

# 2017 Transportation Technology Deployment Report:

Middle-West Tennessee Clean Fuels Coalition

**Expanded Edition** 

March 2018



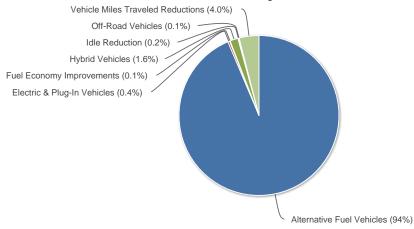
The U.S. Department of Energy's (DOE) Clean Cities program advances the nation's economic, environmental, and energy security by supporting local actions to reduce petroleum use in transportation. A national network of nearly 100 Clean Cities coalitions brings together stakeholders in the public and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

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

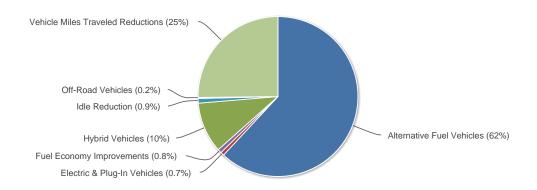
#### 2017 Gallons of Gasoline Equivalent Reduced

8,787,455 gallons

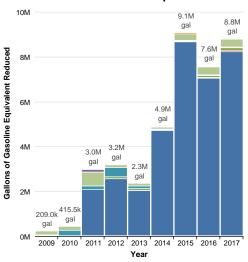


#### 2017 Greenhouse Gas Emissions Reduced

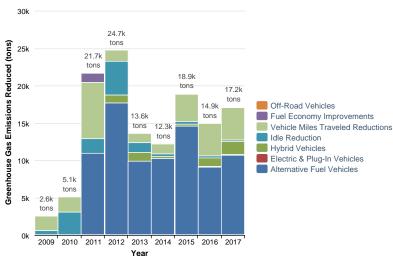
17,168 tons



#### **Historical Gallons of Gasoline Equivalent Reduced**



#### **Historical Greenhouse Gas Emissions Reduced**

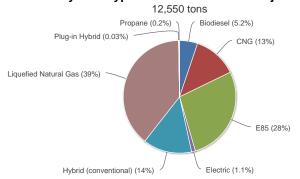


## 2017 Gallons of Gasoline Equivalent Reduced by Fuel Type for Alternative Fuel Projects

8,411,490 gallons
Propane (0.8%)
Plug-in Hybrid (0.010%)

Electric (0.4%)
Hybrid (conventional) (1.7%)

## 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 <a href="https://www.epa.gov/green-book">www.epa.gov/green-book</a>. To learn more about what your emissions numbers mean, please take the Understanding Emissions or Emissions Compliance courses at <a href="https://clean.cities.citie

Reductions by Fuel Type*	NOx	VOC	СО	PM10	PM2.5
Biodiesel	0 lb	0 lb	0 lb	0 lb	0 lb
CNG - Compressed Natural Gas	74,680 lb	155 lb	-159,089 lb	0 lb	0 lb
E85 - 85% Ethanol	43,544 lb	-2,835 lb	-71,463 lb	292 lb	71 lb
Electric (all-electric)	1,002 lb	22 lb	159 lb	5 lb	5 lb
Hybrid (conventional)	12 lb	34 lb	0 lb	0 lb	0 lb
LNG - Liquefied Natural Gas	288,090 lb	0 lb	-1,167,952 lb	0 lb	0 lb
Plug-in Hybrid	16 lb	3 lb	63 lb	0 lb	0 lb
Propane	3,110 lb	-218 lb	-5,310 lb	22 lb	5 lb
VMT Reduction (Gasoline)	1,630 lb	2,605 lb	46,766 lb	654 lb	143 lb
Total:	412,085 lb	-234 lb	-1,356,825 lb	973 lb	224 lb

<sup>\*</sup> 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

#### Middle-West Tennessee Clean Fuels Coalition - TN

http://www.tncleanfuels.org

Designated: 10/13/2004

**Boundaries:** Counties: Bedford, Benton, Carroll, Cheatham, Chester, Crockett, Davidson, Decatur, Dickson, Dyer, Fayette, Gibson, Giles, Hardeman, Hardin, Haywood, Henderson, Henry, Hickman, Houston, Humphreys, Lake, Lauderdale, Lawrence, Lewis, Lincoln, Macon, Madison, Marshall, Maury, McNairy, Montgomery, Moore, Obion, Perry, Robertson,

Rutherford, Shelby, Smith, Stewart, Sumner, Tipton, Trousdale, Wayne, Weakley, Williamson, Wilson

#### **COORDINATORS**

	COORDINATORS		
Alexa Voytek	Address Tennessee Department of Environment and Conservation P.O. Box 148725 Nashville, TN 37214	Telephone	Fax
Number of coordinators	S		2
Coordinator(s) hours pe	er week on Clean Cities		19 hours
Other staff hours per we	eek on Clean Cities		8 hours
How long have you bee	n the coordinator?		16 years
	OPERATING INFORMAT	ΓΙΟΝ	
Host organization			Government - State
Stakeholders Number of stakeholders	s		110
Number of private stake	eholders		50
Does the State Energy (	Office provide any financial support to the coalition or stal	keholders?	No
How would you rate the	e quality of the data on your survey?		Excellen
How do you obtain mos	st of your data for the survey?		Coalition records Estimates, Online questionnaire to stakeholders (SurveyMonkey Google Forms etc), Paper, e-mail or spreadshee questionnaire to stakeholders, Phone calls to stakeholders
Has your coalition regis	stered with www.grants.gov?		Yes
2017 Outside Fund	<u> </u>		
Stakeholder dues collec			\$30,000
	btained from other sources to cover coalition operating ex	kpenses?	\$0
	nt and matching funds spent in 2017		\$0
Total non-DOE or ARRA	A funding in 2017		\$30,000

#### **VEHICLE & FUEL INVENTORY**

#### Alternative Fuel & Vehicles

Fleet/Station Name	Vehicle Class	Fuel	Number of	Fuel Used	GGE Reduced	GHG Reduced
Biodiesel Fleets - HD	Heavy-Duty	Biodiesel (20%)		27,086 gal	5,775 gal	50.6 tons
Market: General/Unknown Vehicle type: Unknown/Other Percentage from coalition: 100% National Clean Fleets Partnership:	: No					
This is aggregated data for three flee dump trucks, tractor trailers, and HD	,	· ·	,		- /	mostly a mix of
Biodiesel Fleets - LD	Light-Duty	Biodiesel (20%)	68	1,100 gal	211 gal	1.9 tons
Market: Government - State Vehicle type: Pickup/SUV/Van Percentage from coalition: 75%						
National Clean Fleets Partnership:	: No					
This is data for one State governmen		e are mostly LD μ	oickup trucks. W	/e estimate the HD/LI	O split in fuel use.	
		e are mostly LD p Biodiesel (20%)		/e estimate the HD/LI 247,651 gal	O split in fuel use. 63,359 gal	579.8 tons
This is data for one State governmer Biodiesel Stations - Middle-	nt fleet - included here Light-Duty	Biodiesel			•	579.8 tons
This is data for one State government Biodiesel Stations - Middle-West TN  Market: General/Unknown Vehicle type: Unknown/Other Percentage from coalition: 100%	nt fleet - included here Light-Duty : No	Biodiesel (20%)	1,500	247,651 gal	63,359 gal	
This is data for one State government Biodiesel Stations - Middle- West TN Market: General/Unknown Vehicle type: Unknown/Other Percentage from coalition: 100% National Clean Fleets Partnership:	nt fleet - included here Light-Duty : No	Biodiesel (20%)	1,500 biodiesel blends	247,651 gal	63,359 gal	
This is data for one State government Biodiesel Stations - Middle-West TN  Market: General/Unknown Vehicle type: Unknown/Other Percentage from coalition: 100% National Clean Fleets Partnership: This is an aggregate of Middle-West	t fleet - included here Light-Duty  No TN partner fueling st Heavy-Duty	Biodiesel (20%)	1,500 biodiesel blends	247,651 gal	63,359 gal	imed mostly LD.

CNG Fleets - LD Light-Duty **CNG** 178 120,808 GGE 114,768 gal 148.7 tons Market: General/Unknown Vehicle type: Car Percentage from coalition: 100%

National Clean Fleets Partnership: No

Vehicle types are mostly LD work trucks and cars. We estimate the split between HD and LD fuel use.

CNG Stations - Middle-West **CNG** 875 656,580 GGE 590,922 gal 497.6 tons Heavy-Duty TN

Market: General/Unknown Vehicle type: Unknown/Other Percentage from coalition: 100% National Clean Fleets Partnership: No

The number of vehicles is an estimate, as we do not have access to this information. 656,580 GGE of CNG sold (\*) / year. (We assume 15,000 mi/yr avg vehicle) / (20 mpg) = 750 GAL/YR. Taking the total CNG usage at public stations (\*) divided by the amount used per vehicle-year, we arrive at 875 vehicles using CNG in TN.

E85 Fleets - HD Heavy-Duty E85 12 41,536 gal 20,007 gal 49.2 tons

Market: Commuters Vehicle type: Bus: Shuttle Percentage from coalition: 100% National Clean Fleets Partnership: No

One fleet that provides transit shuttle services to a couple counties.

Fleet/Station Name	Vehicle Class	Fuel	Number of Vehicles	Fuel Used	GGE Reduced	GHG Reduced
E85 Fleets - LD	Light-Duty	E85 (blender pump)	1,033	96,175 gal	55,589 gal	216.9 tons
Market: General/Linknown						

Market: General/Unknown Vehicle type: Car

Vehicle type: Car Percentage from coalition: 100% National Clean Fleets Partnership:	No					
This is a mix of private, utility, and go only fleet vehicle numbers.	vernment fleets. Lio	nshare of vehicles b	eing governr	nent service. One data	n provider could not confin	m data utilization,
E85 Stations - Middle-West TN	Heavy-Duty	E85	9,032	2,709,658 gal	1,305,152 gal	3,207.4 tons
Market: General/Unknown Vehicle type: Unknown/Other Percentage from coalition: 100% National Clean Fleets Partnership:	No					
Mostly cars and SUVs. 2,709,658 Ga average user uses E85 50% of the tir				ehicle) / (20 mpg) = 6	600 GAL/YR. If we then a	ssume that the
So, taking that total E85 usage at put our estimates).	olic stations (*) and o	lividing by the amou	ınt used per v	vehicle-year, we arrive	at 9,032 FFVs using E8	5 in TN (based on
Frito-Lay - Heavy-duty CNG	Heavy-Duty	CNG	6	117,100 GGE	105,390 gal	88.7 tons
Market: Corporate Fleet Vehicle type: Truck: Semi-trailer Percentage from coalition: 100% National Clean Fleets Partnership:	Yes					
Frito-Lay Division Data Only						
Propane Fleets - HD	Heavy-Duty	Propane	26	38,216 gal	19,527 gal	7.7 tons
Market: Utility Vehicle type: Unknown/Other Percentage from coalition: 75% National Clean Fleets Partnership:	No					
Aggregated data from two fleets. Mos	st were buses. Some	e were work trucks.				
Propane Fleets - LD	Light-Duty	Propane	4	6,256 gal	4,736 gal	6.7 tons
Market: General/Unknown Vehicle type: Pickup/SUV/Van Percentage from coalition: 100% National Clean Fleets Partnership:	No					
Aggregated data from two fleets. All v	were work trucks.					
Schwan's - Medium-duty Propane	Heavy-Duty	Propane	13	55,847 gal	38,049 gal	14.9 tons
Market: Corporate Fleet Vehicle type: Truck: No Trailer Percentage from coalition: 100% National Clean Fleets Partnership:	Yes					

Market: Corporate Fleet Vehicle type: Truck: Semi-trailer Percentage from coalition: 100% National Clean Fleets Partnership: Yes

Heavy-Duty

LNG

UPS - Heavy-duty LNG

208 8,170,802 gal

4,897,579 gal

4,912.3 tons

Fleet/Station Name	Vehicle Class	Fuel	Number of Vehicles	Fuel Used	GGE Reduced	GHG Reduced
Waste Management - Heavy- duty CNG	Heavy-Duty	CNG	98	832,960 GGE	749,664 gal	631.2 tons
Market: Corporate Fleet Vehicle type: Truck: Refuse Percentage from coalition: 100% National Clean Fleets Partnership:	Yes					
Total:			13.926		8.228.594 gal	10.631 tons

Electric, Hybrid & Plug-in Vehicles

Fleet/Station Name	Vehicle Class	Fuel	Number of Vehicles	GGE Reduced	GHG Reduced
Electric - HD, buses	Heavy-Duty	Electric	9	29,650 gal	118.7 tons
Electricity used: 268,646 kWh Market: Government - Local Vehicle type: Bus: Transit Percentage from coalition: 100% National Clean Fleets Partnership: No Workplace Charging Challenge: These are transit buses from a local transit authority.					
EV Fleet - LD	Light-Duty	Electric	7	370 gal	1.9 tons

Average electric fuel economy: - kWh/100mi Miles traveled per vehicle per year: 1,410 mi

Market: Utility Vehicle type: Car

Percentage from coalition: 75% National Clean Fleets Partnership: No Workplace Charging Challenge:

This information is from two utility fleets. We estimated the fuel economy of the EVs and conventional vehicles replaced as kwh usage was not reported for all vehicles.

an vernoles.

Hybrid Fleets - HD Heavy-Duty HEV 44 114,860 gal 1,414.8 tons

Average vehicle fuel economy: 5 MPG Miles traveled per vehicle per year: 38,008 mi

Market: General/Unknown Vehicle type: Bus: Transit Percentage from coalition: 100% National Clean Fleets Partnership: No Workplace Charging Challenge:

Data aggregated from two transit fleets. One is local government and the other is a non-profit fleet. Vehicles are all Gillig or NABI buses.

Hybrid Fleets - LD Light-Duty HEV 43 7,720 gal 95.1 tons

Average vehicle fuel economy: 39 MPG Miles traveled per vehicle per year: 9,492 mi

Market: General/Unknown

Vehicle type: Car Percentage from coalition: 100% National Clean Fleets Partnership: No Workplace Charging Challenge:

This is a mix of hybrids from a transit company, utility companies, and state government fleets.

PHEV Fleet - LD Light-Duty PHEV 1 559 gal 2.9 tons

Electricity used: 4,868 kWh

Market: Utility

Vehicle type: Pickup/SUV/Van Percentage from coalition: 75% National Clean Fleets Partnership: No Workplace Charging Challenge:

Data from one utility fleet. Vehicle is a Chevy 1500.

Fleet/Station Name	Vehicle Class	Fuel	Number of Vehicles	GGE Reduced	GHG Reduced
PHEV Fleets - HD	Heavy-Duty	PHEV	2	242 gal	1.0 tons
Electricity used: 3,799 kWh Market: Utility Vehicle type: Unknown/Other Percentage from coalition: 75% National Clean Fleets Partnership: No					

Data aggregated from two utility fleets. One vehicle is a Odyne/Altec, one is Freightliner M2-106.

UPS - Medium-duty Hybrids Heavy-Duty HEV 9 20,226 gal 249.1 tons

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:

Workplace Charging Challenge:

UPS indicates that their hybrid vehicles see up to 4x improvement in fuel economy compared to their conventional counterparts.

Total: 115 173,627 gal 1,884 tons

#### **Off-Road Vehicles**

On Road Formoide						
Fleet Name	Application	Method	Fuel	Number of Vehicles	GGE Reduced	GHG Reduced
Biodiesel Fleet - Off- road HD	Other	Alternative fuel or vehicles	Biodiesel (20%)	220	679 gal	5.9 tons
Fuel used: 4,249 gal Percentage from coalition: National Clean Fleets Parti						
This is data for off-road HD la equipment and asphalt equip decreased the contribution to	oment. We estimated the	•				
Biodiesel Fleet - Off- road LD	Other	Alternative fuel or vehicles	Biodiesel (20%)	512	1,435 gal	12.6 tons

Fuel used: 8,973 gal

Percentage from coalition: 75%

National Clean Fleets Partnership: No

This is data for off-road LD biodiesel vehicles from two fleets. Vehicles represent a mix of tractors, mowing equipment, asphalt equipment, backhoes, brush chippers, and forklifts. We estimated the split between LD/HD fuel use. One fleet is EPAct-mandated to use alternative fuels, so shifted the contribution from the coalition to 75%.

contribution from the coalitic	)II to 75%.					
EV fleet - off-road LD	Other	Alternative fuel or vehicles	Electric	27	4,023 gal	16.1 tons
Fuel used: 63,180 kWh Percentage from coalition: National Clean Fleets Part						
Data is from one utility fleet.	Vehicles are comprised of	f a mix of forklifts and utili	ty carts.			
Propane Fleets - Forklifts	Other	Alternative fuel or vehicles	Propane	1	33 gal	0.0 tons
Fuel used: 48 gal Percentage from coalition: National Clean Fleets Part						
Data from one local utility.						
Propane Fleets - Mowers	Landscaping and lawn equipment	Alternative fuel or vehicles	Propane	10	3,099 gal	1.2 tons
Fuel used: 4,549 gal Percentage from coalition: National Clean Fleets Part						
Data from local propane mo	wer users.					
Total:				770	9,269 gal	36 tons

#### FUEL ECONOMY

**Fuel Economy Improvements** 

Fleet Name	Previous Fuel	Current Fuel	Number of Vehicles	Miles Traveled per Vehicle	GGE Reduced	GHG Reduced
City of Jackson Fuel Economy Improvements - HD	5 MPG	8 MPG	4	9,500 mi	4,088 gal	50.7 tons
Method: Vehicle - More efficient Vehicle class: Heavy-Duty Market: General/Unknown Vehicle type: Unknown/Other Percentage from coalition: 100% National Clean Fleets Partnership: No Four Ford F-450s replaced with newer, m	voro fuel officient	model vear voh	icle by municipal flee	<i>*</i>		
Tour Ford F 4000 replaced with flewer, in	oro raoi cinoloni	moder year vern	olo by mailloipai lice			
City of Jackson Fuel Economy	8 MPG	15 MPG	8	13.140 mi	6.766 gal	83.3 tons

Improvements - LD

Method: Vehicle - More efficient Vehicle class: Light-Duty Market: General/Unknown Vehicle type: Patrol Car Percentage from coalition: 100%

National Clean Fleets Partnership: No

Two municipal police vehicles were replaced with newer, more fuel efficient alternatives. Two Crown Vics replaced with one Ford Taurus and one Ford

Explorer.

Total: 12 22,640 mi 10,854 gal **134 tons** 

#### **Vehicle Miles Traveled Reductions**

Project Name	Method	Vehicle Class	GGE Reduced	GHG Reduced
Middle TN Vanpool	Vanpooling	Light-Duty	350,947 gal	4,322.9 tons

Fuel type of vehicles driven less: Gasoline Fuel economy of vehicles driven less: 20 MPG

Number of vehicles driven less: 573

VMT reduction per vehicle being driven less: 15,370 mi

Fuel type of additional vehicles: Gasoline Fuel economy of additional vehicles: 15 MPG

Number of additional vehicles: 90 VMT per additional vehicle: 15,000 mi Percentage from coalition: 100% National Clean Fleets Partnership: No

15-county regional vanpool. With no "vehicle taken off road data," we used an average (from Bureau of Transportation Statistics) of the 2 LDV categories of "short-wheel base" (formerly passenger cars) and "long-wheel base" which includes larger cars and trucks, which were 23 MPG for former cat. and 17 MPG for latter cat., which equals 20 MPG.

Total: 350,947 gal 4,323 tons

### **IDLE REDUCTION**

**Truck Stop Electrification** 

Project Name	Number of Bays	Usage per Bay	GGE Reduced	GHG Reduced
Pilot #53 Hurricane Mills - IdleAir	15	522 hrs/year	8,671 gal	92.7 tons
Percentage from coalition: 100% National Clean Fleets Partnership: No				
Data provided by IdleAir.				
Total:	15		8,671 gal	93 tons

#### **Idle Reduction**

Project Name	Number of Vehicles	ldling Reduced per Vehicle	Fuel Saved per Vehicle	GGE Reduced	GHG Reduced	
Clarksville Montgomery County School System - Espar Heater Systems	34	30 mins/day 60 days/year	1 gal/hr	1,129 gal	14.0 tons	
Type of project: Direct-fire heater Type of vehicle: Heavy-Duty - Bus: School Percentage from coalition: 100% National Clean Fleets Partnership: No						
CMCCS is a great example of a progressive school fleet by using propane and idle reduction measures. They use Espar heaters to prevent idling.						
Clarksville Montgomery County School System - Idle Shutoff	291	15 mins/day 60 days/year	1 gal/hr	4,365 gal	54.1 tons	
Type of project: Other Type of vehicle: Heavy-Duty - Bus: School Percentage from coalition: 100% National Clean Fleets Partnership: No						
Idle reduction ECM is from the OEM, but the school sets it to 15 minutes. Combination of BB & TB; Cummins engine.						
Total:	325			5,494 gal	68 tons	

## **FUEL STATIONS**

#### **New Stations**

Fuel	Public Stations	Private Stations
Biodiesel	-	-
CNG - Compressed Natural Gas	1	1
E85 - 85% Ethanol	-	-
Electric Charging Outlets	-	-
Hydrogen	-	-
LNG - Liquefied Natural Gas	-	-
Propane	-	-
Total:	1	1

#### **OUTREACH ACTIVITIES**

Activity Name	Dates	Activity Type	Percentage from Coalition	Persons Reached
Nashville MWTCF Coalition Meeting	04/11/2017	Meeting - Stakeholder	100%	32

Technology: Biodiesel, E85, Electric vehicles, Fuel economy improvements, Hybrid electric vehicles, Idle reduction, Natural gas vehicles, Propane, Vehicle miles traveled reduction

Audience: Airport, Delivery, General Public, Government, Private Fleets, Transit, Utility, Waste, Other

On April 11, Alexa, Jonathan, and Melissa hosted the Middle-West Tennessee Clean Fuels Coalition (MWTCF) meeting at the Lane Motor Museum in Nashville. Guest presentations highlighted the Nashville Metropolitan Transit Authority's electric buses, the TMA Group's transportation demand management programs (such as VanStar), Gold Coast Commodities' biodiesel production, and the Nashville International Airport's new CNG shuttles. During the meeting, Jonathan, Alexa, and Melissa also shared details and information on the following news, notes and events:

- UPS' Commitment to RNG Use in its Memphis Fleet
- Chattanooga's 15 Ford Focus EVs and New EV rideshare program
- New CNG stations in Knoxville and Fayetteville
- Electric buses in Nashville and Chattanooga
- New E85 Stations in Tennessee
- Clarksville-Montgomery County Schools' 15 New Propane School Buses
- Great Smoky Mountains National Park's New Propane Equipment and Dispensers
- University of Memphis' New Propane Vehicles and EVSE for Students, Professors, Staff
- Kingsport Propane Video by the Propane Education and Research Council
- Golf Course Propane Event: June 13, Sevierville, TN
- Tennessee Sustainable Transportation Awards & Forum Nashville, May 23-24
- CMAQ, VW and other potential funding updates
- Planned Statewide AFV training for Emergency Responders

# Clarksville-Montgomery County School 07/31/2017 Media Event 100% 6,700 System Propane School Bus Fleet Launch

Technology: Propane

Audience: Airport, Delivery, General Public, Government, Private Fleets, Transit, Utility, Waste, Other

On July 31, Clarksville-Montgomery County School System (CMCSS) officially launched their 15 new propane-powered school buses, which began transporting their first students over the coming school year. The launch event was held at Montgomery Central High School and showcased several of the new buses to the community. These buses mark another step in the school system's quest to drive down bus maintenance costs, increase fuel cost savings, and to model cleaner, feasible, and cost-effective student transportation options. The vehicles were funded partially through the "Reducing Diesel Emissions for a Healthier Tennessee" grant program, which Tennessee Clean Fuels manages on behalf of TDEC. For information on the Clarksville-Montgomery County fleet launch, follow this link: http://tncleanfuels.org/docs/MWT/TCF-PR\_CMCSS-Propane-Buses\_7-31-17.pdf.

Additionally, CMCSS created a media video with clips from the event, which it shared with school districts in the surrounding area. For four months, the Tennessee Clean Fuels website automatically played the video for every web visitor. The video was also shared on social media through multiple Twitter accounts/Facebook accounts and through newsletter distribution. To see the buses in action, watch the fleet launch video here: https://www.youtube.com/watch?v=yv0J2a8RC50.

#### ANG CNG Fuel Station Grand Opening 08/01/2017 Media Event 100% 50

Technology: Natural gas vehicles

Audience: Delivery, General Public, Government, Private Fleets, Utility, Waste, Other

On August 1, American Natural Gas held a ribbon cutting ceremony in collaboration with Tennessee Clean Fuels to unveil its new, public compressed natural gas station in Fayetteville, Tennessee. PepsiCo's Frito-Lay division, which has a locally domiciled fleet of CNG tractor-trailers, will be a major customer at the station. With round-the-clock operation, the fast-fill Fayetteville station has three consumer-friendly dispensers equipped with NGV2 nozzles to optimize the experience for heavy-duty, high-capacity users, as well as NGV1 nozzles for light and medium-duty use. Follow this link for more information on the new station: http://www.ngvglobal.com/blog/ang-opens-cng-station-mid-tennessee-0805

#### Fayetteville MWTCF Coalition Meeting 08/01/2017 Meeting - Stakeholder 100% 25

Technology: Biodiesel, E85, 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, Waste, Other

On August 1, Alexa and Jonathan hosted the Middle-West Tennessee Clean Fuels Coalition (MWTCF) meeting at Fayetteville Public Utilities in Fayetteville, Tennessee. During the meeting, Jonathan, Alexa, and Melissa also shared details and information on the following news, notes and events:

- New CNG Stations in TN
- DOE Tools You Can Use
- Clean Cities federal budget
- Photos from the AFV Showcase in Nashville and the 2017 NGV Coast-to-Coast Rally
- Funding Updates (CMAQ, VW, Tennessee Natural Gas and Propane Vehicle Grant Program, DERA)
- Upcoming Events (National Drive Electric Week, Sustainable Fleet Technology Conference and Expo, Memphis Coalition meeting and FedEx Express Airport Hydrogen GSE and CNG Truck Tour)
- Fleet/Station/Vehicle Updates: Gibson County Utility District's CNG station, Clarksville-Montgomery County School System's propane buses, Knoxville's new CNG station at KUB, Metro Nashville Airport's CNG fleet, Great Smoky Mountains National Park propane fleet, City of Knoxville propane mowers, and FedEx Express and PlugPower H2 GSE.

Activity Name	Dates	Activity Type	Percentage from Coalition	Persons Reached

Memphis MWTCF Coalition Meeting

11/02/2017

Meeting - Stakeholder

100%

25

Technology: Electric vehicles, Hybrid electric vehicles, Natural gas vehicles, Propane Audience: Airport, Delivery, General Public, Government, Private Fleets, Transit, Utility, Waste, Other

On November 2, Alexa and Jonathan hosted the Middle-West Tennessee Clean Fuels Coalition (MWTCF) meeting at the University of Memphis in Memphis, Tennessee. During the meeting, Jonathan and Alexa shared details and information on the following news, notes, and events:

- Alternative Fuel Corridors in TN Update on past and current activities toward alternative fuel corridor designations and signage
- Tennessee Green Fleets Certification Program Reminders for the 2018 Class of Certified Fleets
- New "Membership Map" on www.TNCleanFuels.org
- Guest Presentations: Propane and Electric Vehicle Initiatives at the University of Memphis, Propane Vehicle Options and Liquid-Injection Systems by ICOM, Flyway Express' Propane Fleet, Hybrid Vehicles Coming to the FedEx Express Fleet, Waste Management's CNG Operations in TN, Clean Energy Fuels on RNG: What It Is and What's In Southwest TN, RNG and Anaerobic Digester Products by Johnson Energy Solutions, Memphis and Shelby County's Evaluation of Alternative Fuels, Newest CNG Station in TN (Lebanon), and Renewable Diesel in Knoxville.
- Funding Updates (CMAQ, VW, Tennessee Natural Gas and Propane Vehicle Grant Program, DERA)
- Upcoming Events (VW Settlement Public Information Sessions, Southeast Diesel Collaborative, Energy Independence Summit 2018, Work Truck Show, 2018 Tennessee Sustainable Transportation Awards in Knoxville)

Total: 6,832