating expenses?	\$50,000
Non-DOE or ARRA grant and matching funds spent in 2017	\$106,743
Total non-DOE or ARRA funding in 2017	\$161,743

VEHICLE & FUEL INVENTORY

Alternative Fuel & Vehicles

Fleet/Station Name	Vehicle Class	Fuel	Number of Vehicles	Fuel Used	GGE Reduced	GHG Reduced
Amerigas Charlotte Heritage District	Heavy-Duty	Propane	2	5,500 gal	3,747 gal	1.5 tons
Market: General/Unknown Vehicle type: Unknown/Other Percentage from coalition: 100% National Clean Fleets Partnership: No						
Charlotte Mecklenburg Schools White Fleet	Light-Duty	Propane	5	10,747 gal	8,135 gal	11.5 tons
Market: Government - Local Vehicle type: Pickup/SUV/Van Percentage from coalition: 100% National Clean Fleets Partnership: No <i>Propane only</i>						
City of Charlotte	Light-Duty	E85	859	1,185,923 gal	685,463 gal	2,674.0 tons
Market: Government - Local Vehicle type: Car Percentage from coalition: 100% National Clean Fleets Partnership: No						
City of Charlotte Solid Waste	Heavy-Duty	CNG	28	100% of time	340,792 gal	286.9 tons
Miles traveled per vehicle: 22,000 mi Average vehicle fuel economy: 2 MPGde Market: Government - Local Vehicle type: Truck: Refuse Percentage from coalition: 100% National Clean Fleets Partnership: No <i>32,200 therms monthly</i>						
City of Concord	Heavy-Duty	Biodiesel (20%)	163	33,010 gal	7,038 gal	61.6 tons
Market: Government - Local Vehicle type: Unknown/Other Percentage from coalition: 100% National Clean Fleets Partnership: No						
Clean Energy	Heavy-Duty	CNG	255	1,334,777 GGE	1,201,300 gal	1,011.5 tons
Market: General/Unknown Vehicle type: Unknown/Other Percentage from coalition: 100% National Clean Fleets Partnership: No <i>Per Clean Energy... Unfortunately, we cannot provide the data requested, because of its proprietary nature. However, our executive management has approved the following for distribution: "For the year ended December 31, 2016 the Company delivered 329.0 million gallons (GGE) of CNG and LNG to customers (as defined in our corporate SEC filings. Data on individual Clean Energy stations is not available."</i>						
<i>For 2017, using 2017 annual figures, we developed a pro-rata amount of fuel dispensed based on the Charlotte Metro region's portion of the overall US population. In addition, to adjust for any double-counting and to remain conservative, we then reported 50% of this calculation. The number of vehicles was an estimate calculated by this reporting interface.</i>						
Duke Energy	Heavy-Duty	Biodiesel (20%)	41	88% of time	12,665 gal	110.9 tons
Miles traveled per vehicle: 14,805 mi Average vehicle fuel economy: 7 MPG Market: Utility Vehicle type: Truck: No Trailer Percentage from coalition: 75% National Clean Fleets Partnership: No						

Fleet/Station Name	Vehicle Class	Fuel	Number of Vehicles	Fuel Used	GGE Reduced	GHG Reduced
Duke Energy	Heavy-Duty	E85	54	1% of time	429 gal	1.1 tons
Miles traveled per vehicle: 17,740 mi Average vehicle fuel economy: 10 MPG Market: Utility Vehicle type: Truck: No Trailer Percentage from coalition: 75% National Clean Fleets Partnership: No						
Duke Energy	Light-Duty	E85	310	1% of time	1,515 gal	5.9 tons
Miles traveled per vehicle: 15,280 mi Average vehicle fuel economy: 14 MPG Market: Utility Vehicle type: Pickup/SUV/Van Percentage from coalition: 75% National Clean Fleets Partnership: No						
Frito-Lay - Heavy-duty CNG	Heavy-Duty	CNG	29	570,032 GGE	513,029 gal	432.0 tons
Market: Corporate Fleet Vehicle type: Truck: Semi-trailer Percentage from coalition: 100% National Clean Fleets Partnership: Yes <i>Frito-Lay Division Data Only</i>						
GAIN Clean Fuels	Heavy-Duty	CNG	37	180,000 GGE	162,000 gal	136.4 tons
Market: General/Unknown Vehicle type: Unknown/Other Percentage from coalition: 100% National Clean Fleets Partnership: No						
Gaston County	Light-Duty	Propane	25	75,993 gal	57,527 gal	81.3 tons
Market: Government - Local Vehicle type: Pickup/SUV/Van Percentage from coalition: 100% National Clean Fleets Partnership: No <i>22 vehicles are paratransit shuttles.</i>						
Mecklenburg County LUESA	Heavy-Duty	CNG	1	100% of time	9,221 gal	7.8 tons
Miles traveled per vehicle: 25,000 mi Average vehicle fuel economy: 3 MPGde Market: Government - Local Vehicle type: Unknown/Other Percentage from coalition: 100% National Clean Fleets Partnership: No <i>Obtained via Air Quality staff.</i>						
NC Department of Transportation	Heavy-Duty	Biodiesel (20%)	256	1,061,759 gal	169,775 gal	1,486.7 tons
Market: Government - State Vehicle type: Unknown/Other Percentage from coalition: 75% National Clean Fleets Partnership: No						
NC Department of Transportation	Heavy-Duty	Biodiesel (20%)	28	113,945 gal	18,220 gal	159.6 tons
Market: General/Unknown Vehicle type: Unknown/Other Percentage from coalition: 75% National Clean Fleets Partnership: No						
Piedmont Natural Gas	Heavy-Duty	CNG	31	100% of time	35,080 gal	29.5 tons
Miles traveled per vehicle: 15,000 mi Average vehicle fuel economy: 11 MPGde Market: Utility Vehicle type: Unknown/Other Percentage from coalition: 75% National Clean Fleets Partnership: No						

Fleet/Station Name	Vehicle Class	Fuel	Number of Vehicles	Fuel Used	GGE Reduced	GHG Reduced
Piedmont Natural Gas	Light-Duty	CNG	119	100% of time	121,705 gal	157.7 tons
Miles traveled per vehicle: 15,000 mi Average vehicle fuel economy: 11 MPGge Market: Utility Vehicle type: Pickup/SUV/Van Percentage from coalition: 75% National Clean Fleets Partnership: No						
PSNC Energy	Light-Duty	CNG	226	203,600 GGE	145,065 gal	187.9 tons
Market: Utility Vehicle type: Pickup/SUV/Van Percentage from coalition: 75% National Clean Fleets Partnership: No						
Schwan's - Medium-duty Propane	Heavy-Duty	Propane	12	51,379 gal	35,005 gal	13.7 tons
Market: Corporate Fleet Vehicle type: Truck: No Trailer Percentage from coalition: 100% National Clean Fleets Partnership: Yes						
UNC Charlotte	Light-Duty	Biodiesel (20%)	106	8,271 gal	1,587 gal	14.5 tons
Market: Government - State Vehicle type: Unknown/Other Percentage from coalition: 75% National Clean Fleets Partnership: No						
UNC Charlotte	Light-Duty	Biodiesel (20%)	40	6,473 gal	1,242 gal	11.4 tons
Market: Government - State Vehicle type: Pickup/SUV/Van Percentage from coalition: 75% National Clean Fleets Partnership: No						
UNC Charlotte	Light-Duty	E85	35	0 gal	0 gal	0.0 tons
Market: Government - State Vehicle type: Unknown/Other Percentage from coalition: 75% National Clean Fleets Partnership: No E-85 tank being repaired. No gallons dispensed in 2017.						
UNC Charlotte	Light-Duty	E85	290	0 gal	0 gal	0.0 tons
Market: Government - State Vehicle type: Pickup/SUV/Van Percentage from coalition: 75% National Clean Fleets Partnership: No E-85 tank being repaired. No gallons dispensed in 2017.						
UPS - Heavy-duty Propane	Heavy-Duty	Propane	31	123,959 gal	84,453 gal	33.1 tons
Market: Corporate Fleet Vehicle type: Truck: No Trailer Percentage from coalition: 100% National Clean Fleets Partnership: Yes						

Fleet/Station Name	Vehicle Class	Fuel	Number of Vehicles	Fuel Used	GGE Reduced	GHG Reduced
Waste Management - Heavy-duty CNG	Heavy-Duty	CNG	55	468,540 GGE	421,686 gal	355.1 tons
Market: Corporate Fleet Vehicle type: Truck: Refuse Percentage from coalition: 100% National Clean Fleets Partnership: Yes						
Total:			3,038		4,036,678 gal	7,272 tons

Electric, Hybrid & Plug-in Vehicles

Fleet/Station Name	Vehicle Class	Fuel	Number of Vehicles	GGE Reduced	GHG Reduced
Cabarrus County	Light-Duty	HEV	58	10,591 gal	130.5 tons
Average vehicle fuel economy: 30 MPG Miles traveled per vehicle per year: 18,000 mi Market: Government - Local Vehicle type: Car Percentage from coalition: 100% National Clean Fleets Partnership: No Workplace Charging Challenge:					
Chargepoint System	Light-Duty	EV-PHEV	0	29,065 gal	151.1 tons
Electricity used: 203,535 kWh Market: General/Unknown Vehicle type: Unknown/Other Percentage from coalition: 100% National Clean Fleets Partnership: No Workplace Charging Challenge: <i>Electric vehicle Charging Stations. 25,247 unique charging sessions.</i>					
Charlotte Area Transit Systems	Heavy-Duty	HEV	36	127,563 gal	1,571.3 tons
Average vehicle fuel economy: 5 MPG Miles traveled per vehicle per year: 30,000 mi Market: Government - Local Vehicle type: Bus: Transit Percentage from coalition: 100% National Clean Fleets Partnership: No Workplace Charging Challenge:					
Charlotte Douglas Airport	Light-Duty	Electric	2	58 gal	0.3 tons
Average electric fuel economy: - kWh/100mi Miles traveled per vehicle per year: 675 mi Market: Airport Vehicle type: Car Percentage from coalition: 100% National Clean Fleets Partnership: No Workplace Charging Challenge:					
Charlotte Douglas Airport	Light-Duty	HEV	2	255 gal	3.1 tons
Average vehicle fuel economy: 30 MPG Miles traveled per vehicle per year: 5,000 mi Market: Airport Vehicle type: Pickup/SUV/Van Percentage from coalition: 100% National Clean Fleets Partnership: No Workplace Charging Challenge:					

Fleet/Station Name	Vehicle Class	Fuel	Number of Vehicles	GGE Reduced	GHG Reduced
Charlotte Mecklenburg Schools White Fleet	Light-Duty	HEV	2	494 gal	6.1 tons
<p>Average vehicle fuel economy: 35 MPG Miles traveled per vehicle per year: 14,000 mi Market: Government - Local Vehicle type: Pickup/SUV/Van Percentage from coalition: 100% National Clean Fleets Partnership: No Workplace Charging Challenge:</p>					
<i>2016 data used</i>					
Charlotte Water	Heavy-Duty	Electric	5	51 gal	0.2 tons
<p>Electricity used: 598 kWh Market: Government - Local Vehicle type: Unknown/Other Percentage from coalition: 100% National Clean Fleets Partnership: No Workplace Charging Challenge:</p>					
Charlotte Water	Light-Duty	Electric	10	30 gal	0.2 tons
<p>Average electric fuel economy: - kWh/100mi Miles traveled per vehicle per year: 66 mi Market: Government - Local Vehicle type: Low-Speed/Neighborhood Percentage from coalition: 100% National Clean Fleets Partnership: No Workplace Charging Challenge:</p>					
City of Charlotte	Light-Duty	Electric	7	3,174 gal	16.5 tons
<p>Average electric fuel economy: - kWh/100mi Miles traveled per vehicle per year: 10,614 mi Market: Government - Local Vehicle type: Car Percentage from coalition: 100% National Clean Fleets Partnership: No Workplace Charging Challenge:</p>					
City of Charlotte	Light-Duty	HEV	2	814 gal	10.0 tons
<p>Average vehicle fuel economy: 22 MPG Miles traveled per vehicle per year: 10,741 mi Market: Airport Vehicle type: Pickup/SUV/Van Percentage from coalition: 100% National Clean Fleets Partnership: No Workplace Charging Challenge:</p>					
City of Charlotte	Light-Duty	PHEV	3	500 gal	2.6 tons
<p>Average vehicle fuel economy: 37 MPG Miles traveled per vehicle per year: 10,614 mi Market: Government - Local Vehicle type: Car Percentage from coalition: 100% National Clean Fleets Partnership: No Workplace Charging Challenge:</p>					
City of Charlotte Solid Waste	Light-Duty	PHEV	2	362 gal	1.9 tons
<p>Average vehicle fuel economy: 37 MPG Miles traveled per vehicle per year: 11,244 mi Market: Government - Local Vehicle type: Car Percentage from coalition: 100% National Clean Fleets Partnership: No Workplace Charging Challenge:</p>					

Fleet/Station Name	Vehicle Class	Fuel	Number of Vehicles	GGE Reduced	GHG Reduced
City of Concord Average electric fuel economy: - kWh/100mi Miles traveled per vehicle per year: 2,000 mi Market: Government - Local Vehicle type: Unknown/Other Percentage from coalition: 100% National Clean Fleets Partnership: No Workplace Charging Challenge:	Light-Duty	Electric	2	182 gal	0.9 tons
City of Concord Average vehicle fuel economy: 32 MPG Miles traveled per vehicle per year: 9,000 mi Market: Government - Local Vehicle type: Pickup/SUV/Van Percentage from coalition: 100% National Clean Fleets Partnership: No Workplace Charging Challenge:	Light-Duty	HEV	14	3,431 gal	42.3 tons
Duke Energy Average vehicle fuel economy: 7 MPG Miles traveled per vehicle per year: 4,808 mi Market: Utility Vehicle type: Unknown/Other Percentage from coalition: 75% National Clean Fleets Partnership: No Workplace Charging Challenge: <i>ePTO technology, mpg doesn't give the best representation of fuel savings as the units are saving the most when they are working "idling" 8 hours per day without the diesel engine running;</i>	Heavy-Duty	PHEV	10	950 gal	3.8 tons
Duke Energy Average electric fuel economy: - kWh/100mi Miles traveled per vehicle per year: 14,982 mi Market: Utility Vehicle type: Car Percentage from coalition: 75% National Clean Fleets Partnership: No Workplace Charging Challenge: <i>Tesla S, Nissan Leaf;</i>	Light-Duty	Electric	2	977 gal	5.1 tons
Duke Energy Average vehicle fuel economy: 23 MPG Miles traveled per vehicle per year: 9,365 mi Market: Utility Vehicle type: Pickup/SUV/Van Percentage from coalition: 75% National Clean Fleets Partnership: No Workplace Charging Challenge: <i>VIA;</i>	Light-Duty	PHEV	5	539 gal	2.8 tons
Gaston County Average vehicle fuel economy: 48 MPG Miles traveled per vehicle per year: 18,000 mi Market: Government - Local Vehicle type: Car Percentage from coalition: 100% National Clean Fleets Partnership: No Workplace Charging Challenge:	Light-Duty	HEV	32	12,605 gal	155.3 tons
Mecklenburg County Average vehicle fuel economy: 35 MPG Miles traveled per vehicle per year: 15,000 mi Market: Government - Local Vehicle type: Car Percentage from coalition: 100% National Clean Fleets Partnership: No Workplace Charging Challenge: <i>Per Management & Financial Services</i>	Light-Duty	HEV	15	3,183 gal	39.2 tons

Fleet/Station Name	Vehicle Class	Fuel	Number of Vehicles	GGE Reduced	GHG Reduced
Mecklenburg County LUESA Average vehicle fuel economy: 35 MPG Miles traveled per vehicle per year: 1,523 mi Market: Government - Local Vehicle type: Car Percentage from coalition: 100% National Clean Fleets Partnership: No Workplace Charging Challenge: <i>Per air quality staff.</i>	Light-Duty	PHEV	1	22 gal	0.1 tons
Mecklenburg County LUESA Average vehicle fuel economy: 40 MPG Miles traveled per vehicle per year: 15,000 mi Market: Government - Local Vehicle type: Car Percentage from coalition: 100% National Clean Fleets Partnership: No Workplace Charging Challenge: <i>Solid Waste</i>	Light-Duty	PHEV	1	266 gal	1.4 tons
UNC Charlotte Average electric fuel economy: - kWh/100mi Miles traveled per vehicle per year: 287 mi Market: Government - State Vehicle type: Low-Speed/Neighborhood Percentage from coalition: 75% National Clean Fleets Partnership: No Workplace Charging Challenge:	Light-Duty	Electric	150	2,018 gal	10.5 tons
UPS - Medium-duty Hybrids Average vehicle fuel economy: 24 MPG Miles traveled per vehicle per year: 18,742 mi Market: Corporate Fleet Vehicle type: Truck: No Trailer Percentage from coalition: 100% National Clean Fleets Partnership: Yes Workplace Charging Challenge: <i>UPS indicates that their hybrid vehicles see up to 4x improvement in fuel economy compared to their conventional counterparts.</i>	Heavy-Duty	HEV	15	34,229 gal	421.6 tons
Total:			376	231,356 gal	2,577 tons

Off-Road Vehicles

Fleet Name	Application	Method	Fuel	Number of Vehicles	GGE Reduced	GHG Reduced
Charlotte Douglas Airport Fuel used: 25 kWh Percentage from coalition: 100% National Clean Fleets Partnership: No	Forklifts	Alternative fuel or vehicles	Electric	2	2 gal	0.0 tons
Charlotte Douglas Airport Fuel used: 220 gal Percentage from coalition: 100% National Clean Fleets Partnership: No	Forklifts	Alternative fuel or vehicles	Propane	2	150 gal	0.1 tons
City of Concord Fuel used: 17,640 gal Percentage from coalition: 100% National Clean Fleets Partnership: No	Construction equipment	Alternative fuel or vehicles	Biodiesel (20%)	66	3,761 gal	32.9 tons

Fleet Name	Application	Method	Fuel	Number of Vehicles	GGE Reduced	GHG Reduced
Duke Energy	Recreational equipment	Alternative fuel or vehicles	Electric	22	30,258 gal	121.2 tons
Fuel used: 475,200 kWh Percentage from coalition: 75% National Clean Fleets Partnership: No Estimate 150 hours/month.						
Duke Energy	Forklifts	Alternative fuel or vehicles	Electric	62	27,690 gal	110.9 tons
Fuel used: 434,868 kWh Percentage from coalition: 75% National Clean Fleets Partnership: No Estimate 167 hours/month using 3 - 4 kW. 167 x 3.5 x 12 months x 62 forklifts = ~434,868 kWh/year						
Mecklenburg County Parks & Rec	Construction equipment	Alternative fuel or vehicles	Electric	1	4 gal	0.0 tons
Fuel used: 50 kWh Percentage from coalition: 100% National Clean Fleets Partnership: No						
Mecklenburg County Parks & Rec	Other	Alternative fuel or vehicles	Propane	1	3 gal	0.0 tons
Fuel used: 4 gal Percentage from coalition: 100% National Clean Fleets Partnership: No						
Mecklenburg County Parks & Rec	Landscaping and lawn equipment	Alternative fuel or vehicles	Propane	2	8 gal	0.0 tons
Fuel used: 12 gal Percentage from coalition: 100% National Clean Fleets Partnership: No						
Total:				158	61,877 gal	265 tons

FUEL ECONOMY

Fuel Economy Improvements

Fleet Name	Previous Fuel	Current Fuel	Number of Vehicles	Miles Traveled per Vehicle	GGE Reduced	GHG Reduced
Charlotte Area Transit System	16 MPG	17 MPG	98	18,000 mi	6,485 gal	79.9 tons
Method: Telematics Vehicle class: Light-Duty Market: Government - Local Vehicle type: Pickup/SUV/Van Percentage from coalition: 100% National Clean Fleets Partnership: No Miles traveled is an estimate.						
Charlotte Douglas Airport	15 MPG	22 MPG	8	8,000 mi	1,358 gal	16.7 tons
Method: Vehicle - More efficient Vehicle class: Light-Duty Market: Airport Vehicle type: Pickup/SUV/Van Percentage from coalition: 100% National Clean Fleets Partnership: No						
City of Charlotte	18 MPG	26 MPG	41	27,000 mi	18,923 gal	233.1 tons
Method: Vehicle - More efficient Vehicle class: Light-Duty Market: Government - Local Vehicle type: Car Percentage from coalition: 100% National Clean Fleets Partnership: No						

Fleet Name	Previous Fuel	Current Fuel	Number of Vehicles	Miles Traveled per Vehicle	GGE Reduced	GHG Reduced
City of Concord	11 MPG	14 MPG	169	10,000 mi	32,922 gal	405.5 tons
Method: Vehicle - More efficient Vehicle class: Light-Duty Market: Government - Local Vehicle type: Patrol Car Percentage from coalition: 100% National Clean Fleets Partnership: No						
Total:			316	63,000 mi	59,688 gal	735 tons

Vehicle Miles Traveled Reductions

Project Name	Method	Vehicle Class	GGE Reduced	GHG Reduced
Charlotte Area Transit System	Mass transit	Light-Duty	210,000 gal	2,586.7 tons
Fuel saved: 4,200,000 gallons Percentage from coalition: 5% National Clean Fleets Partnership: No <i>This is based on transit ridership, assuming that transit takes cars off the road. It is CATS passenger miles minus their bus miles or 105,000,000 VMTs annually divided by an assumed 25mpg vehicle being taken off the road. Further, CCFC staff is estimating a 5% contribution to account for greater than single occupancy vehicles, some passengers not owning a vehicle at all, and to allocate reasonable credit toward our augmented outreach and transportation demand management (TDM) efforts in 2017.</i>				
City of Charlotte Solid Waste	Route Optimization	Heavy-Duty	19,363 gal	240.1 tons
Fuel saved: 17,500 gallons Percentage from coalition: 100% National Clean Fleets Partnership: No				
UNC Charlotte	Route Optimization	Light-Duty	2,500 gal	30.8 tons
Fuel type of vehicles driven less: Gasoline Fuel economy of vehicles driven less: 15 MPG Number of vehicles driven less: 150 VMT reduction per vehicle being driven less: 250 mi Percentage from coalition: 100% National Clean Fleets Partnership: No				
Total:			231,863 gal	2,858 tons

IDLE REDUCTION

Idle Reduction

Project Name	Number of Vehicles	Idling Reduced per Vehicle	Fuel Saved per Vehicle	GGE Reduced	GHG Reduced
Charlotte Area Transit System	316	8 mins/day 365 days/year	1 gal/hr	15,379 gal	190.7 tons
Type of project: Policies Type of vehicle: Heavy-Duty - Other Percentage from coalition: 100% National Clean Fleets Partnership: No					
Charlotte Douglas Airport	10	631 mins/day 365 days/year	1 gal/hr	38,386 gal	476.0 tons
Type of project: Onboard batteries Type of vehicle: Heavy-Duty - Other Percentage from coalition: 100% National Clean Fleets Partnership: No <i>This is the estimate for the airport's EVs, as per Scott Kincaid call, 6.13.18</i>					
Charlotte Douglas Airport	65	45 mins/day 365 days/year	2 gal/hr	35,588 gal	441.3 tons
Type of project: Policies Type of vehicle: Heavy-Duty - Other Percentage from coalition: 100% National Clean Fleets Partnership: No					

Project Name	Number of Vehicles	Idling Reduced per Vehicle	Fuel Saved per Vehicle	GGE Reduced	GHG Reduced
Charlotte Douglas Airport	126	25 mins/day 365 days/year	2 gal/hr	38,325 gal	475.2 tons
Type of project: Policies Type of vehicle: Light-Duty Percentage from coalition: 100% National Clean Fleets Partnership: No					
Charlotte Douglas Airport	10	631 mins/day 365 days/year	1 gal/hr	38,386 gal	476.0 tons
Type of project: Auxiliary power unit (APU) Type of vehicle: Heavy-Duty - Other Percentage from coalition: 100% National Clean Fleets Partnership: No <i>This is the estimate for the airport's firetrucks, as per Scott Kincaid call, 6.13.18</i>					
Charlotte Fire Department	7	85 mins/day 365 days/year	1 gal/hr	3,615 gal	44.8 tons
Type of project: Auxiliary power unit (APU) Type of vehicle: Heavy-Duty - Other Percentage from coalition: 100% National Clean Fleets Partnership: No					
Charlotte Mecklenburg Schools Yellow Fleet	1,200	15 mins/day 180 days/year	1 gal/hr	54,000 gal	669.6 tons
Type of project: Policies Type of vehicle: Heavy-Duty - Bus: School Percentage from coalition: 100% National Clean Fleets Partnership: No <i>2016 data used.</i>					
City of Charlotte Solid Waste	49	15 mins/day 250 days/year	1 gal/hr	3,063 gal	38.0 tons
Type of project: Other Type of vehicle: Heavy-Duty - Truck: Refuse Percentage from coalition: 100% National Clean Fleets Partnership: No					
Duke Energy	801	10 mins/day 365 days/year	0 gal/hr	8,298 gal	102.9 tons
Type of project: Policies Type of vehicle: Heavy-Duty - Other Percentage from coalition: 65% National Clean Fleets Partnership: No <i>The 801 number is for vehicles in our region only, as per Meighan Read email, 6.13.18. NOTE: Duke has 801 on-road vehicles subject to company anti-idling policy that operate within the counties represented by CCF. It appears the number reported for 2016 accounted for ALL on-road vehicles at Duke, subject to the anti-idling policy regardless of location. For 2016 the number should have been 848.</i>					
UNC Charlotte	15	180 mins/day 365 days/year	2 gal/hr	24,638 gal	305.5 tons
Type of project: Policies Type of vehicle: Heavy-Duty - Other Percentage from coalition: 75% National Clean Fleets Partnership: No					
Total:	2,599			259,676 gal	3,220 tons

FUEL STATIONS

New Stations

Fuel	Public Stations	Private Stations
Biodiesel	1	-
CNG - Compressed Natural Gas	-	1

Fuel	Public Stations	Private Stations
E85 - 85% Ethanol	-	-
Electric Charging Outlets	48	8
Hydrogen	-	-
LNG - Liquefied Natural Gas	-	-
Propane	-	-
Total:	49	9

OUTREACH ACTIVITIES

Activity Name	Dates	Activity Type	Percentage from Coalition	Persons Reached
Stakeholder Meetings (Advisory Board)	01/20/2017, 03/15/2017, 07/19/2017, 11/15/2017	Meeting - Stakeholder	100%	20
<p>Technology: Biodiesel, E85, Electric vehicles, Fuel economy improvements, Hybrid electric vehicles, Hydrogen, Idle reduction, Natural gas vehicles, Propane, Vehicle miles traveled reduction Audience: Delivery, Government, Private Fleets, Transit, Utility, Waste, Other <i>Charlotte Meck Schools, Propane Demo; Derive Technologies presentation</i></p>				
Fleet Inventory training and support	01/24/2017	Meeting - Stakeholder	100%	5
<p>Technology: Electric vehicles, Hybrid electric vehicles Audience: Utility <i>Provided key information for Utility Fleet manager seeking to update metrics and tracking for fleet air quality improvements and fuel reduction purposes.</i></p>				
City of Charlotte Sustainability Staff	01/31/2017	Meeting - Stakeholder	100%	1
<p>Technology: Electric vehicles, Fuel economy improvements, Hybrid electric vehicles, Idle reduction, Natural gas vehicles, Propane, Vehicle miles traveled reduction Audience: Government <i>Coordination on current and upcoming opportunities to support City sustainability goals.</i></p>				
Energy Independence Summit 2017	02/12/2017, 02/13/2017, 02/14/2017	Conference participation	10%	300
<p>Technology: Biodiesel, E85, Electric vehicles, Fuel economy improvements, Hybrid electric vehicles, Hydrogen, Idle reduction, Natural gas vehicles, Propane, Vehicle miles traveled reduction Audience: Government, Other <i>Attended with Board Chair; Disseminated summary of outcomes to stakeholders upon return</i></p>				
Mecklenburg County Air Quality Coordination Meetings	03/03/2017, 05/24/2017, 10/20/2017	Meeting - Stakeholder	100%	6
<p>Technology: Biodiesel, E85, Electric vehicles, Fuel economy improvements, Hybrid electric vehicles, Hydrogen, Idle reduction, Natural gas vehicles, Propane, Vehicle miles traveled reduction Audience: Government</p>				
Region of Excellence-Clean Cities Award	05/10/2017	Meeting - Other	100%	250
<p>Technology: Propane Audience: Airport, Delivery, General Public, Government, Private Fleets, Transit, Utility, Waste, Other <i>Annual Award to stakeholder nominee selected for most outstanding petroleum reduction efforts. Awarded at full Council of Government Board of Delegates meeting</i></p>				
NC Sustainable Energy Association EV Working Group Meetings	05/22/2017, 06/20/2017, 07/21/2017, 09/08/2017	Meeting - Stakeholder	5%	20
<p>Technology: Electric vehicles, Hybrid electric vehicles Audience: General Public, Government, Private Fleets, Utility, Other</p>				

Activity Name	Dates	Activity Type	Percentage from Coalition	Persons Reached
NC Public Transit Association	06/05/2017, 06/06/2017	Conference participation	0%	400
Technology: Biodiesel, Electric vehicles, Fuel economy improvements, Hybrid electric vehicles, Idle reduction, Natural gas vehicles, Propane, Vehicle miles traveled reduction Audience: Airport, General Public, Government, Private Fleets, Transit				
CNG From Coast to Coast Road Rally - Salisbury, NC	06/14/2017	Media Event	90%	75
Technology: Natural gas vehicles Audience: Delivery, Government, Private Fleets, Transit, Utility, Waste, Other <i>Several elected officials presented and attended</i>				
VW Settlement Coordination with NC Division of Air Quality	07/21/2017, 07/28/2017, 09/25/2017, 12/01/2017, 12/15/2017	Meeting - Stakeholder	100%	6
Technology: Biodiesel, E85, Electric vehicles, Hybrid electric vehicles, Natural gas vehicles, Propane Audience: Other <i>Combination of in-person and conference call meetings with DAQ Director and lead VW staff. Done in coordination with all 3 NC Clean Cities coalitions.</i>				
Autonomous and Connected Vehicle Workshop 1	08/23/2017	Workshop held by coalition	100%	80
Technology: Electric vehicles, Fuel economy improvements, Idle reduction, Vehicle miles traveled reduction Audience: Government, Private Fleets, Transit, Utility, Other <i>"Clearing the Hype" around Driverless Vehicles</i>				
City of Charlotte National Drive Electric Week and Transportation Choice Event	09/15/2017	Workshop held by coalition	100%	100
Technology: Electric vehicles, Hybrid electric vehicles Audience: General Public, Government, Transit, Utility, Other <i>National Drive Electric Week in partnership with City staff and static vehicle display.</i>				
Autonomous and Connected Vehicle Workshop 2	09/20/2017	Workshop held by coalition	100%	80
Technology: Electric vehicles, Fuel economy improvements, Hybrid electric vehicles, Idle reduction, Vehicle miles traveled reduction Audience: Government, Private Fleets, Transit, Utility, Other <i>"Discussing the Impacts" of Driverless Vehicles</i>				
Sustainable Fleet Technology Conference	10/11/2017, 10/12/2017, 10/13/2017	Conference participation	25%	200
Technology: Fuel economy improvements, Idle reduction, Vehicle miles traveled reduction Audience:				
Quarterly Coordination Meetings with Mecklenburg County Air Quality Staff	10/20/2017	Meeting - Stakeholder	100%	4
Technology: Fuel economy improvements, Idle reduction, Vehicle miles traveled reduction Audience: Government				
Art Contest Promotion	10/25/2017	Advertisement	25%	300
Technology: Fuel economy improvements, Idle reduction, Vehicle miles traveled reduction Audience: General Public <i>Various outreach activities to encourage regional school systems participation.</i>				
Autonomous and Connected Vehicle Workshop 3	10/25/2017	Workshop held by coalition	100%	80
Technology: Electric vehicles, Fuel economy improvements, Hybrid electric vehicles, Idle reduction, Vehicle miles traveled reduction Audience: Government, Private Fleets, Transit, Utility, Other <i>"Developing an Action Plan"</i>				

Activity Name	Dates	Activity Type	Percentage from Coalition	Persons Reached
Rick Sapienza presented on Clean Fuel Advanced Technology Project	11/15/2017	Meeting - Stakeholder	100%	10
Technology: Fuel economy improvements, Vehicle miles traveled reduction Audience: Government, Private Fleets, Transit, Utility, Waste <i>Rick Sapienza presented to core stakeholder meeting on Clean Fuel Advanced Technology Project & Sustainable Fleet Technology Conference.</i>				
Plug-In NC Summit	12/07/2017	Conference participation	75%	35
Technology: Electric vehicles, Fuel economy improvements, Hybrid electric vehicles, Idle reduction Audience: Delivery, Government, Private Fleets, Transit, Utility <i>Participant with award recognition and training on growing EV sector in NC, Raleigh, NC</i>				
Total:				1,972

GRANTS

Grantor	Total Grant Amount	Total Matching Funds	Total Project Funding	Grant Amount Spent in 2017	Matching Funds Spent in 2017	Total Project Funding Spent in 2017
Department of Energy	\$39,500	\$7,900	\$47,400	\$3,000	\$725	\$3,725
Length of grant: 3 Year grant began: 2015 Sources of the grant: Department of Energy Partners: Land of Sky Clean Cities, NC Clean Energy Technology Center, Palmetto State Clean Cities, Tennessee Clean Fuels, Triangle Clean Cities Technologies: CNG - Compressed Natural Gas, Electricity, Propane Purpose: to provide opportunities for fleets to demonstrate a wide range of alternative fuel vehicles <i>The SADI Demonstration grant is a US Department of Energy project focused on the increased adoption of Alternative Fuels in the Southeast region of the United States. Project partners for this grant include Alliance Autogas, Enterprise, ICOM, Palmetto Gas, Penske and others.</i> <i>Clean Cities Coalitions throughout South Carolina, North Carolina and Tennessee will work with technology partners to provide opportunities for fleets to demonstrate a wide range of alternative fuel vehicles.</i>						
NC Clean Energy Technology Center	\$90,000	\$82,973	\$172,973	\$45,000	\$41,487	\$86,487
Length of grant: 2 Year grant began: 2017 Sources of the grant: Congestion Mitigation and Air Quality Improvement (CMAQ) Program Partners: NC State Clean Energy Technology Center, Piedmont Triad Regional Council, Triangle Clean Cities/COG, Upper Coastal Plain COG Technologies: B100 - 100 percent Biodiesel, Biodiesel Blends, CNG - Compressed Natural Gas, E85 - 85 percent Ethanol, Electricity, Fuel Economy Improvements, Idle Reduction, LNG - Liquefied Natural Gas, Propane, Vehicle-Miles Traveled Reductions Purpose: Education and outreach relative to air quality improvements through alternative fuels and advanced vehicles <i>Known as Clean Fuel Advanced Technology (CFAT) program. Also supports project funding in 24 NC non-attainment counties and annual conference for the southeast.</i>						
NCDOT	\$31,250	\$7,812	\$39,062	\$15,625	\$3,906	\$19,531
Length of grant: 2 Year grant began: 2017 Sources of the grant: State Government Partners: Cambridge Systematics, Regional Metropolitan Planning Organizations (MPOs) Technologies: Electricity, Vehicle-Miles Traveled Reductions, Other Purpose: Autonomous and Connected Vehicle readiness workshop series <i>3 workshop series, Regional Roadmap, and launching point for Regional Taskforce.</i>						
Total:	\$160,750	\$98,685	\$259,435	\$63,625	\$46,118	\$109,743