



U.S. Department of Energy
Energy Efficiency
and Renewable Energy



Federal and State Support for E85 Retailers

Joan Glickman
Biomass Program

U.S. Department of Energy
Office of Energy Efficiency and Renewable Energy

October 2, 2008



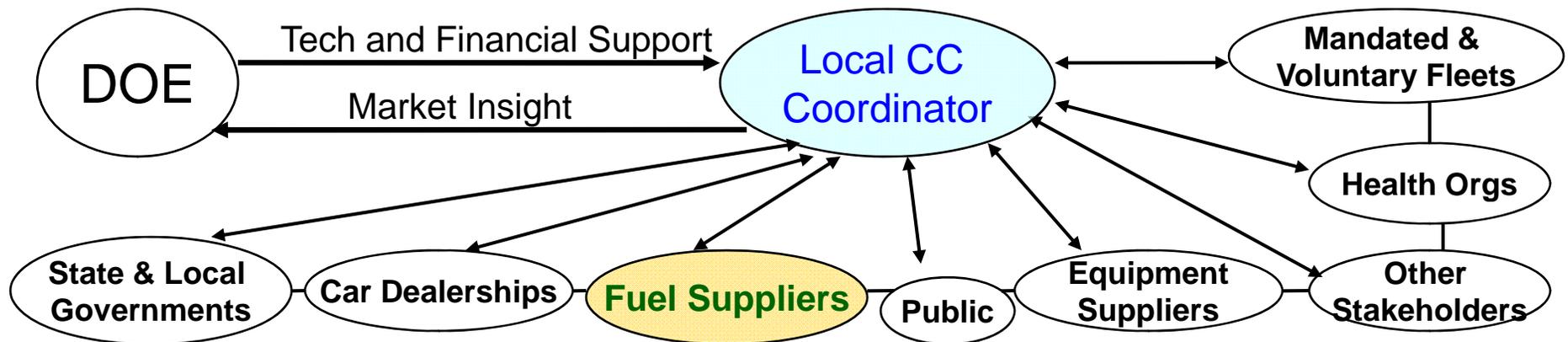
Presentation Overview

- Introduction to DOE's Clean Cities program
- Resources for E85 Retailers
 - Clean Cities Coordinators
 - DOE Hotline
 - AFDC Website
- Projects
 - Tiger Teams
 - E85 Retail Business Case: When and Why to Sell E85
 - Geographic Coordination Tools
 - Minnesota Case Study



DOE's Clean Cities program

- Mission is to enable local economies to adopt alternative fuels and other petroleum-reducing technologies.
- Voluntary program that provides a framework for local partnerships and coordination.
- Provides a means for coalitions to learn from each other
- Links local coalitions to federal resources and assistance





- 86 Coalitions in 45 States
- Cover 63% of U.S. Population





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Clean Cities Coordinators

- Can help secure funding
 - State funds and Clean Cities cooperative agreements
- Can find fleet partners
- Know fuel resources of region
- Can find technical help
- Coordinators listed by location
www.afdc.energy.gov/cleancities/progs/coordinators.php

Google: Clean Cities Coordinators



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New York and Pennsylvania Clean Cities Coordinators

[Deborah Stacey](#)

Capital District Transportation Committee
One Park Place
Albany, NY 12205
518-458-2161 /
518-459-2155

[Barry Carr](#)

Clean Communities of Central NY
900 Old Liverpool Rd., Bldg. 4
Liverpool, NY 13088
315-299-2863 /
315-635-5345

[Joseph V. Barry](#)

Clean Communities of Central NY
Onondaga Community College,
4941 Onondaga Road, Suite W206
Syracuse, NY 13215-2099
315-498-2548 /
315-498-7200

[Bill Pauly](#)

Clean Communities of Western New York
9 Halwill Drive
Amherst, NY 14226
716-435-5261

[David Keefe](#)

3409 West Lake Rd.
Canandaigua, NY 14424
585-301-2433

[Rita Ebert](#)

Long Island Forum for Technology
111 West Main St.
Bay Shore, NY 11706
631-969-3700 x25 /
631-969-4489

[Lou Calcagno](#)

New York City Department of
Transportation
59 Maiden Lane
35th Floor
New York, NY 10038
212-487-6820

[Dennis Winters](#)

2314 Delancey Place
Philadelphia, PA 19103-6461
215-790-1894

[Ryan Walsh](#)

214 N. Lexington St.
Pittsburgh, PA 15208-2519
412-241-9323 /
412-202-2888

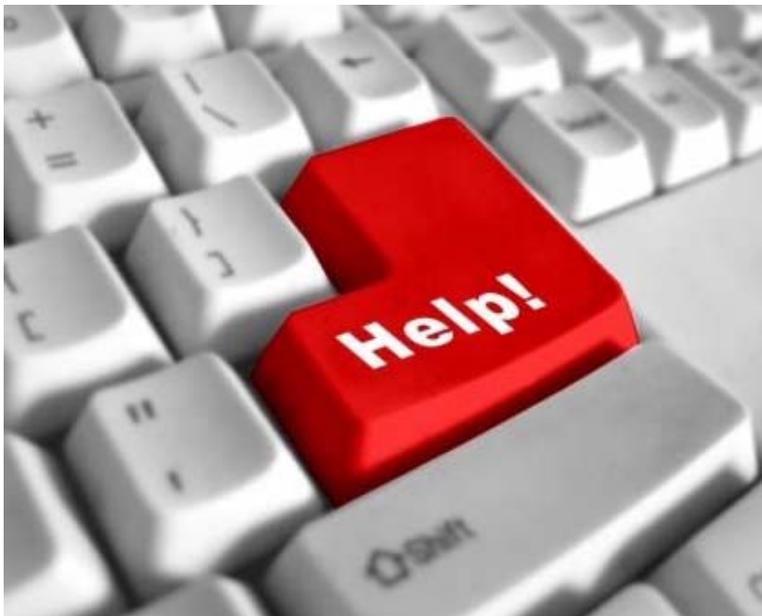


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Alternative Fuels Hotline

- 1-877-337-3463
- Available 9am-6pm EST
- hotline@afdc.nrel.gov





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Alternative Fuels & Advanced Vehicles Data Center (AFDC) Website

- Incentives and Laws
- Refueling Station Locator
- E85 Fleet Toolkit
- Technology Bulletins
- NREL Projects Posted Here

Google: AFDC Alternative

The screenshot shows a web browser window with the following elements:

- Browser Title Bar:** EERE: Alternative Fuels and Advanced Vehicles
- Menu Bar:** File, Edit, View, Favorites, Tools, Help
- Navigation Bar:** Back button, Forward button, Stop button, Refresh button, Home button, Search button.
- Address Bar:** Address: <http://www.eere.energy.gov/afdc/>
- Page Header:** U.S. Department of Energy Energy Efficiency and Renewable Energy
- Page Content:** Alternative Fuels & Advanced Vehicles
- Page Footer:** About the AFDC | Fuels | Vehicles | Fleets | Incentives & Laws | Data, Analysis



Incentives and Laws

State:	Regulation/Incentive:	Technology/Fuel:	End User:
Mississippi	All Regulations/Incentives	All Technologies/Fuels	All End Users
Missouri	Grants	Alternative Fuel - All	Individual Vehicle Purchaser/Driver
Montana	Tax Incentives	Biodiesel	Fleet Purchaser/Manager
Nebraska	Loans and Leases	Ethanol	Fueling/Recharging Station Builder or Operator
Nevada	Rebates	Natural Gas	Alternative Fuel Producer
New Hampshire	HOV Lane Access	Liquefied Petroleum Gas (LPG)	Alternative Fuel Dealer
New Jersey	Exemptions from Requirements/Restrictions	Electric Vehicles (EV and NEV)	Alternative Fuel Purchaser
New Mexico	Fuel Discounts	Hydrogen/Fuel Cells	Alternative Fuel or AFV Researcher
New York	Technical Assistance	Blends	Electrified Truck Stop Builder/Operator
North Carolina	Acquisition Requirements	Hybrid Electric Vehicles (HEV)	AFV Manufacturer/Retrofitter
North Dakota	Fuel Taxes	Emissions Based	

Alternative Fuels & Advanced Vehicles Data Center

[About the AFDC](#) |
 [Fuels](#) |
 [Vehicles](#) |
 [Fleets](#) |
 [Incentives & Laws](#) |
 [Data, Analysis & Trends](#) |
 [Information Resources](#) |
 [Home](#)

Custom Query Results



New York

Alternative Fuel Vehicle (AFV) and Fueling Infrastructure Funding

The New York State Clean Cities Challenge, administered by the New York State Energy Research and Development Authority (NYSERDA), awards funds to members of New York's Clean Cities Coalitions that acquire AFVs or install AFV fueling or recharging infrastructure. Funds are awarded on a competitive basis, and can be used to cost-share up to 75% of the proposed project, including the incremental cost of purchasing AFVs, the cost of installing fueling and recharging equipment, and the incremental costs associated with bulk alternative fuel purchases.

Alternative Fuel Vehicle (AFV) and Fueling Infrastructure Technical Assistance

The New York State Energy Research and Development Authority's (NYSERDA) Flexible Technical (Flex-Tech) Assistance Program provides assistance to fleet managers who want to evaluate the feasibility and cost of adding AFVs and fueling facilities to their operations. Low-cost training for vehicle mechanics is available through certified institutions.

Alternative Fuel Technical Assistance

The New York State Clean Cities Sharing Network (Network), which provides technical, policy, and program information about alternative fuel vehicles (AFVs), is managed by the New York State Energy Research and Development Authority (NYSERDA). Membership is open to all organizations, businesses, and individuals interested in AFVs and members are notified about upcoming funding opportunities and events. The

Google:
AFDC
Incentives



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Federal Incentives for E85



- Alternative Fuel Infrastructure Tax Credit
 - 30% of infrastructure costs, up to \$30K
- Clean Cities
- Congestion Mitigation and Air Quality (CMAQ) Program
 - Money channeled through state DOT's for alternative fueling infrastructure in polluted areas
- Clean Fuels Grant Program
 - Helps transit agencies in polluted areas construct alternative fueling infrastructure
- Voluntary Airport Low Emission Program
 - Provides funding for alt fueling stations at airports in polluted areas



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New York State Incentives and Laws

- AFV and fueling infrastructure funding
 - Cost share up to 75% for fueling equipment, AFVs, and incremental costs for fuel.
- Biofuel fueling infrastructure funding
 - Reimburses 50% (up to \$50K) of station installation costs
- Alternative fueling infrastructure tax credit
 - 50% of station installation costs
- AFV and fueling infrastructure technical assistance
 - NYSERDA helps fleet managers evaluate feasibility of adding fueling station
- Alternative fuel technical assistance
 - Clean Cities/NYSERDA network for information sharing
- Six federal incentives available





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Refueling Station Locator



[Printable Version](#) [Help](#)

Alternative Fuels & Advanced Vehicles Data Center

[About the AFDC](#) [Fuels](#) [Vehicles](#) [Fleets](#) [Incentives & Laws](#) [Data, Analysis & Trends](#) [Information Resources](#) [Home](#)

[Basic Station Search](#) [Map a Route](#) [Advanced Options](#)

First: Select one or more fuels.

- Biodiesel (B20 and above)
- Compressed Natural Gas
- Electric
- Ethanol (E85)
- Hydrogen
- Liquefied Natural Gas (LNG)
- Liquefied Petroleum Gas (Propane)

Second: Enter a complete address or zip code.

Show stations within a mile radius.

[Get Results](#)

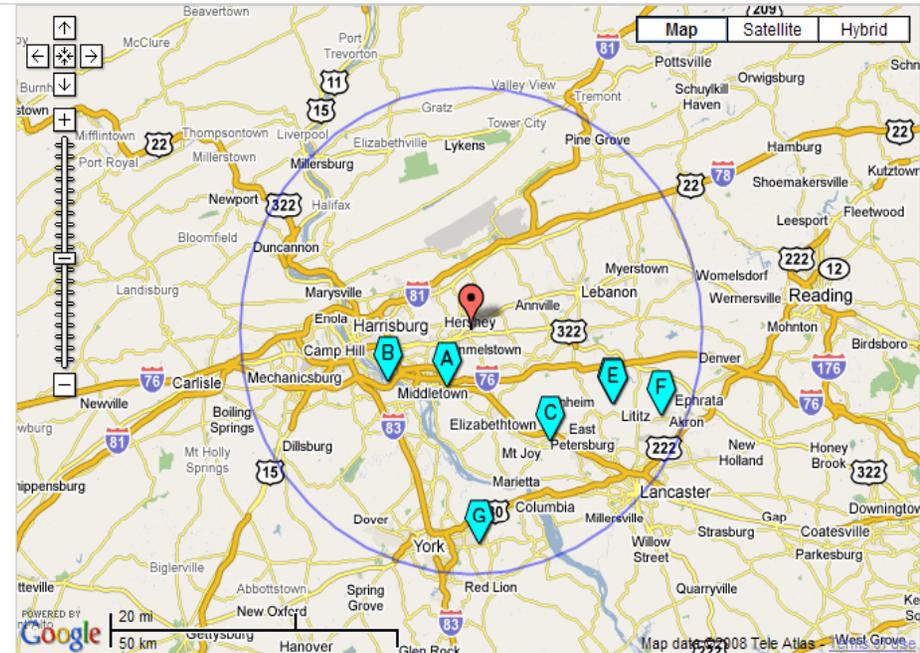
Note: For a state search, use [Advanced Options](#).

Results 1 - 7 of 7 near hershey PA

A
Worley and Obetz - Pacific Pride 600 Emaus St, Middletown, PA 17057
Public - card key at all times
Phone: 717-665-6891
Fuel: Ethanol (E85)
Distance: 7 miles

B
Pennsylvania Turnpike Commission 519 Marsh Run Road, New Cumberland, PA 17070
Private - government only
Phone:
Fuel: Ethanol (E85)
Distance: 12 miles

C
Worley and Obetz - Pacific Pride 40 Orchard Road, Mount Joy, PA 17552
Public - card key at all times
Phone: 800-697-6891
Fuel: Ethanol (E85)
Distance: 14 miles



Google: AFDC
Locator



E85 Fleet Toolkit

Alternative Fuels & Advanced Vehicles Data Center

E85 Fleet Toolkit



[Printable Version](#)

Search
Search Help ▶ More Search Options ▶

Getting Started

E85 Fuel

E85 Fueling Options

Equipment & Processes

E85 Vehicles

Risk Management

Ensuring Success

Contacts

Publications

Related Links

This toolkit is sponsored by the [EPAct Program](#), which saw a need for reliable information on how to develop E85 infrastructure. Fleets can use this toolkit to assist in:

- Evaluating the best options for their fleets,
- Learning about the equipment and technologies required to install an E85 fueling site,
- Learning about other fleets' successes and difficulties in implementing E85 infrastructure,
- Getting important contact information and resources, and
- Developing E85 (85% ethanol/15% gasoline) fueling stations.

This toolkit contains information on the following topics:

Getting Started ▶

Start here to learn about E85! These answers to common questions can help save you time and guide you in the right direction.

E85 Fuel ▶

See the benefits of E85, get E85 fuel specifications, and learn about the fuel.

Equipment and Processes ▶

Learn the basics on codes and standards, the permitting process, equipment requirements, specifications, costs, and maintenance issues.

E85 Retail Stations ▶

Find existing E85 fueling stations.

Site Map
EERE Information Center

■ **NEWS** ▶

■ **EVENTS** ▶

■ **FEATURES**



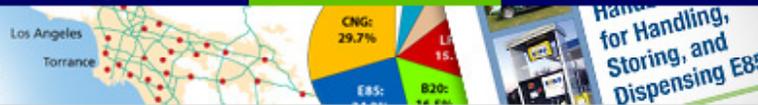


- Recent technological breakthroughs, issues, and news related to alternative fuels

Alternative Fuels & Advanced Vehicles Data Center

About the AFDC | Fuels | Vehicles | Fleets | Incentives & Laws | Data, Analysis & Trends | Information Resources | Home

Information Resources



Search Search Help | More Search Options |

Print Technology Bulletin

Publications

- Technology Bulletins
- Newsletters

Glossary

Related Links



Underwriters Laboratories E85 Fuel Dispenser Listing

Triggered by the need to establish comprehensive safety requirements for an entire E85 dispenser system, Underwriters Laboratory (UL) in October 2006 suspended their official listings (certification) for individual parts that compose an E85 fuel dispenser. In October 2007, UL published listing procedures for evaluating and certifying E85 equipment. This technology bulletin offers an overview, including background, timeline, and contact information.



- [Background](#)
- [Current Underwriter Laboratories Actions and Timeline](#)
- [Fire Codes for Fuel Dispensers](#)
- [Interim Steps to Continue Deployment and Use of E85 Fuel Dispensers](#)
- [Examples of State Letters Granting Variances/Waivers](#)
- [Contact Information and Related Links](#)
- [Frequently Asked Questions](#)

Recent Updates

- ▶ [October 2007 - UL Press Release regarding certification requests](#)
- ▶ [August 2007 - UL Press Release regarding E85 gaskets and seals](#)

Some of the documents on this page are in PDF format and may be viewed using the Adobe Reader. [Download Adobe Reader.](#)

Background



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Tiger Teams

- **Groups of experts are deployed to a site requesting assistance**
- **Three major categories for assistance:**
 - **Technical problem solving—infrastructure operations**
 - **Technical problem solving—fleet vehicle operations**
 - **Evaluation of potential opportunities**





E85 Retail Business Case: When and Why to Sell E85

- Highlights difficult market that gasoline retailers are currently operating in.
- Shows how E85 can augment known tactics to be more competitive
- Analyzes E85 equipment as an investment
- Tests the relative importance of various factors on payback for E85 investment
- Offer guidance for retailers to assess if E85 would be a good investment for them

Google: AFDC E85 Business



Pennsylvania Sample E85 Prices

E85 Price	Gas Price	Price Spread	Date	City
\$3.25	\$3.59	9%	09/22	<u>Monroeville</u>
\$2.95	\$3.49	15%	09/20	<u>Milroy</u>
\$3.00	\$3.70	19%	09/20	<u>Verona</u>
\$2.85	\$3.54	19%	09/19	<u>Middletown</u>
\$3.25	\$3.69	12%	09/18	<u>Philadelphia</u>
\$3.29	\$3.59	8%	09/10	<u>State College</u>
\$2.99	\$3.49	14%	09/09	<u>Milroy</u>
\$2.84	\$3.62	22%	09/09	<u>Verona</u>
\$3.20	\$3.55	10%	09/08	<u>Philadelphia</u>
\$3.35	\$3.55	6%	09/08	<u>Monroeville</u>
\$3.09	\$3.59	14%	09/05	<u>Milroy</u>



New York Sample E85 Prices

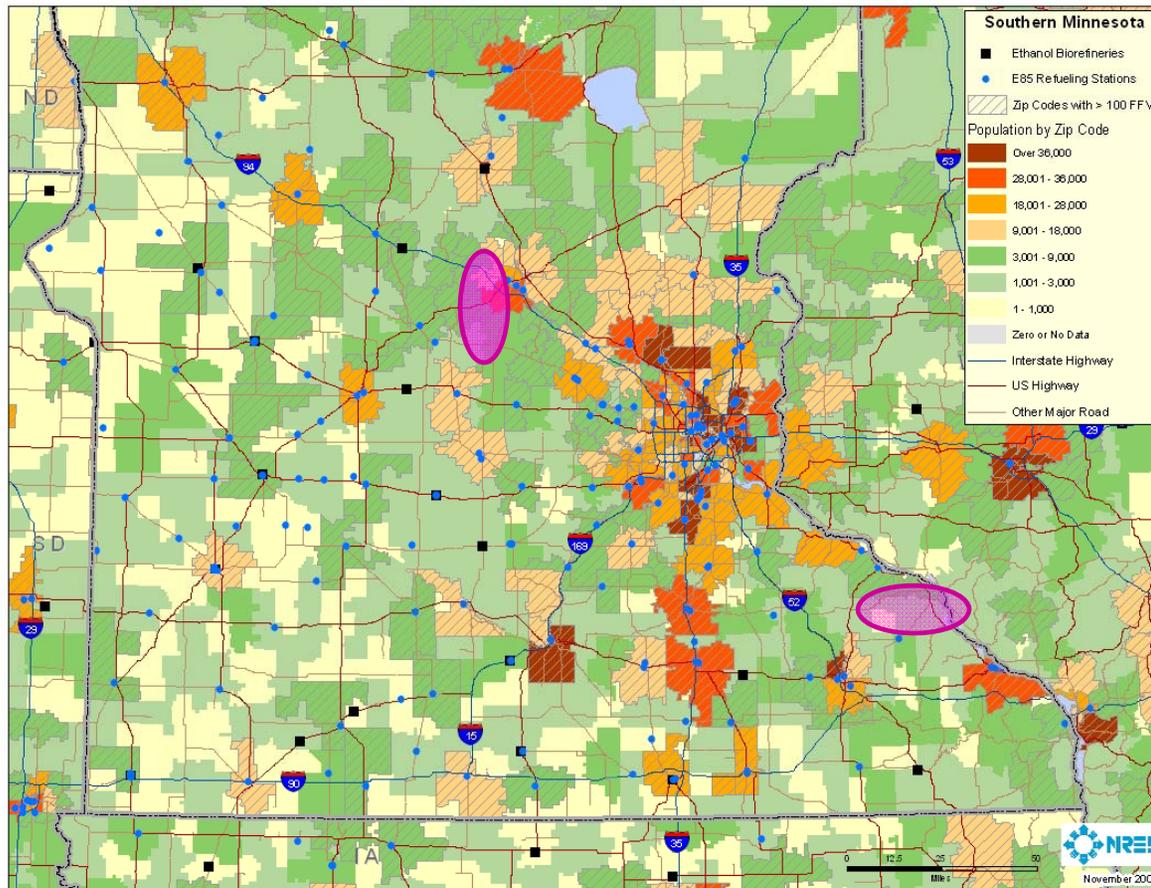
E85 Price	Gas Price	Price Spread	Date	City
\$2.79	\$3.59	22%	09/29	<u>Glenmont</u>
\$2.79	\$3.63	23%	09/27	<u>Glenmont</u>
\$2.79	\$3.87	28%	09/27	<u>Massapequa</u>
\$2.85	\$3.63	21%	09/21	<u>Massapequa</u>
\$2.79	\$3.73	25%	09/14	<u>Massapequa</u>
\$2.99	\$3.64	18%	09/13	<u>Glenmont</u>
\$2.87	\$3.69	22%	09/11	<u>Massapequa</u>
\$3.19	\$3.66	13%	09/09	<u>Rochester</u>
\$2.87	\$3.69	22%	09/08	<u>Massapequa</u>
\$2.99	\$3.65	18%	09/07	<u>Glenmont</u>
\$2.97	\$3.67	19%	09/06	<u>Massapequa</u>



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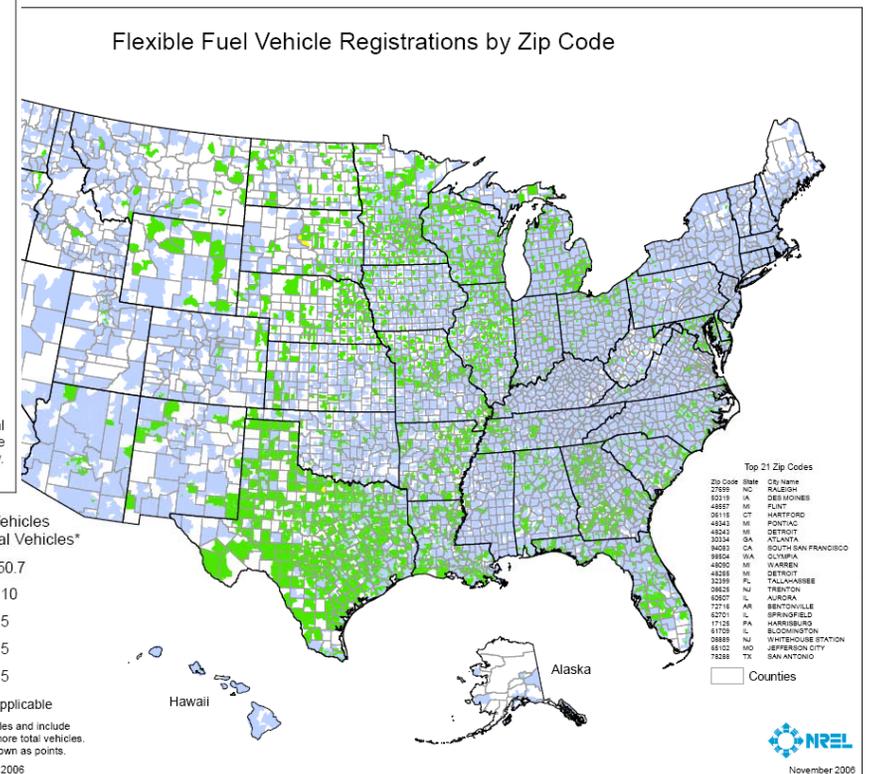
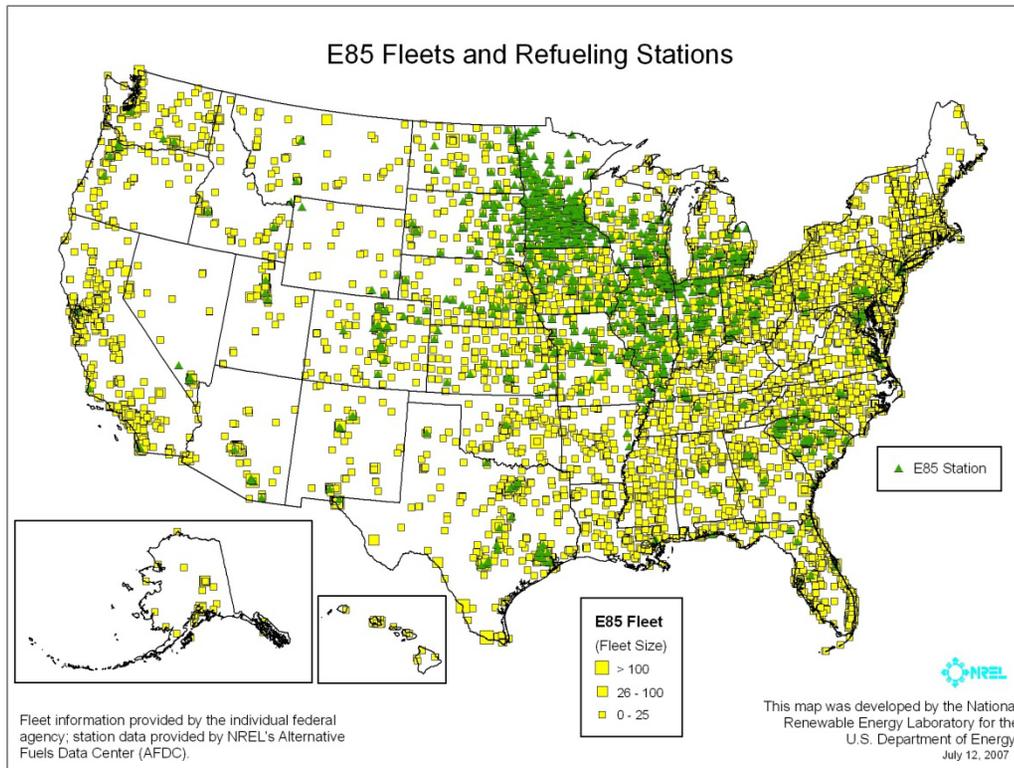


Geographic Coordination Tools





Geographic Coordination *continued*



* Data Excludes Diesel Vehicles and include only zip codes with 1000 or more total vehicles. Some small zip codes are shown as points.
Data Source: R.L. Polk, April 2006



Cost of E85 Equipment

Google: NREL Cost E85

- Survey: 120 Stations
- Literature search: 4 sources
- Highlights major variables affecting costs
- Also addresses future costs

Costs of Adding E85 Equipment to Existing Gasoline Stations

Scenario	Cost	Source*	Description	Major Variables Affecting Cost
New tank, new or retrofit dispenser(s)	Mean: \$71,735 Median: \$59,153	NREL Survey	Includes new storage tank, pump, dispenser(s), piping, wiring, excavation, and concrete work	Dispenser needs, excavation, concrete work, sell backs, canopy, tank size, location, labor price, regulations
	\$50,000–\$200,000	NACS		
	\$50,000–\$70,000	DOT, EPA, DOE		
	>\$50,000	NEVC		
	<\$62,407	DAI		
Convert existing tank, new or retrofit dispenser(s)	Mean: \$21,031 Median: \$11,237	NREL Survey	Tank cleaning, replace non-compatible components in piping and dispensers	Dispenser needs, number of non-compatible components, location, labor price, regulations
	\$19,000–\$30,000	DAI		
	\$5,000–\$30,000	DOT, EPA, DOE		
	\$2,500–25,000	NEVC		



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Minnesota Case Study

- MN Department of Commerce tracks their E85 use very closely
- 1/4 of all U.S. E85 stations are in Minnesota
- Findings
 - Urban (Twin Cities) location increased E85 sales by 2087 gal/month
 - Each additional FFV in a zip code increased sales 8 gal/month
 - A visible E85 price sign increased sales 800 gal/month
 - E85 sales were increased more by increasing gasoline prices than by decreasing E85 prices
- Available at www.nrel.gov/docs/fy08osti/42984.pdf



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Conclusions

- Clean Cities wants E85 retailers to be successful and profitable
 - Vital component of many local coalitions' plans
- Many resources provide support to E85 stations
- Multiple projects and reports help gasoline retailers decide if E85 is good for them



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Questions

Clean Cities:

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(202) 586-5607

(202) 492-5080