

Alternative Fuels for *Municipal Fleet Management*



Jonathan Overly, Director

TNCleanFuels



TNCleanFuels.org
Reducing oil dependence one fleet at a time.

Who is ETCleanFuels?



- ✓ 16-year old Nonprofit in East TN, 501(c)3
 - 2 full-time staff, several interns
 - Became Designated member of U.S. DOE Clean Cities Program in 2004
 - Contract with UT Knoxville for staffing & office space
 - 1 of 2 Clean Cities coalitions in Tennessee; as a team are “Tennessee Clean Fuels”
 - 40+ dues-paying members; 300+ stakeholders
- ✓ Helps Fleets Save \$\$ while Reducing Petroleum Use & Emissions



Achievements - Tennessee Clean Fuels

→ Includes all of the members and partners across the entire state that are Actors for Change for Cleaner Transportation Fuels



16,403,886 GGEs
of petroleum
displaced in 2015



58,567 tons of GHGs
reduced in 2015



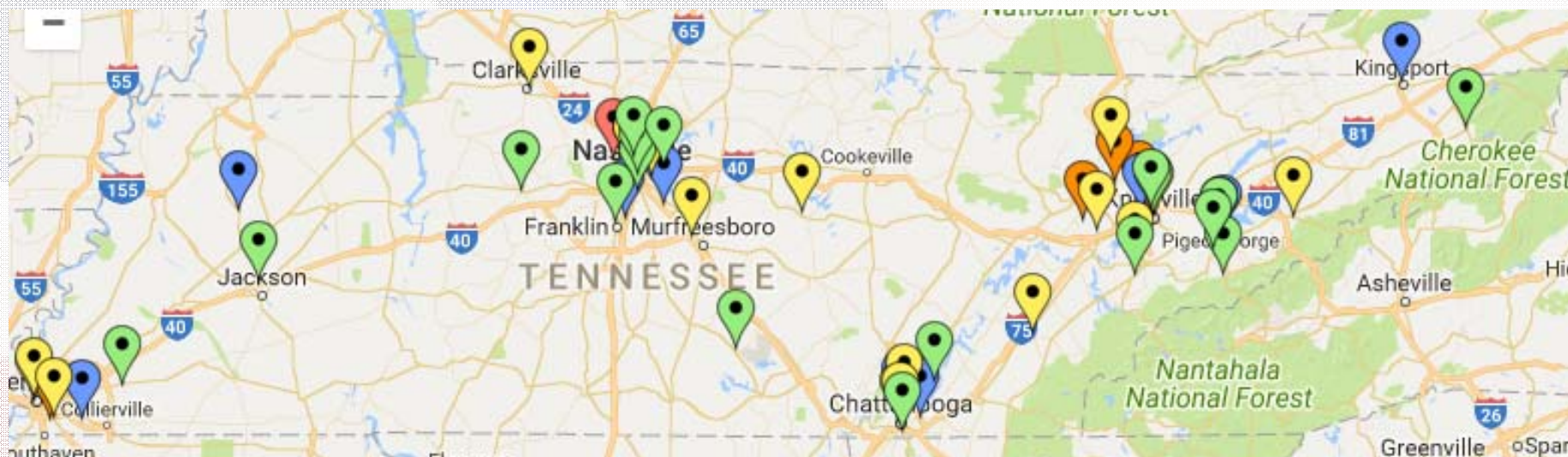
Over \$3,900,000 won
in funds for members
& partners since 2014



31,505 AFVs driving
on Tennessee roads
today



Who's doing the Achieving? - *These Fleets, our Members across TN*



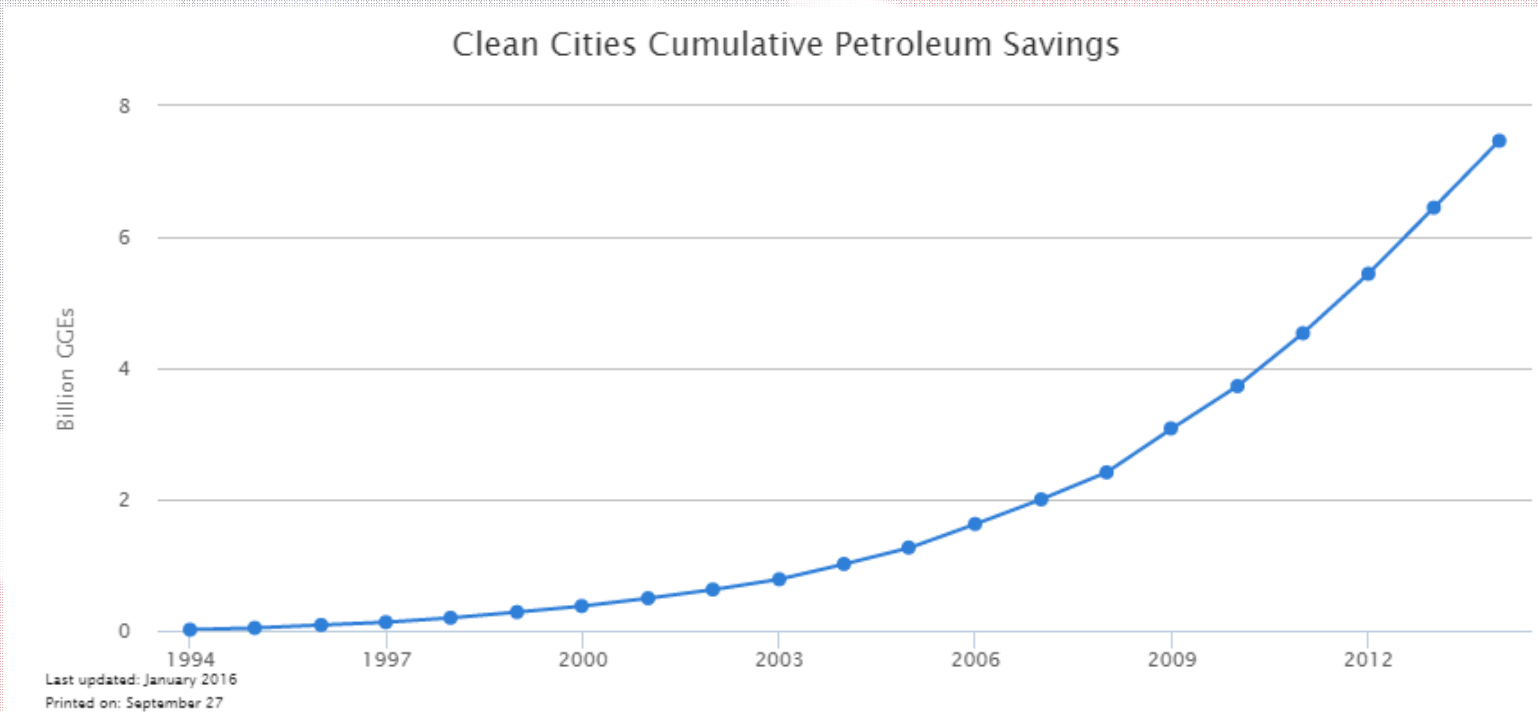
Private & gov't – large & small – rural & urban – corporate & small business – on- & off-road



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Clean Cities National Impact

7.5 Billion GGEs 1994-2014; surpassed 1 Billion GGEs in 2015 alone.



Source: [Clean Cities](#) annual metrics reports, 2004-2014.

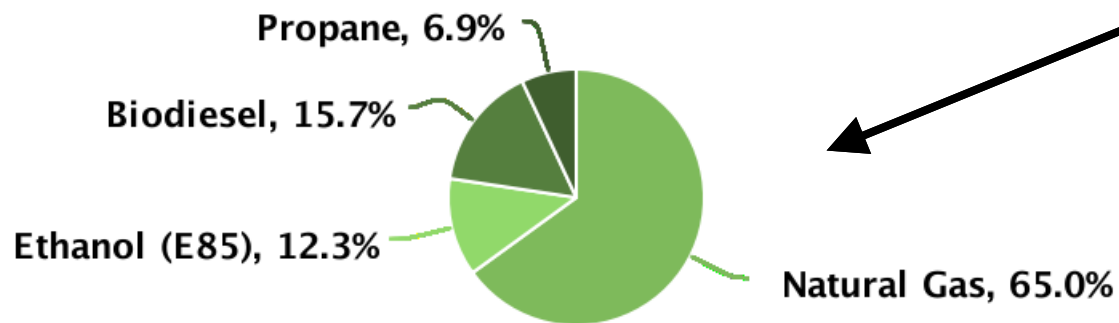
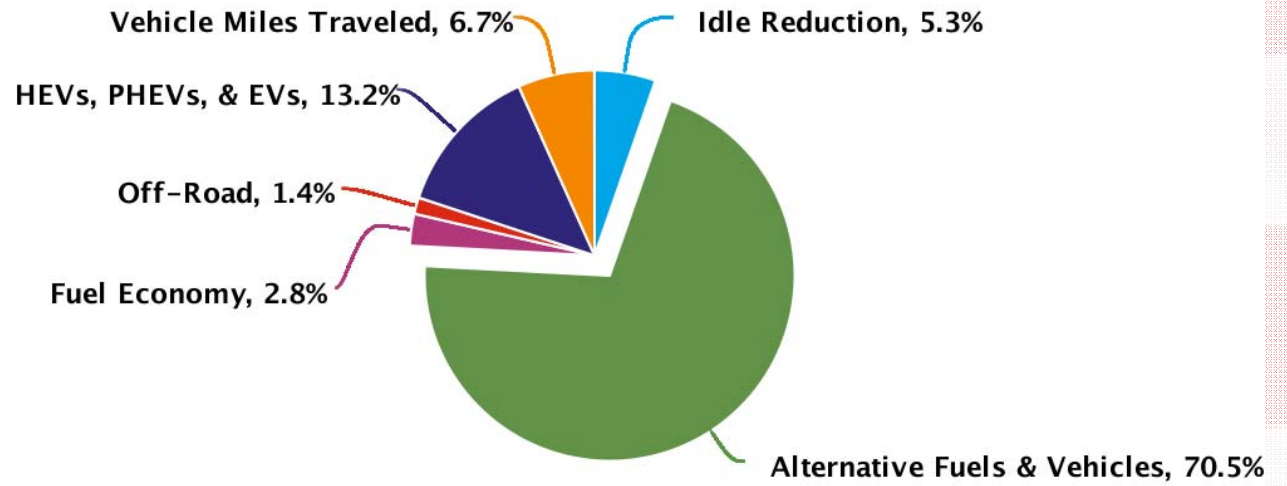
Notes: Savings are measured in gasoline-gallon equivalents (GGEs), representing a quantity of fuel with the same amount of energy contained in a gallon of gasoline.

This chart shows [Clean Cities](#)' cumulative petroleum savings over the life of the program. Since its inception in 1994, Clean Cities has saved nearly 7.5 billion gallons of petroleum.



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Clean Cities National Impact



Local Gov't Examples:

Who's using alt fuels in Tennessee?



★ = currently using

➡ = Starting use (or evaluating)

⬆ = Statewide leader

Local Gov't	Fuels CNG	Propane	PEV	Hybrids	Biodiesel/RD	Idle Red.
Knoxville	➡	★		★	➡	★
Kingsport		⬆	★	★		
Greeneville		➡				
Memphis	➡	➡	➡	★	➡	➡
Sevierville	➡	★			⬆	
Anderson County		★ ➡				
CMCSS		⬆	➡			★



User Notes, 1

City of Knoxville

- ✓ Now has largest propane mower fleet in Tennessee w/22 zero-turn or walk-behind mowers
- ✓ Starting program to get more CNG work trucks in use
- ✓ Tested 100% Renewable Diesel in diesel fleet this year; results were clear – drop-in fuel that reduced DPF problems

City of Kingsport

- ✓ Fleet of almost 90 propane vehicles incl. police cars, work trucks and zero turn mowers; police officers are now **asking** to get a propane police car
- ✓ Have two vertical propane tanks for their own storage; ready if petro. is low
- ✓ Have many hybrids, and both PHEV and BEVs – Nissan Leafs, Toyota Prius, Ford Fusions and Escapes



Kingsport

Propane infrastructure – they own and have 3,000 gallons of storage onsite, with card-reading system for tracking use



User Notes, 2

Greeneville – Just getting started pursuing propane police SUVs

Memphis & Shelby County – Became a member recently. Just starting to delve deeper into fleet (diff. vehicles they have & where domiciled) to look at funding opportunities and start making suggestions to management, & acquiring AFVs.

City of Sevierville

- ✓ Have been using B20 biodiesel for 13 years with no problems.
- ✓ Have a few propane and CNG vehicles but are pursuing grants for replacing some heavy-duty vehicles with both of those fuels

Anderson County – Have one propane vehicle but are pursuing ~40 new propane vehicles in the fleet via multiple grants. (e.g., various work trucks, school shuttles, ambulances, highway department vehicles)



Sevierville, Anderson County



Sevierville

Anderson County



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E85 – Cost Effective



Effective 12:00:01am EST on
E-85 Blend price per gallon...

Thursday, December 14, 2017

			<u>Change</u>
	FOB Chattanooga, TN:	\$0.9050	\$0.0050
	FOB Elizabeth, NJ:	\$0.9750	\$0.0050
	FOB Eagle Lake, FL:	\$1.0500	\$0.0500
<i>NOW AVAILABLE</i>	FOB Pittsburgh, PA (Crafton):	\$0.9450	\$0.0050
<i>NOW AVAILABLE</i>	FOB Hartford, IL (St Louis):	\$0.9500	\$0.0050
<i>Coming Soon!</i>	FOB Nashville, TN	\$0.9500	\$0.0050
<i>Coming in Q1 2018!</i>	FOB Dallas, TX		

- ✓ **Transport** – Roughly \$0.10/gal cost to get from Chatt. to Knoxville
- ✓ **Energy density difference** – Use 25%, which makes \$0.91/ gal = \$1.14/gal!
- ✓ **No new vehicles to buy if you have FFVs**, which cost same as gas vehicles
- ✓ **Tanks + dispensers** – Funding hopefully coming out soon that could provide up to \$45k of your costs for new tanks and dispensers
- ✓ **GHG goals** – 25-50+% could be your GHG reductions for E85 use



Fleet Considerations / What we focus on:

- ✓ **Usability in your fleet** – Is it the right size and application?
- ✓ **Cost / Payback Period** – What kind of savings can we help you generate over the life of using that vehicle in your fleet? *(and what other benefits will you derive?)*
- ✓ **Maintenance** – What kind of training will your maintenance staff need to fix problems with the vehicles?
- ✓ **Infrastructure** – Will any additional refueling be needed onsite, or offsite, and if so what does that cost or how can that cost be reduced (via innovative fiscal arrangements)
- ✓ **Driving Training** – Is driver training needed, for operating or refueling?
- ✓ **First Responders Training** – How can we help train emergency response units in your community?
- ✓ **Grant Writing** – We write grants & almost always win grants for our partners.



Questions?

Jonathan G. Overly

- ✓ jonathan@etcleanfuels.org
- ✓ 865-974-3625

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