

Successfully Incorporating E85 and E10 Ethanol into a Retail/Distribution Business



SIGMA 2007 Annual Meeting



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General Motors

- Ethanol Supply and Demand Trends, The RFS and Future
- What Has GM Already Done With FFV's
- GM FFV's for Fleets and Financing
- What is the Future for GM

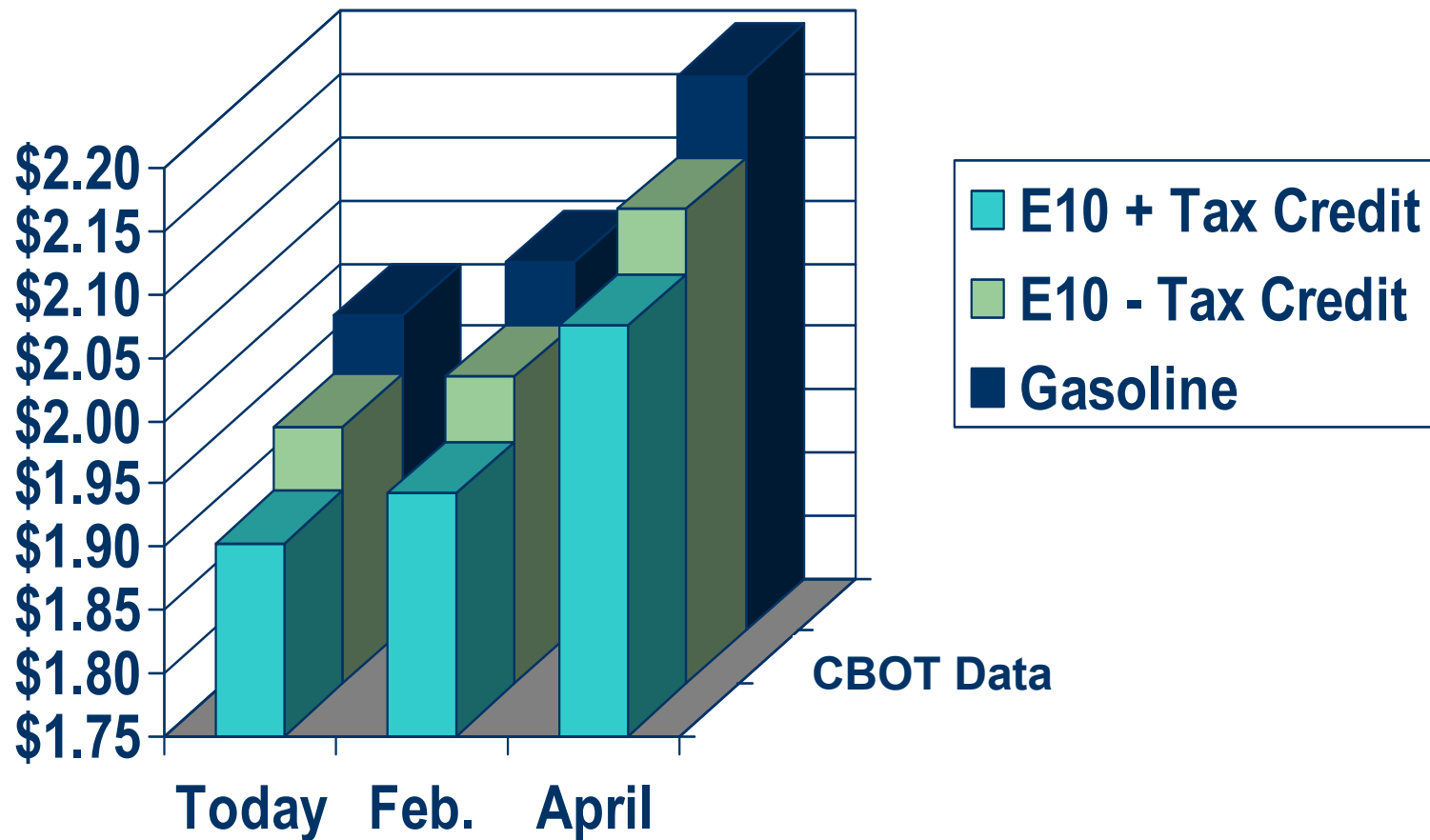


E10 Ethanol



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Non-Mandated E10 Ethanol Pure Economic Play



Non-Mandated E10 Ethanol

- Getting the fuel in non-mandated areas is often most difficult part
- EPA approved to be used in all on-road gasoline vehicles
- EPA is looking at E15 or E20
- No equipment changes – to be on the safe side, switch out filters a little more often for the first several loads
- Beware of possible RVP regulations



E85 Steps for Success

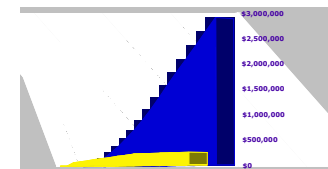
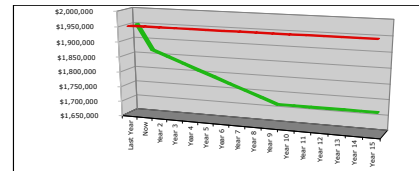
1. Station Location
 - fleets and public
2. Fuel supply & price
 - distribution, logistics, blending, branded v. unbranded
3. Station design and equipment
 - E85 compatible equipment and product switch
4. Marketing Success
 - build markets/customers
5. Maintain Program Success
 - fuel management, public exposure

E85 Ethanol –Short-Term

- Need immediate volumes to justify economics
- Fleets are the answer
 - EPACT 2005
 - Federal fleets
 - State fleets (more limited)
- State, County Municipal Mandates

Public and Private Fleets

- **Conduct a comprehensive fleet fueling analysis that will illustrate current fuel usage to an alternative fuel program.**
 - Only by comparing programs, can a business decision be made.
 - Eliminate the guess work and uncertainty, by using actual fuel consumption data and prices, plugging that information into an analysis that will use current alternative fuel prices, data, fuel characteristics, logistics, infrastructure equipment and software.



- **A municipality can be both environmentally responsible and fiscally responsible at the same time and have the proof.**
 - Conduct the report routinely to ensure economic savings and effectiveness.
 - Government fleets will need assistance on equipment specifications and permitting requirements as well as overall regulatory issues, input on any strategic planning the fleet might conduct, government incentives, vehicles availabilities, biodiesel fuel quality updates, risk management alternatives, education and outreach programs, technology updates and industry updates that might affect the fleet to ensure programmatic success now and into the future.

Track Results - Get Credit

- Fleet Emission Baseline Report (FEBR)
 - Fleet management program is powerful tool to track petroleum displacement and resulting emission reductions by day, month, year since program was initiated
 - Plot emission reductions of new vehicle purchases
- Quantifiable program success
- Critical for public relations and community outreach programs



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E85 Ethanol Long-Term

- General Public
 - EPIC Customer Profile
- Partner with Dealers to build:
 - Volumes
 - Awareness
 - Habit
 - Long-term customers

How Do I Get Ethanol

- Purchase from a plant or marketer
 - Collect RIN if blending
- Rail to a bulk storage or trans-loading facility
 - Regional storage is the hard part in non-mandated areas
 - Need rail access to handle volumes unless 300 mile rule
 - Chicken v. Egg – Customers v. Commitment
- Blend to E10 or E85
- Obtain IRS 637 Blending Application
- Carrying Blender Credit float
- Local delivery
- Cellulosic will be different and much simpler

Fuel Supply and Logistics

Aside from the fuel supply and corresponding price/gallon, how the fuel is supplied will also influence the type of equipment & conversion decisions:

Volumetric Ethanol Excise Tax Credit

Also know as “blenders credit” - \$0.51 per gallon (E85= 85% x \$0.51)

E85 Fuel delivered to station (pre-mixed)

||

E85 Fuel

E100 delivered to station/bulk plant

+

*mix with regular gasoline (15%)
(Splash blend or dispenser blend)*

||

E85 Fuel

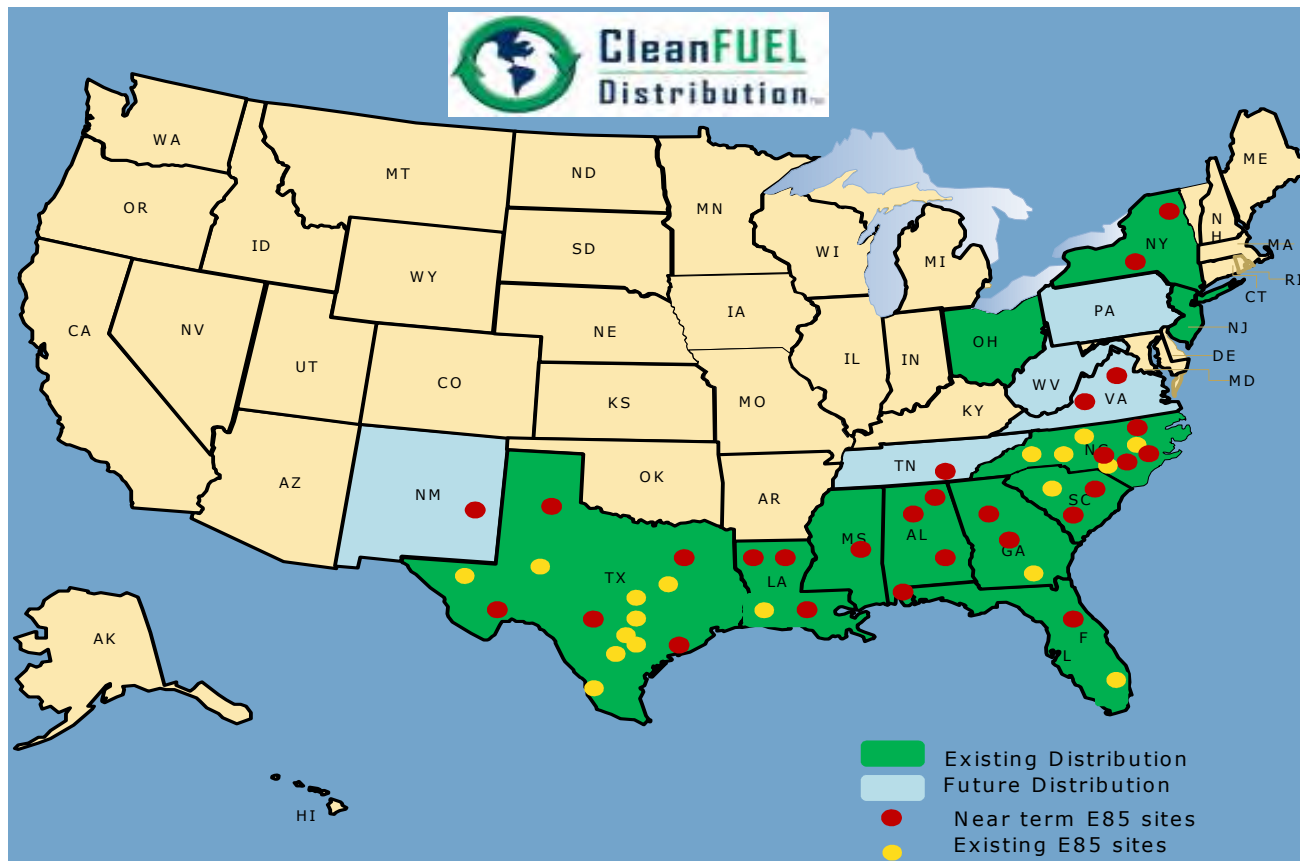
CleanFUEL – Make it Seamless

- Procure through bulk deals with plants
 - CleanFUEL purchases from 40 different plants
- Attach risk management options
 - e.g. Peg price to XX Cents below RBOB
 - Risk in fixed pricing due to volatility of gasoline
- Offer price FOB destination of distributor
- Providing fuel alone will not guarantee success



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Where is CleanFUEL?



E85 Fueling Site



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E85 Fueling Site

- Location, Location, Location
 - FFV Data
 - Access to Mandated Fleets
 - Major Roads
- Existing vs. New Site
- New Equipment vs. Retrofit
 - Tanks
 - Dispensers
- Blender Pump



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Station design and equipment

2 Options:

- 1.) Convert existing equipment OR 2.) Install all new equipment



Kennedy Space Center (Florida)



Bexar County Fleet fueling site in Texas



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Infrastructure Equipment:

Problems that occur when water or debris contaminates ethanol blended fuels

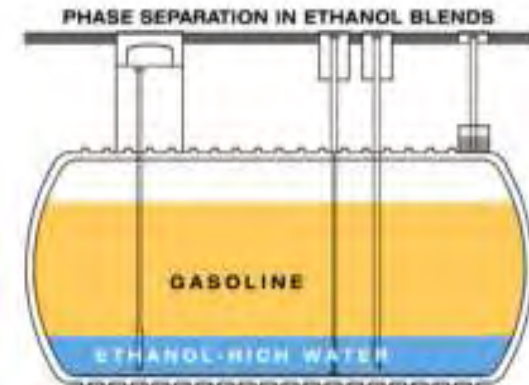
- Fuel octane levels will be below specification
- Filter clotting (which will cause dispenser to stop working)
- Spoiled fuel
- Customer vehicle drivability complaints and damage



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Infrastructure Equipment Why is E85 Fuel different?

- Gasoline and water do not mix, but ethanol and water do !!
- It takes a small amount of water to cause what is known as phase separation in a tank, making it critical that E85 or E10 fuel does not get exposed to water at any time.
- Debris/particulates and accumulated sodium salts create similar issues. It is important that tanks receiving ethanol blended fuel be inspected, cleaned, drained prior to the first introduction of fuel.





Infrastructure Equipment

Partial Components/parts that must be compatible with ethanol that is intended for storage or dispensing:

- Fill Pipe
- Spill prevention
- Drop tube
- Overfill / Auto Shut-Off
- Tank (Warranty, UL listing, Manufacturer's certification)
- Gaskets
- Bushings
- Couplings
- Piping (Warranty, Manufacturer's certification)
- Sump
- Grommets / bonds
- Submersible pump
- Pump impeller
- Leak detection (probe, sensor, Float)
- Dispenser (gaskets, filters, piping, hoses, nozzles, swivel, pump/meter, solenoid valves, sealants, breakaways)
- Pipe sealant / adhesive
- Flex connectors

www.E85fuel.com

or

www.eere.energy.gov/afdc/e85toolkit/equip_processess.html

What's different with an E85 dispenser?



Field Kits available by CFUSA feature the same parts used for all OEM & CFT Dispenser Construction

**“Hanging Hardware”
not shown, but required**



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Infrastructure Equipment

- Dresser Wayne 3/V387D
- Dresser Wayne 3/V387D/Q (balance vapor recovery)
- Dresser Wayne 3/V590U – first ethanol blender prototyped and built 3 units
- Dresser Wayne 3/V595 3+1 blender
- Dresser Wayne R11, single product Ovation





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Infrastructure Equipment

Additional Upgrades in Process

- Currently, through a teaming agreement between Dresser Wayne and CleanFUEL, a 3/V590U blender dispenser is available.
- The blender unit will allow for sites to have one tank dedicated for ethanol and will be available to blend E10, E85 and other possible future mid-level blends
- It is possible to have a E85, E10 and regular gasoline dispensed from one dispenser.
- Lower logistical costs
- Tax credit

CleanFUEL's kits for E85 Dispensers

- Gilbarco Veeder Root NAO, field conversion kit, single or dual sided
- Gilbarco Veeder Root NL1, field conversion kit, dual sided only
- Gilbarco Veeder Root NG1, field conversion kit, dual sided only
- Gilbarco Advantage RB21, field conversion kit, single or dual sided

Kits available by CleanFUEL Distribution



Infrastructure Equipment



HEB Gilbarco Encore Unit
(HEB has 12 locations in Texas)



First Major Oil
Company E85 Unit



Commercial Fleet Location
& open to public



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Infrastructure Equipment

- Gilbarco Veeder Root NAO, Single Product, Single or Dual Sided
- Gilbarco Veeder Root NL1, 3+1 Blender, Dual Sided only.
- Gilbarco Veeder Root NG1, 3+1 Single Hose MPD, Dual Sided only
- Gilbarco Advantage RB21, Single or Dual Sided



Infrastructure Equipment

- E85 6100 and 6200 Series Motor Fuel Dispenser
- E85 7100 and 7200 Series Motor Fuel Dispenser
- Both NTEP approved and waiting for submittal to UL for evaluation.
- Feature same working components as what CFT installs into Gilbarco and Dresser Wayne equipment





Infrastructure Equipment

Current Regulations for Biofuel Dispensers

- NTEP (Nat'l Type Evaluation Program) Approved Dispensers
 - E85 Dispenser or any device that is to dispense beyond 15% ethanol blend, should be NTEP approved.
 - Biodiesel units that dispense beyond B20 should be NTEP approved.
 - Equipment for use at a Retail Location shall be Listed per NFPA 30A
- CFUSA developments on E85 Dispensers
 - Studied Market needs and applicable construction requirements.
 - Modeled selection of materials based on UL87, DOE E85 Handbook and various engineering practices for handling E85.
 - Followed up on field parts that have endured 2 to 3 years of operation and have found no evidence of materials failures.



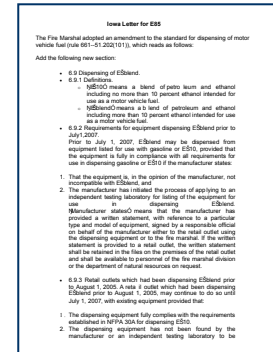
Infrastructure Equipment (UL Status)

UL Status

- There is not UL certified E85 dispenser nor E85 conversion kit at this time.
- Time lines are dependent on UL's readiness to re-open old construction file work, but current forecast seems to be around the 4th Quarter timeframe

Infrastructure Equipment

- 18 States now have State Fire Marshal waiver process in place until mid-2009 for CFUSA dispensers and kits
- AHJ's (fire marshal) still final authority as to approve local installations
- There is a lot of activity in this area and matters are finally getting addressed with acknowledgement from the Agencies and Authorities so future barriers will be eliminated
- Equipment exist today that is compatible based on science and field experience



Tax Incentives & Rebates

- Infrastructure tax incentive
 - Tax credit up to 30% (maximum of \$30,000) of the cost of refueling infrastructure (LPG, E85, or any Biodiesel mixture of 20% or more)
 - Effective 12/31/05 – 12/31/09
- Volumetric Ethanol Excise Tax Credit
 - Also know as blenders credit - \$0.51 per gallon (E85= 85% x \$0.51)



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New Draft Energy Bill

- Mandate Federal E85 Fueling
- \$200,000,000 Retail E85 Infrastructure Grant
- Mandate for Retail Sites of a certain size with certain percentage of FFV's in the MSA to install E85 pump
- Safe harbor provision



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Marketing to Build Volume



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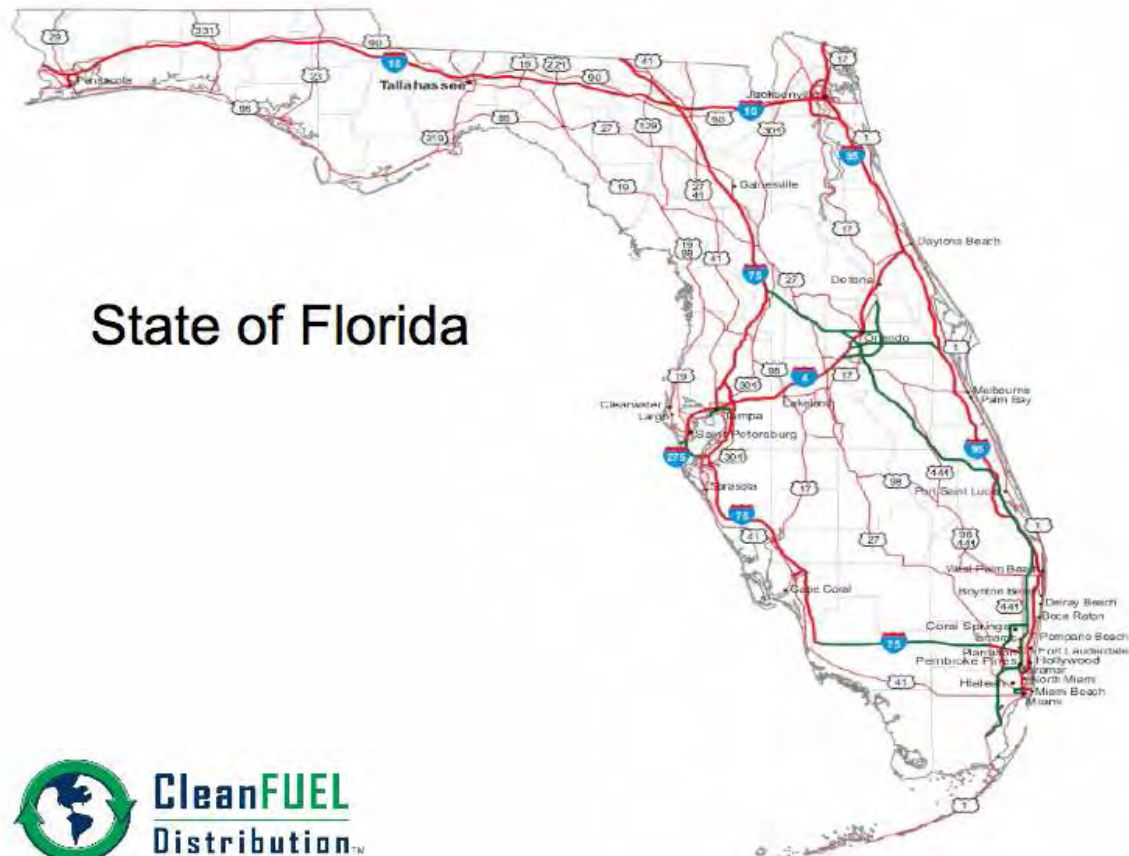
Marketing to Build Volume

- Distributor and Fueling Site Success
- Must Reach Out to Mandated Fleets
 - Tie into fuel management system
 - Conveniently located
 - Pooling program
- Partner with GM Dealers
- Long-Term Success Through Retail
 - GM, EPIC, pricing
 - Create an E10 program to allow everyone to do their part



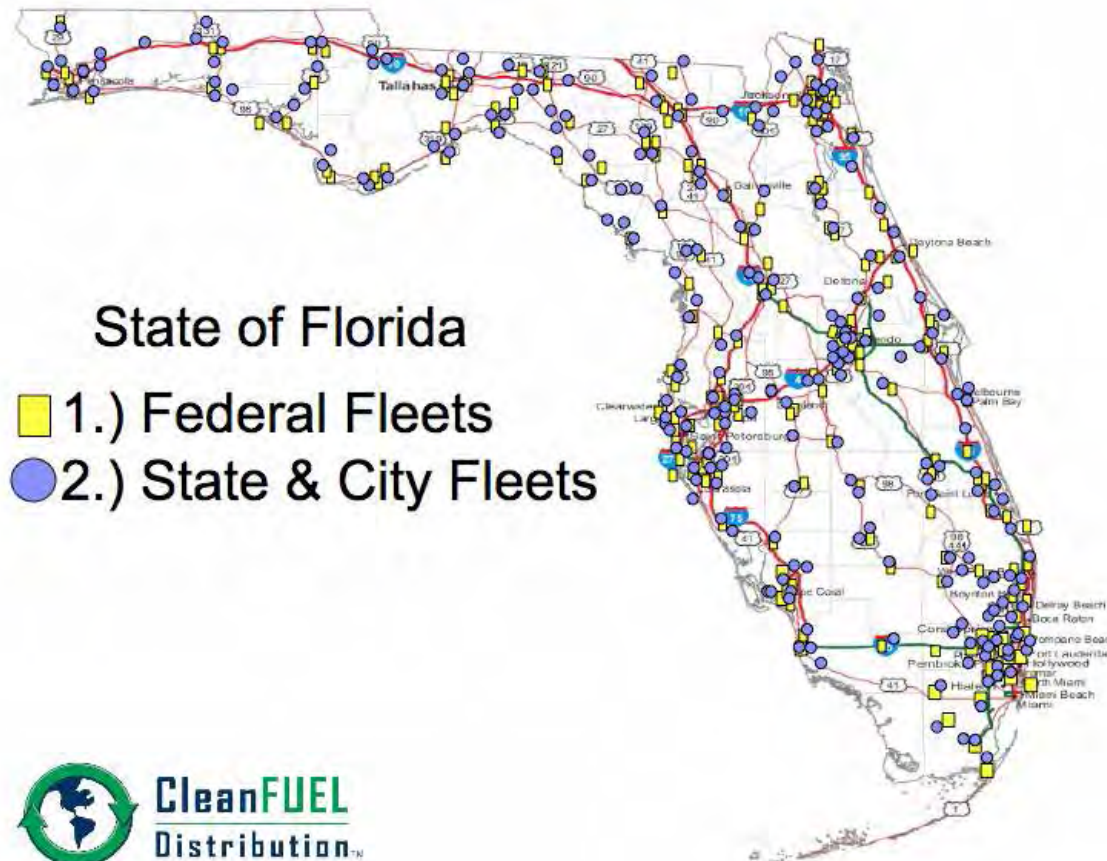
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State of Florida

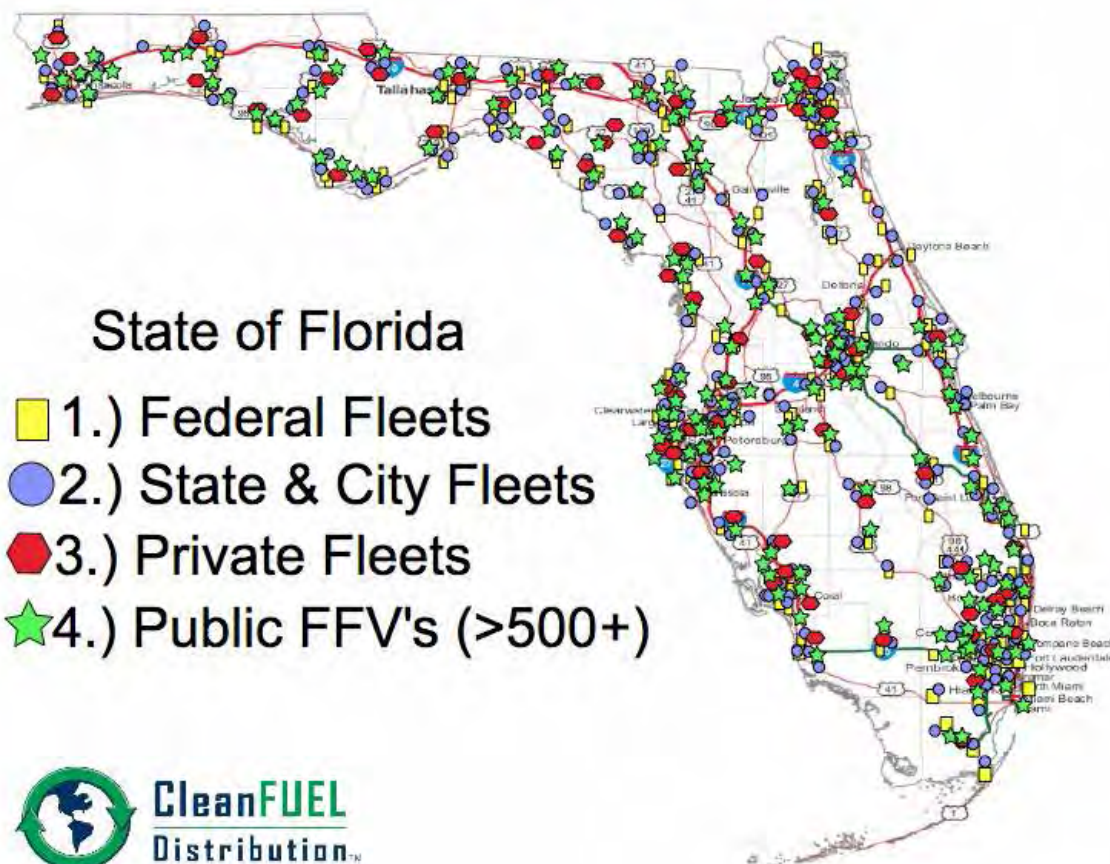


State of Florida

Federal and State Fleets



Private Fleets and Public FFVs



Maintaining Success



E85 stickers used inside grocery stores

Utilizing CleanFUEL's existing relationships, a station can maximize fleet usage (public/private) as well as gain maximum public exposure.



Canopy/station imaging



Rear View Window Hanger used on new car lots selling FFV's





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Contact Information

Any questions, please contact:

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OR

Visit our website at www.cleanfuelusa.com