

National Renewable Energy Laboratory



E-Tools for Evaluating Alternative Fuel and Advanced Technology Vehicles



August 18, 2003



Kevin O'Connor
National Renewable Energy Laboratory

Operated for the U.S. Department of Energy by Midwest Research Institute • Battelle • Bechtel



Energy 2003



**Please be courteous to
your audience...**



*Turn off all cell phones and
set pagers to vibrate...Thanks*

Course Topics



- History
- Alternative Fuels - Why Should We Care?
- What Is Clean Cities?
- AFVs - What Fuels? What Vehicles?
- Internet Tools of the Trade for the Fleet Manager (and others)
- Can we Make the Case for AFVs?
- The Future - Where Are We headed?
 - Hybrids? Hydrogen? Fuel Cells?

Stimulus for AFVs



History



- **Alternative Fuels Motor Act (AMFA) – 1988**
- **Clean Air Act Amendments (CAAA) – 1990**
- **Energy Policy Act (EPAct) – 1992**
- **Executive Order 13149** (*Greening the Government through Federal Fleet and Transportation Efficiency*)

History and the Future

Alternative Fuels and AF Vehicles: Why Should We Care?

- **Energy Independence**
- **Cleaner Air**
- **U.S. Economic Benefits – we need to care?**
- **Homeland Security**

Energy Security

- Where is the oil?
- Who Controls it?
- Our Appetite

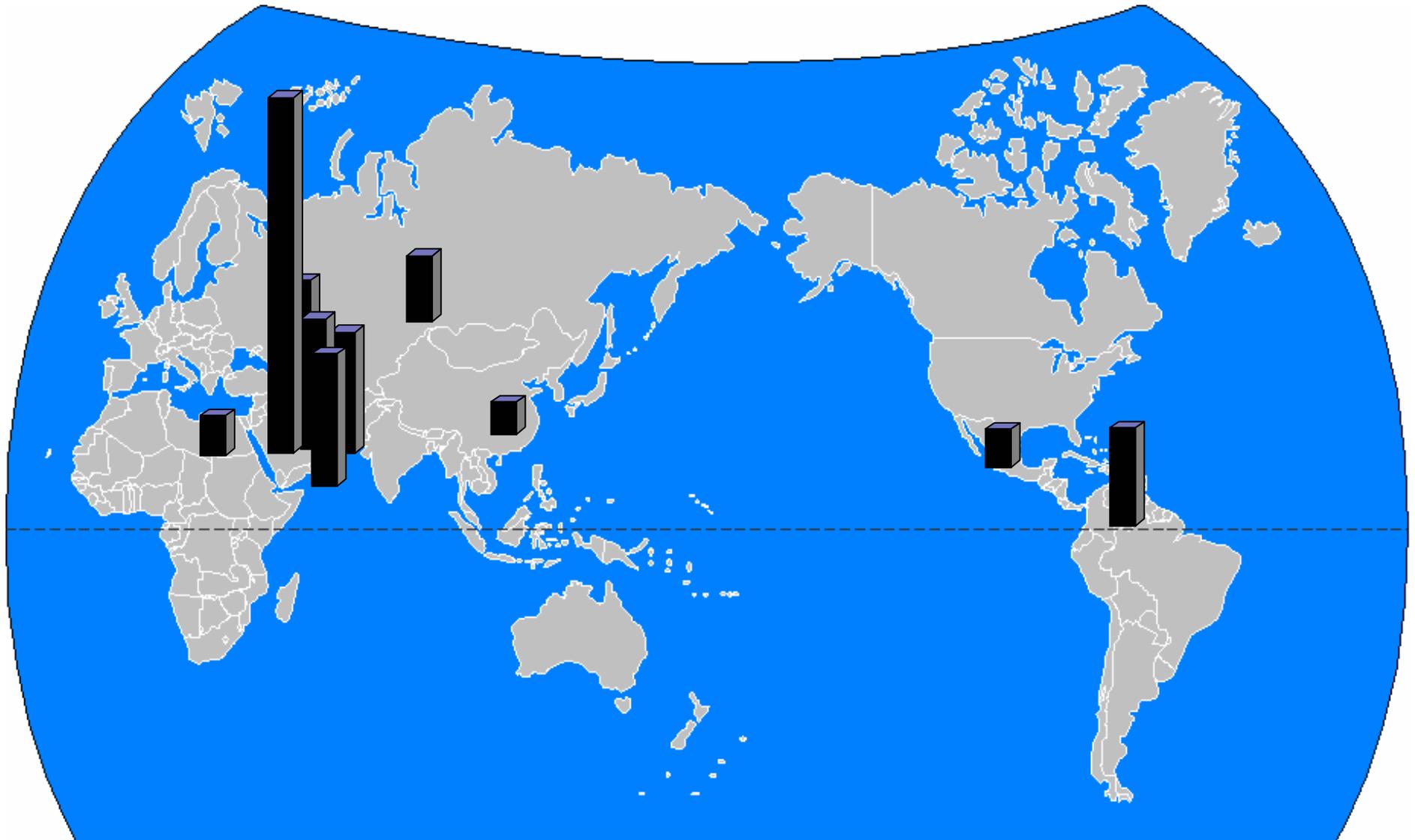
Propane One



Photo by AP

“It’s good for our air, it’s good for our economy
and it’s good for our national security.”

- President Bush on public policy supporting alternative fuel



Where are all the oil reserves?

U.S. Oil Supply & Demand



Crude Oil Production
5.8 million bbl/day 9%
of world total



Oil Reserves
21.8 billion bbl
2% of world total



Oil Imports
10.5 million bbl/day
53% of U.S. oil
consumption



Oil Consumption
19.7 million bbl/day
26% of world total

International Oil Use – Industrialized Countries

	1999 (Quad. Btu)	2020 (Quad. Btu)
North America	45.8	66.2
Western Europe	28.7	32.5
Industrialized Asia	13.9	16.8
Total Industrialized	88.4	115.6
Eastern Europe/ Former Soviet Union	10.8	21.1

International Oil Use – Developing Countries

	1999 (Quad. Btu)	2020 (Quad. Btu)
Developing Asia	27.7	59.9
Middle East	10.5	16.4
Africa	5.2	10.9
Central & South America	9.5	18.1
Total Developing	52.9	105.2
Total World	152.2	241.8

Cost to the Nation

Economy



\$90.5 billion spent in 2001 for oil imports

Health

- Asthma
- Bronchitis
- Shortness of breath
- Lost work days

Environment

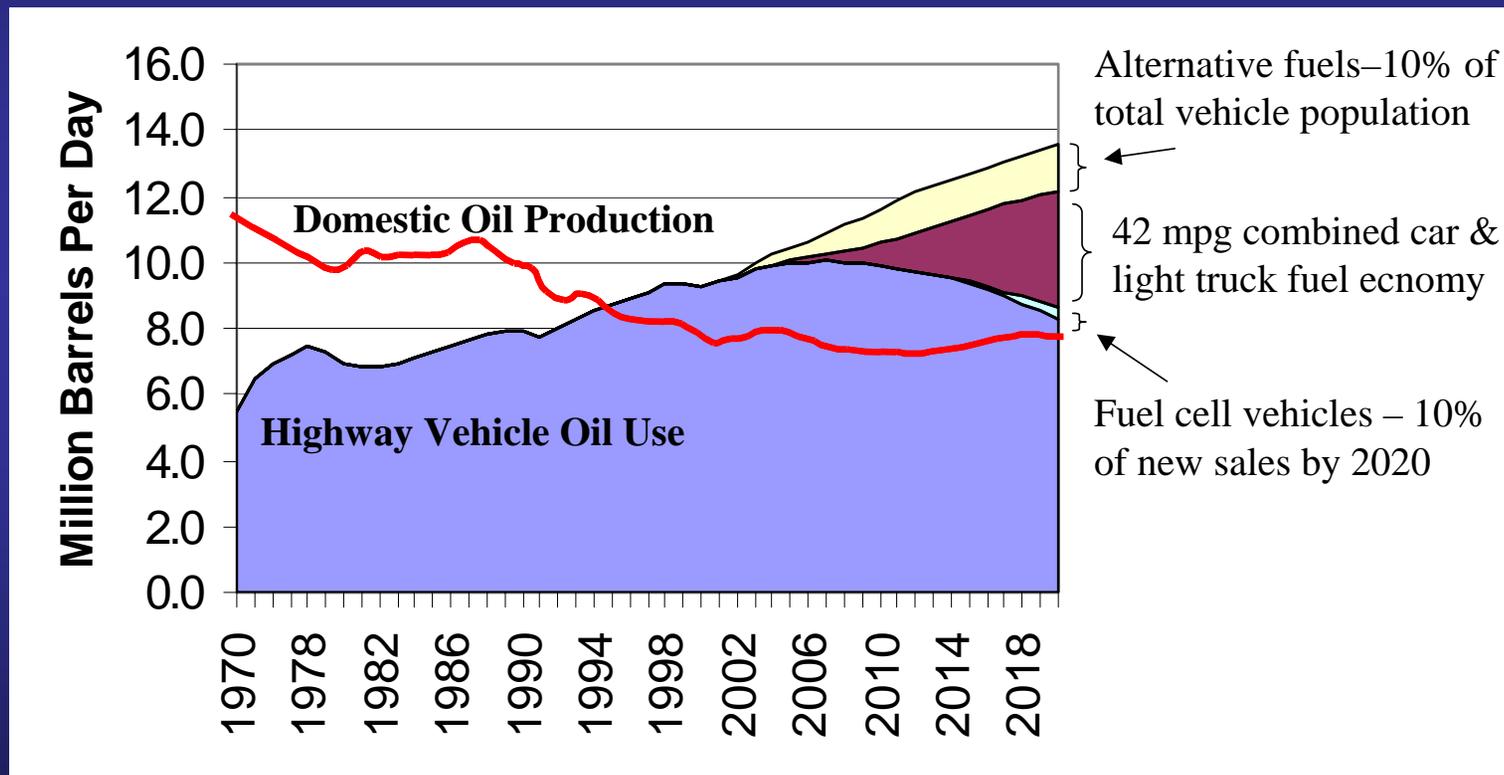


- Air pollution
- Global warming
- Water pollution

Defense

\$8.9 trillion spent on defense over past 30 years, some to defend “oil allies”

Alternative Fuels and Improved Fuel Economy Can Reduce Oil Dependence



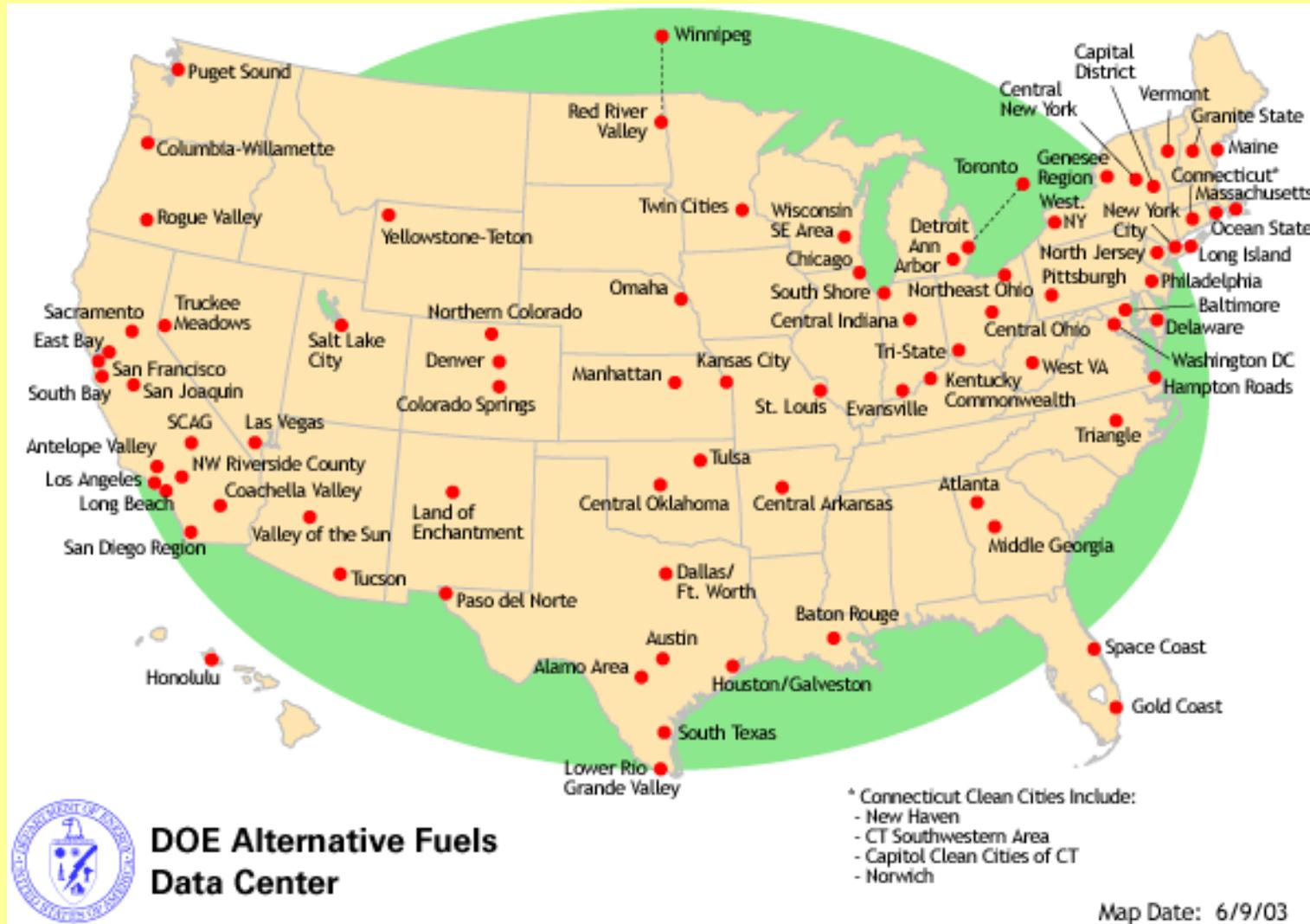
Clean Cities



- ✓ **Public Private Partnerships**
- ✓ **Voluntary Program**
- ✓ **80 Designated Clean Cities in U.S.**
- ✓ **4,700 Stakeholders**
- ✓ **Clean Cities is 10 years old**
- ✓ **Established in Response to EPA Act**



Clean Cities Coalitions



Clean Cities Program Goals

- **Support the Energy Policy Act (EPAct 1992)**
- **1 billion gallons fuel displacement annually by 2010**
- **75% of coalitions self-sustaining by 2005**



Alternative Fuels - Review

Alternative Fuels as defined by EPA Act

- **Natural Gas (CNG, LNG)**
- **Ethanol (E85)**
- **Methanol (M85)**
- **Electric**
- **Propane (LPG)**
- **Biodiesel**
- **Hydrogen**



AFV Web Tools and Information

- **What Tools Are Available?**
- **Why Should You Use Them?**
- **Where Can the Tools be Found?**
- **How Easy Are They To Use?**



Some Available Tools

- **Vehicle Buyer's Guide**
www.ccities.doe.gov/vbg
- **Clean Cities Web Site**
www.ccities.doe.gov
- **Alternative Fuels Data Center**
www.afdc.doe.gov



The Clean Cities Web Site

CCITIES URL: www/ccities.doe.gov

- **Map and Contact Information**
- **What is CC – Roadmap and Success Stories**
- **Support & Funding**
- **CC International**
- **Link to Buyers Guides (LDV, HDV, Refueling)**
- **Coordinator's Toolbox**
- **Success Stories – Niche Markets**
- **Conferences and Events**

On the Road to Clean Cities

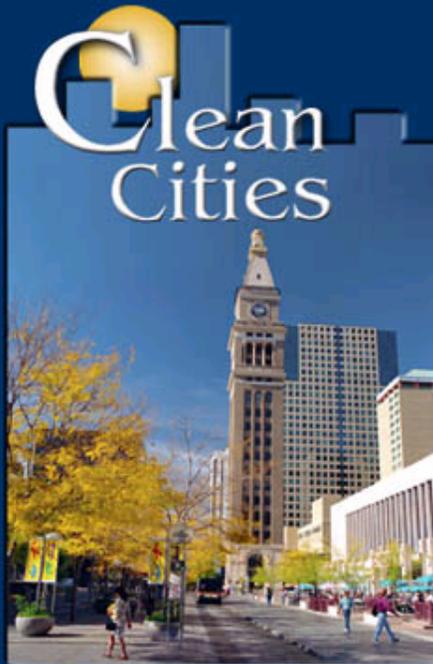
- What is Clean Cities? 
- Road Map to Getting Started 
- Success Stories 
- Alternative Fuel Vehicle Info 
- Advancing the AFV Choice 

Information and Contacts

- Clean Cities Coalitions 
- Contact Information 
- Support and Funding 
- Clean Cities International 
- Related Links 
- Alternative Fuels Data Center 

News and Events

- What's New? 
- Upcoming Events 
- Clean Cities Conference 



U.S. Department of Energy



Security and Privacy Notices

[\[DOE\]](#) [\[OWIP\]](#) [\[Webmaster\]](#) [\[Feedback\]](#)

Search

ALTERNATIVE FUEL NEWS

The official publication of the Clean Cities Program



Coordinator
Toolbox

The U.S. Department of Energy's Clean Cities Program supports public-private partnerships that deploy alternative fuel vehicles and build supporting alternative fuel infrastructure. Our site features information about local coalitions and clean corridors, alternative fuel news and events, fleet success stories, support and funding, tips for starting a coalition in your area, available alternative fuel vehicles, related links and more.

Examples: "AFV Information"

- **Light-Duty AFVs**
- **Heavy-Duty AFVs**
- **AFV Resale Information**
- **GSA Fleet, AFV Sales**
- **Refueling Stations**
- **EPA Fleet Information & Regulations**
- **Federal AFV USER Program**
- **Emissions Data and Air Quality**
- **Legislative Information**
- **OEM/Dealer Locations**

My GSA [Login](#) [Register](#)

GSA [Find an AFV](#)

GSA [Anticipated AFV Sales](#)

GSA [Frequently Asked AFV Questions](#)

GSA [Auction Locations](#)

GSA [Sales Terms and Conditions](#)

FSS News

[News](#)

[Hot Items](#)

FSS Events

[Links](#)

[About FSS](#)
[Contact Us](#)
[Customer Service](#)
[Privacy/Security](#)

Home > GSA AFV VEHICLE SALES

* The General Public and Dealers are Welcome! *



Not all vehicles available at all locations.

GSA Fleet

AFV Sales



GSA FLEET operates over 23,000 alternative fuel vehicles (AFVs), one of the largest AFV fleets in the United States. Each year GSA Fleet sells two to four thousand used AFVs as they are replaced by new vehicles. All the information you need to purchase AFV vehicles at one of our public auctions is available on this site. You can learn about AFVs, view vehicles expected to be available in 2002, look for specific vehicles now for sale, search for auction locations in your area and more.

Typical Vehicles	
 Chevrolet	Lumina, Pickup
 Dodge	Ram Vans, Caravan, Pickup
 Ford	Taurus, Contour, Econoline Vans, Pickup

Find an AFV

Select A Fuel Type

Let's Talk Emissions

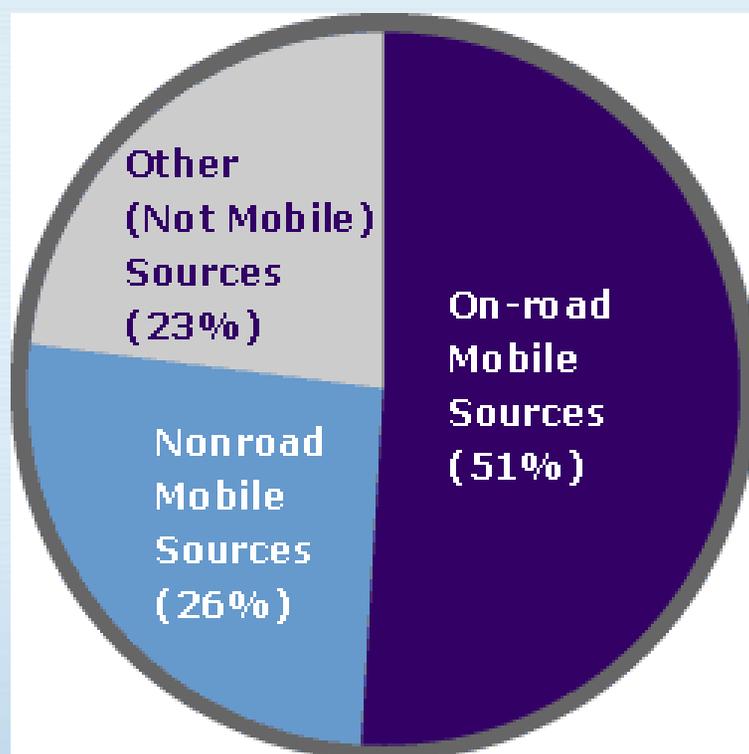
www.epa.gov/otaq/inventory/overview/pollutants

Criteria (most serious) pollutants

- Carbon Monoxide (CO)
- Non-Methane Hydrocarbons (NMHC)
- Nitrogen Oxides – (NO_x)
- Particulate Matter (PM)

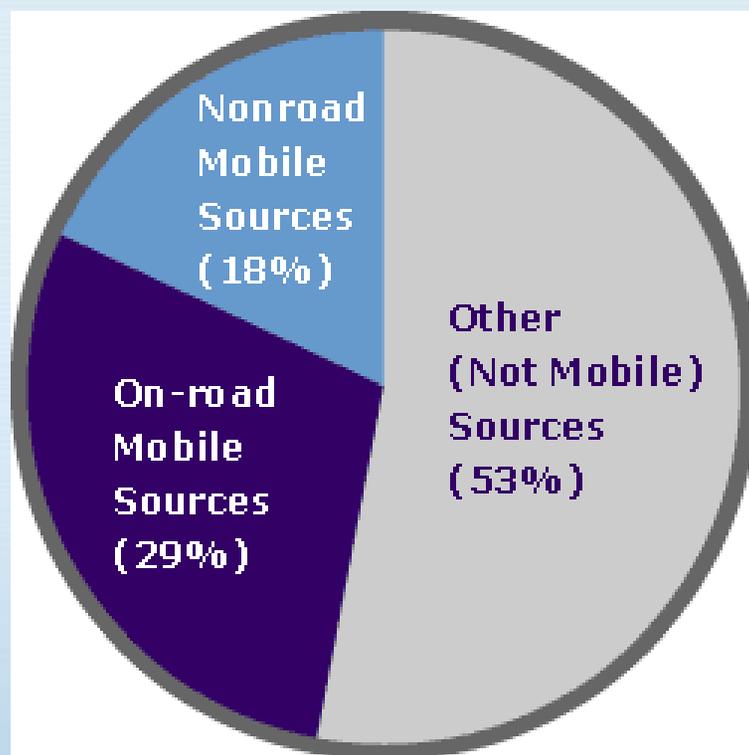
Let's Talk Emissions

1999 National Emissions by Source: Carbon Monoxide



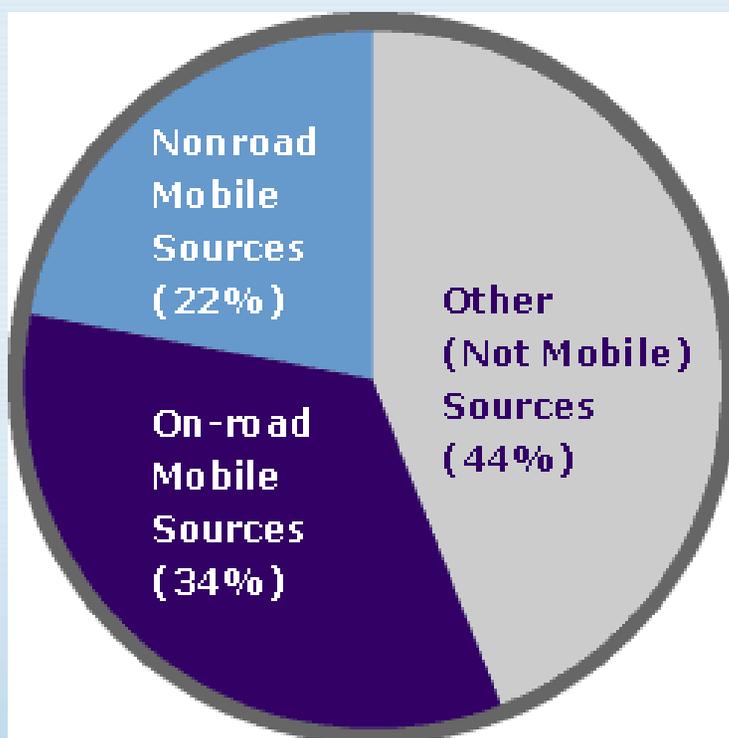
Let's Talk Emissions

1999 National Emissions by Source: Hydrocarbons



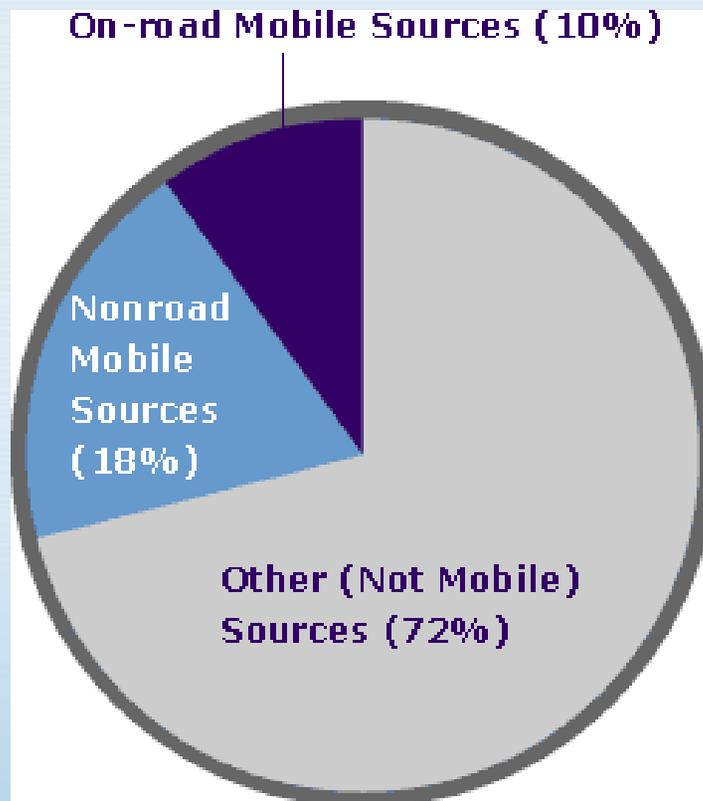
Let's Talk Emissions

1999 National Emissions by Source: Nitrogen Oxides



Let's Talk Emissions

1999 National Emissions by Source: Particulate Matter



Emissions Estimation Tools

www.afdc.doe.gov/afv/emissions.shtml

- **AirCRED Tool (Argonne National Laboratory)**
- **Green Vehicle Guide (EPA)**
- **GREET Model (Argonne National Laboratory)**
- **Emissions Testing Lab Tour**
- **Other resources**



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

Vehicle Buyer's Guide for Fleets

Home Site Map Search Glossary Ask a Question



Industry Specialists

About Alternative Fuels and Vehicles	Biodiesel
Vehicle Models and Specifications	Electricity →
Fueling Stations	Ethanol
Industry Contacts	Natural Gas
Is My Fleet Subject to Federal Regulations?	Hybrid Electric Vehicles
Financial Incentives	Propane
Laws and Regulations	Fuel Cells
News, Documents, and Links	Fuel System Conversions
Fleet Successes	Reasons to Buy Alternative Fuel Vehicles
	Emissions and Air Quality
	Alternative Fuels Training

- [Hydrogen](#)
- [Fuel Cell](#)
- [Light-Duty Alternative Fuel Vehicles](#)
- [Heavy-Duty Vehicles and Engines](#)
- [Reformulated Gasoline](#)

- About Alternative Fuels and Vehicles
- Vehicle Models and Specifications
- Fueling Stations
- Industry Contacts
- Is My Fleet Subject to Federal Regulations?
- Financial Incentives
- Laws and Regulations
- News, Documents, and Links
- Fleet Successes



About Alternative Fuels and Vehicles

Emissions and Air Quality

Emission Data and Air Quality Issues

This page presents links to a variety of information and resources useful for estimating the emission benefits of using alternative fuels.

[The Environmental Protection Agency \(EPA\) Vehicle Emissions Guide:](#) This guide helps you choose the cleanest new vehicle model that meets your needs.

[AirCRED Online Tool:](#) Developed for the Clean Cities Program by Argonne National Laboratory, this tool helps you calculate ozone emission reduction credits for your Clean Cities AFVs.

[The GREET Model:](#) The Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation (GREET) Model calculates fuel-cycle energy consumption and emissions of greenhouse gases and 5 criteria pollutants for a given transportation fuel/technology combination.

[A Guide to the Emissions Certification Procedures for Aftermarket Conversions:](#)
A guide produced by the National Renewable Energy Laboratory (NREL) for the U.S. Department of Energy (DOE) in January 1998.

[Take a Tour of an Emissions Testing Laboratory!](#)
A virtual tour to show you how automotive emissions are measured and analyzed at a research-grade emission laboratory.

[Photo Gallery of Emission Testing and Laboratories:](#)
Photos courtesy of NREL, West Virginia University, and ManTech of Denver.

Alternative Fuels Data Center

A major source for alternative fuel and AFV information (www.afdc.doe.gov), including:

- **Information and Documents**
- **Alt fuels and vehicles**
- **Refueling Sites**
- **Fleet Information**
- **Frequently Asked Questions – Hotline**
- **Alternative Fuel News**
- **Upcoming Events**
- **Related Web Sites**
- **Emissions information**
- **Technical Assistance – Tiger Teams**
- **What's New?**

Alternative Fuels Data Center **AFDC**

- Alternative Fuels
- Alternative Fuel Vehicles
- Refueling Sites
- Fleet Information
- Frequently Asked Questions
- Resources and Documents
- What's New?
- Upcoming Events
- Periodicals
- Related Web Sites
- National Alternative Fuels Hotline

The Alternative Fuels Data Center is a one-stop shop for all your alternative fuel and vehicle information needs. This site has more than 3,000 documents in its database, an interactive fuel station mapping system, listings of available alternative fuel vehicles, links to related Web sites, and much more.



Search
Site Index



U.S. Department of Energy

[Security and Privacy Notices](#)

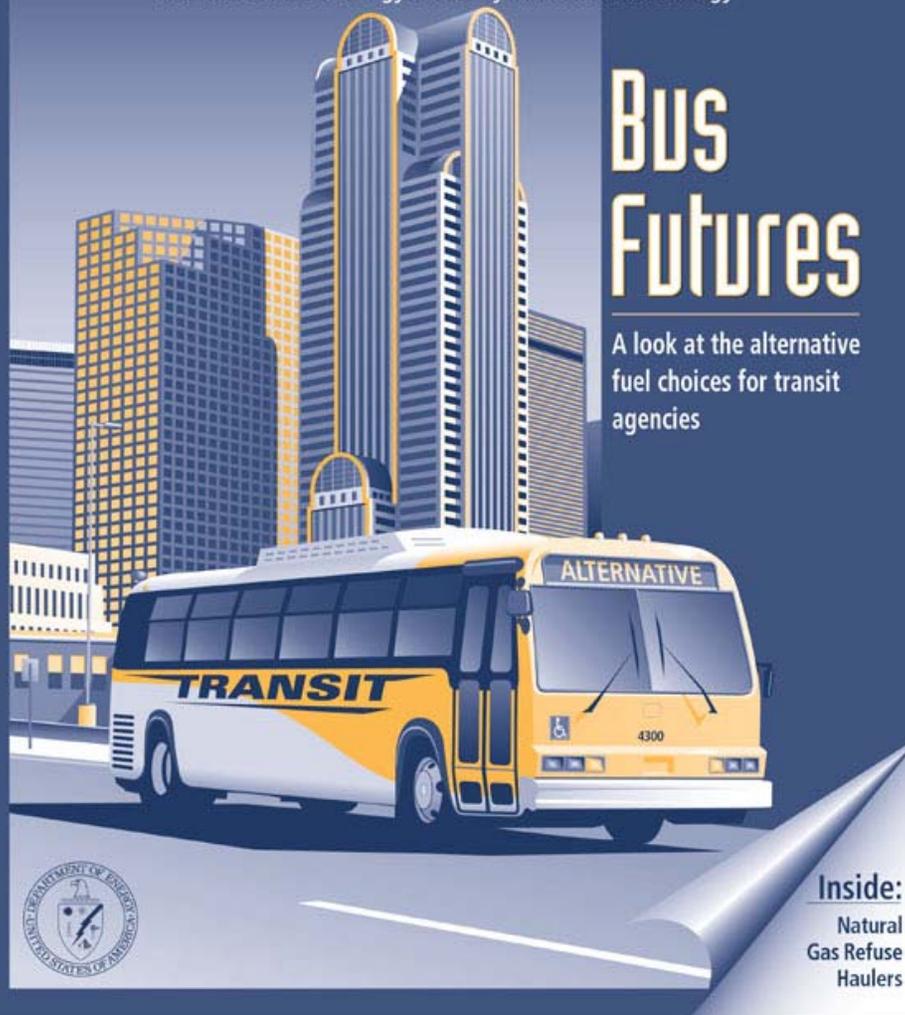
[[EREN](#)] [[DOE](#)] [[OWIP](#)] [[Webmaster](#)]

U.S. DEPARTMENT of ENERGY

ALTERNATIVE FUEL NEWS

Vol. 4 - No. 2

An Official Publication of the Clean Cities Network and the Alternative Fuels Data Center
From the Office of Energy Efficiency and Renewable Energy



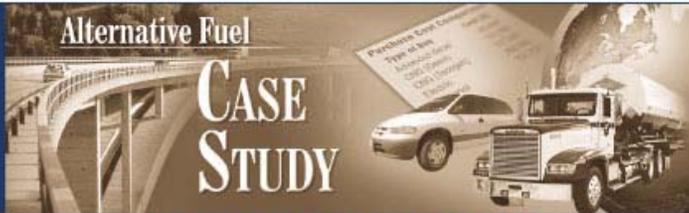
Bus Futures

A look at the alternative fuel choices for transit agencies



Inside:
Natural Gas Refuse Haulers





SuperShuttle CNG Fleet Study Summary

Introduction

In March of 1999, the Office of Technology Utilization's Field Operations Program began a fleet evaluation of CNG vans in the SuperShuttle fleet in Boulder, Colorado. The results for the evaluation were positive, and the fleet is considering adding more alternative fuel vehicles (AFVs) in the future. This Case Study summarizes the details of the study.

Background

SuperShuttle, which was started in Los Angeles in 1983, is a shuttle service providing shared-ride door-to-door airport passenger service. It now serves 23 airports, with 1,000 vehicles transporting more than 20,000 passengers each day. The company began using AFVs in 1990 when they added several propane-powered vehicles to the fleet. The first compressed natural gas (CNG) vehicles were added in 1994. SuperShuttle operates approximately 290 CNG vehicles in seven locations including Washington, DC; Phoenix, AZ; Boulder / Denver, CO; and Sacramento, San Francisco, Los Angeles, and Orange County, CA.

SuperShuttle began operating in Colorado in mid-1996, serving the local community and Denver International Airport (DIA). Their fleet of 85 vehicles includes 18 AFVs fueled by both liquefied petroleum gas (LPG) and CNG. SuperShuttle managers decided to add CNG vans to the Boulder fleet after hearing a presentation spelling out the potential cost savings of using natural gas vehicles.

The vans are operated in two types of service: in-town shuttle around Boulder, which is mostly stop-and-go driving, and inter-city highway service between



Boulder and DIA. Boulder is approximately 45 miles from DIA, and the vans typically accumulate about 60,000 miles per year.

SuperShuttle operates a service shop at their Boulder facility for all scheduled maintenance and some unscheduled maintenance. Scheduled maintenance includes oil and air filter changes and tire rotations, as well as preventative maintenance checks. The local dealership provides any necessary warranty work.

The managers of SuperShuttle in Colorado were open to providing records and other information for an evaluation of the AFVs in their fleet. SuperShuttle Boulder was an excellent study fleet because it provided the chance to evaluate different CNG technologies side-by-side with gasoline models in a high mileage application.

Fleet Facts

Fleet Type:	Vans in airport shuttle service
Fleet Size:	85 vans and shuttle buses, of which 18 are AFVs
Alternative Fuel:	CNG and LPG
Study Vehicles:	15-Passenger vans: 5 dedicated CNG, 5 bi-fuel CNG, and 3 gasoline
Service Area:	Boulder, CO to DIA
Mileage Accumulation:	~60,000 miles annually

Vehicle Buyer's Guide

www.ccities.doe.gov/vbg

- **General Information on AFVs**
- **Vehicle Buyer's Guide for Consumers**
- **Vehicle Buyer's Guide for Fleets**



Vehicle Buyer's Guide

Site Map Search

Need Some Basic Information?

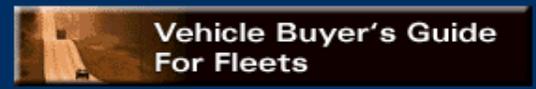
- [What are Alternative Fuel Vehicles?](#)
- [Are Alternative Fuels Available Commercially?](#)
- [What are Some Other Clean and Fuel Efficient Vehicle Choices?](#)
- [What is the Energy Policy Act of 1992 \(EPAAct\)?](#)

Let's face it. Americans love their vehicles. But the U.S. spends about \$2 billion a week on oil imports, mostly for transportation fuel. This need for oil affects our national security. Also, vehicle emissions are the leading source of U.S. air pollution, which jeopardizes our health. Fortunately, there are solutions to these problems. Vehicles powered by domestically produced, clean alternative fuels and other energy efficient, advanced technology vehicles can help reduce our dependence on imported oil and improve air quality.

Using the Vehicle Buyer's Guide, you can learn about different technologies, view vehicle lists with pricing and technical specifications, locate nearby alternative fuel stations, contact a dealer or industry expert, learn about financial incentives, and more.

What type of buyer are you . . . a consumer or a fleet manager?

These audiences have different needs, so we have developed two separate sites. Select the site that is right for you.





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



Vehicle Buyer's Guide for Fleets

- [Site Map](#)
- [Search](#)
- [Glossary](#)
- [Ask a Question](#)



- [About Alternative Fuels and Vehicles](#)
- [Vehicle Models and Specs](#)
- [Fueling Stations](#)
- [Industry Contacts](#)
- [Is My Fleet Subject to Federal Regulations?](#)
- [Financial Incentives](#)
- [Laws and Regulations](#)
- [News, Documents, and Links](#)
- [Fleet Successes](#)

The Vehicle Buyer's Guide for Fleets is designed to educate fleet managers and policy makers about alternative fuels and vehicles and help them determine whether the Energy Policy Act of 1992 (EPAct) affects them. Use the site to figure if your fleet is covered under EPAct, obtain pricing and technical specifications for light- and heavy-duty AFVs, find an alternative fueling station in your area, or research information about state AFV purchasing incentives and laws.



[Vehicle Buyer's Guide](#) | [Consumer Buyer's Guide](#) | [Fleet Buyer's Guide](#) |

[\[DOE\]](#) | [\[Clean Cities\]](#) | [\[OWIP\]](#) | [\[FCVT\]](#) | [\[Webmaster\]](#)
[\[Security and Privacy Notices\]](#)

ADMINISTRATION

Using the AFV Fleet Buyer's Guide Tool

www.fleets.doe.gov

- **Tell us about yourself**
- **Do regulations apply?**
- **If you must or want to, how do you buy an AFV?**



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

Vehicle Buyer's Guide for Fleets

Home Site Map Search Glossary Ask a Question

- About Alternative Fuels and Vehicles
- Vehicle Models and Specifications
- Fueling Stations
- Industry Contacts
- Is My Fleet Subject to Federal Regulations?**
- Financial Incentives
- Laws and Regulations**
- News, Documents, and Links
- Fleet Successes



Laws and Regulations

Current Alternative Fuel Vehicle Laws and Regulations

- What is the Energy Policy Act of 1992 (EPAct)?**
- Does My Fleet Need to Comply with EPAct?**
- Guidelines for Satisfying EPAct Requirements**

Many states have enacted laws governing... for receiving financial incentives, and occupancy vehicle (HOV) lanes. For more information, visit the [National Alternative Fuels Hotline](#) or your local... view laws:

1. Select either federal or state laws.
2. Press select to view the alternative fuel vehicle laws.

State/Federal

United States (Federal) ▲
Alaska
Alabama
Arkansas
Arizona
California ▼

SELECT RESET



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

Vehicle Buyer's Guide for Fleets

Home Site Map Search Glossary Ask a Question

- About Alternative Fuels and Vehicles
- Vehicle Models and Specifications
- Fueling Stations
- Industry Contacts
- Is My Fleet Subject to Federal Regulations?**
- Financial Incentives
- Laws and Regulations
- News, Documents, and Links
- Fleet Successes



Is My Fleet Subject to Federal Regulations?

Does My Fleet Need to Comply with EPAAct?

The following program is designed to help fleet managers determine whether they need to comply with the Energy Policy Act of 1992 (EPAAct). EPAAct requires certain alternative fuel providers and state and federal fleets to purchase light-duty alternative fuel vehicles.

Answer the following questions to determine whether your fleet needs to comply with this federal regulation.



[Vehicle Buyer's Guide](#) [Consumer Buyer's Guide](#) [Fleet Buyer's Guide](#)

[DOE](#) [Clean Cities](#) [OWIP](#) [FCVT](#) [Webmaster](#)
[Security and Privacy Notices](#)



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

Vehicle Buyer's Guide for Fleets

Home Site Map Search Glossary Ask a Question

- About Alternative Fuels and Vehicles
- Vehicle Models and Specifications
- Fueling Stations
- Industry Contacts
- Is My Fleet Subject to Federal Regulations?**
- Financial Incentives
- Laws and Regulations
- News, Documents, and Links
- Fleet Successes

Is My Fleet Subject to Federal Regulations?



Where Is Your Fleet Located?

Enter your zip code so we can determine the [Metropolitan Statistical Area \(MSA\)](#) or [Consolidated Metropolitan Statistical Area \(CMSA\)](#) where your fleet is based.

If your fleet vehicles are located in geographically dispersed locations, you may need to enter separate zip codes for each location.

ZIP *



[Vehicle Buyer's Guide](#) [Consumer Buyer's Guide](#) [Fleet Buyer's Guide](#)

[DOE](#) [Clean Cities](#) [OWIP](#) [FCVT](#) [Webmaster](#)
[Security and Privacy Notices](#)

Using the AFV Fleet Buyer's Guide Tool

**Now Here's What We
Know About You...**



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

Vehicle Buyer's Guide for Fleets

Home Site Map Search Glossary Ask a Question

- About Alternative Fuels and Vehicles
- Vehicle Models and Specifications
- Fueling Stations
- Industry Contacts
- Is My Fleet Subject to Federal Regulations?**
- Financial Incentives
- Laws and Regulations
- News, Documents, and Links
- Fleet Successes

Is My Fleet Subject to Federal Regulations?



From the zip code you entered, we have determined that you are in an EPAact regulated area. Your zip code, county, city, state and MSA/CMSA are:

Zip Code 80401
County Jefferson
City Golden
State CO
MSA CMSA Denver-Boulder-Greeley, CO CMSA

List of [MSAs and CMSAs covered by EPAact](#).

Click "Next" to determine whether EPAact applies to your fleet.



[Vehicle Buyer's Guide](#) | [Consumer Buyer's Guide](#) | [Fleet Buyer's Guide](#) |

[\[DOE\]](#) | [\[Clean Cities\]](#) | [\[AFDC\]](#) | [\[FCVT\]](#) | [\[Webmaster\]](#)

Using the AFV Fleet Buyer's Guide Tool

**Now Tell Me More About Your
Fleet Characteristics**



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

Vehicle Buyer's Guide for Fleets

Home Site Map Search Glossary Ask a Question

- About Alternative Fuels and Vehicles
- Vehicle Models and Specifications
- Fueling Stations
- Industry Contacts
- Is My Fleet Subject to Federal Regulations?**
- Financial Incentives
- Laws and Regulations
- News, Documents, and Links
- Fleet Successes



Is My Fleet Subject to Federal Regulations?

Does My Fleet Need to Comply with EPAact?

What type of fleet do you operate?

Federal
State
Federal
Fuel Provider
Other

Click "Next" to determine whether EPA regulations apply to your fleet.



[Vehicle Buyer's Guide](#) | [Consumer Buyer's Guide](#) | [Fleet Buyer's Guide](#) |

[\[DOE\]](#) | [\[Clean Cities\]](#) | [\[AFDC\]](#) | [\[FCVT\]](#) | [\[Webmaster\]](#)
[\[Security and Privacy Notices\]](#)

- About Alternative Fuels and Vehicles
- Vehicle Models and Specifications
- Fueling Stations
- Industry Contacts
- Is My Fleet Subject to Federal Regulations?**
- Financial Incentives
- Laws and Regulations
- News, Documents, and Links
- Fleet Successes



Is My Fleet Subject to Federal Regulations?

Does My Fleet Need to Comply with EPCAct?

Answer the following questions so that we can determine how many non excluded vehicles you have in the fleet located in the MSA/CMSA we established from the zip code you entered, and the total number of non excluded vehicles in all your U.S. fleets. If you are unsure whether a vehicle under your control is an excluded vehicle, look at the list of [federal fleet exempt vehicle definitions](#) or [state and alternative fuel provider excluded vehicle definitions](#).

1. Do you operate 20 or more non excluded light-duty vehicles in the identified MSA or CMSA? Yes No
2. Do you operate 50 or more non excluded light-duty vehicles in all U.S. fleets? Yes No

Click "Next" to determine whether EPCAct applies to your fleet.



- About Alternative Fuels and Vehicles
- Vehicle Models and Specifications
- Fueling Stations
- Industry Contacts
- Is My Fleet Subject to Federal Regulations?**
- Financial Incentives
- Laws and Regulations
- News, Documents, and Links
- Fleet Successes

Is My Fleet Subject to Federal Regulations?



Does My Fleet Need to Comply with EPAct?

Zip Code 80401
 County Jefferson
 City Golden
 State CO
 MSA CMSA Denver-Boulder-Greeley, CO CMSA

Fleet Type: Federal

Do you have 20 or more non-excluded vehicles in the local fleet? Yes

Do you have 50 or more non-excluded vehicles in All U.S. fleets? Yes

Based on the fleet type, location, and number of vehicles you control, it appears you are **required** by the EPAct regulations to acquire AFVs as a percentage of your new car acquisitions. The following table presents the schedule of percentages to which you should adhere:

Year	Percentage of Alternative Fuel Vehicle Purchase Requirements
2003	75 %
2004	75 %
2005	75 %
2006	75 %

If you are still unsure whether your fleet is covered or for more in-depth information about complying with this Federal regulation, visit the [EPAct Web site](#).

Using the AFV Fleet Buyer's Guide Tool

What You Said...

- Federal Fleet
- Covered CMSA
- 50 or more non-excluded vehicles
- 20 or more capable of central fueling

What You Must Do...

- Annually, 75% of all new new purchases must be AFVs from 2003-2006 (currently)
- 20% reduction in petroleum consumption by 2005 compared FY 1999 fuel consumption (EO 13149).

Using the AFV Fleet Buyer's Guide Tool

**OK, You Need To Comply...
What Vehicles Are
Available?**

**Select 'Vehicle Models and
Specifications' from the menu.**

- About Alternative Fuels and Vehicles
- Vehicle Models and Specifications**
- Fueling Stations
- Industry Contacts
- Is My Fleet Subject to Federal Regulations?**
- Financial Incentives
- Laws and Regulations
- News, Documents, and Links
- Fleet Successes

Is My Fleet Subject to Federal Regulations?



Light-duty Vehicles → Search by Fuel Type

Heavy-duty Vehicles → Search by Manufacturer

Find Used Vehicles Search by Vehicle Class

Search Hybrid Electric Vehicles

Search Neighborhood Electric Vehicles

Combined Category Search

Side-by-Side Comparison

Dealers

Zip Code 80401
 County Jefferson
 City Golden
 State CO
 MSA GMSA Denver-Boulder

Fleet Type: Federal
 Do you have 20 or more non-excluded vehicles in the local fleet? Yes
 Do you have 50 or more non-excluded vehicles in All U.S. fleets? Yes

Based on the fleet type, location, and number of vehicles you control, it appears you are **required** by the EPAact regulations to acquire AFVs as a percentage of your new car acquisitions. The following table presents the schedule of percentages to which you should adhere:

Year	Percentage of Alternative Fuel Vehicle Purchase Requirements
2003	75 %
2004	75 %
2005	75 %
2006	75 %

- About Alternative Fuels and Vehicles
- Vehicle Models and Specifications**
- Fueling Stations
- Industry Contacts
- Is My Fleet Subject to Federal Regulations?
- Financial Incentives
- Laws and Regulations
- News, Documents, and Links
- Fleet Successes

Vehicle Models and Specifications



Light-Duty Vehicle Search by Fuel Type

Use the following program to search the database for current model year light-duty alternative fuel vehicles (AFVs) by fuel type. You can choose from dedicated natural gas, bi-fuel natural gas, ethanol, electricity, or bi-fuel propane.

1. Choose a fuel type and click the "Select" button to view a list of vehicles with descriptions, photos, and specifications.
2. You can select multiple fuel types by holding down the "Control" key.
3. Hit the "Reset" button to clear your selections.

Fuel Type:

- Natural Gas
- Bi-Fuel Natural Gas
- Ethanol
- Electricity
- Bi-Fuel Propane

SELECT RESET

[Vehicle Buyer's Guide](#) [Consumer Buyer's Guide](#) [Fleet Buyer's Guide](#)

[DOE](#) [Clean Cities](#) [OWIP](#) [FCVT](#) [Webmaster](#)
[Security and Privacy Notices](#)

Cities  **Vehicle Buyer's Guide for Fleets**
 Home Site Map Search Glossary Ask a Question

- About Alternative Fuels and Vehicles
- Vehicle Models and Specifications**
- Fueling Stations
- Industry Contacts
- Is My Fleet Subject to Federal Regulations?
- Financial Incentives
- Laws and Regulations
- News, Documents, and Links
- Fleet Successes

Vehicle Models and Specifications



At Mercedes-Benz, we're committed to providing you with the latest and most advanced vehicles. Our vehicles are designed to meet the most demanding fleet requirements. For more information, visit our website at www.mercedes-benz.com.

ID NUMBER 514
 VEHICLE YEAR 2003
 VEHICLE TYPE VAN
 VEHICLE YEAR 2003

Search by Fuel Type

 [Printable Version](#)

	<p>Maxi vans are available in 2500 and 3500 models and come equipped with a 5.2 L V-8 natural gas engine and a 4-speed automatic transmission. Emissions certifications include Federal ILEV, ULEV, and California SULEV.</p>		
	City MPG	Hwy MPG	Transmission and Engine
	11	19	4-speed automatic Magnum 5.2 L
2003 DaimlerChrysler Dodge Ram Maxi Van 800-999-FLEET	Incremental Cost		
Emission Certification	\$4235		View Specifications
ILEV ULEV	Natural Gas Dedicated		
Dealer Locator URL:			Cost Analysis
http://www.fleet.chrysler.com/dealer.jsp			

Using the AFV Fleet Buyer's Guide Tool

**I Can Do a Side-By-Side
Vehicle Comparison?**

- Fueling Stations
- Industry Contacts
- Is My Fleet Subject to Federal Regulations?
- Financial Incentives
- Laws and Regulations
- News, Documents, and Links
- Fleet Successes

Side-by-Side Comparison

1. Select one or more fuel types for vehicles that you would like to compare and then click the select button. Select multiple fuel types by holding down the control key and clicking on the fuel types you are interested in.
2. Select multiple vehicles for side-by-side comparison by clicking the check box in the lower portion of each vehicle record. Then press the Select for Side by Side button to view the selected vehicles side-by-side.

Side-by-Side Comparison		
	Natural Gas	2003 DaimlerChrysler Dodge Ram Maxi Van 800-999-FLEET
Emission Certification ILEV ULEV Check for Side-by-Side Comparison <input type="checkbox"/>		
	Natural Gas	2003 DaimlerChrysler Dodge Ram Van 800-999-FLEET
Emission Certification ILEV ULEV Check for Side-by-Side Comparison <input type="checkbox"/>		
	Natural Gas	2003 Ford Motor Co. Crown Victoria 1-800-34-fleet
Emission Certification ULEV Check for Side-by-Side Comparison <input checked="" type="checkbox"/>		
	Natural Gas	2003 Ford Motor Co. E 250 Van
Emission Certification <input type="checkbox"/>		

- [Fueling Stations](#)
- [Industry Contacts](#)
- [Is My Fleet Subject to Federal Regulations?](#)
- [Financial Incentives](#)
- [Laws and Regulations](#)
- [News, Documents, and Links](#)
- [Fleet Successes](#)

Light-duty Vehicle Side-by-Side Comparison

		
VEHICLE MFR	Ford Motor Co.	Honda
VEHICLE MODEL	Crown Victoria	Civic GX
MODEL YEAR	2003	2003
VEHICLE CATEGORY	Sedan	Sedan
VEHICLE WEIGHT CATEGORY	Light-Duty Vehicle	Light-Duty Vehicle
FUEL TYPE CODE	Natural Gas	Natural Gas
FUEL CONFIGURATION	Dedicated	Dedicated
EMISSION CERTIFICATION STANDARD	ULEVS	ILEV SULEV
STICKER PRICE		20510
ESTIMATED DRIVING RANGE (CITY)		200
FUEL ECONOMY (CITY)	13	30
FUEL ECONOMY (HWY)	18	34
DRIVE	rear-wheel	front-wheel
TRANSMISSION TYPE	electronic, 4-speed automatic	Automatic (CVT)
PEAK HORSEPOWER	175 @ 4750	110 @ 6500 rpm
PEAK TORQUE	235 @ 2000	96.2 @ 5500 rpm
ACCELERATION TIME 0-60		0

GROSS VEHICLE WEIGHT RATING (LBS)		2599
CURB WEIGHT (LBS)	3946	2707
REBATES/INCENTIVES	1500	2000
IS THIS A GSA VEHICLE?	Y	Y
ENGINE TYPE	SEFI	SOHC
ENGINE SIZE	4.6 L	1.7 L
NUMBER OF ENGINE CYLINDERS	8	4
FUEL TANK CAPACITY		0
NUMBER OF BATTERIES		0
BATTERY WEIGHT		0
ALT FUEL TANK CAPACITY	11.9	8
GASOLINE EQUIV. STICKER PRICE		16010
GASOLINE EQUIV. ECONOMY (CITY-MPG)	18	30
GASOLINE EQUIV. ECONOMY (HWY-MPG)	26	38
FUEL ECONOMY (CITY) UNITS	MPGGE	MPGGE
FUEL ECONOMY (HWY) UNITS	MPGGE	MPGGE
DEALER LOCATOR 800-NUMBER	1-800-34-fleet	1-888-CC-HONDA
WHERE AVAILABLE	ALL	ALL
AVAILABLE for PURCHASE		Yes
AVAILABLE for LEASE		Yes
VEHICLE TYPE	AFV	AFV
INCREMENTAL COST	6780	4500

Using the AFV Fleet Buyer's Guide Tool

**Now, Perform the Vehicle
Fuel Cost Savings Analysis**

- About Alternative Fuels and Vehicles
- Vehicle Models and Specifications**
- Fueling Stations
- Industry Contacts
- Is My Fleet Subject to Federal Regulations?
- Financial Incentives
- Laws and Regulations
- News, Documents, and Links
- Fleet Successes

Vehicle Models

- Light-duty Vehicles**
- Heavy-duty Vehicles
- Find Used Vehicles

- Search by Fuel Type**
- Search by Manufacturer
- Search by Vehicle Class
- Search Hybrid Electric Vehicles
- Search Neighborhood Electric Vehicles
- Combined Category Search
- Side-by-Side Comparison
- Dealers

Printable Version



2003 DaimlerChrysler
 Dodge Ram Maxi Van
 800-999-FLEET

Emission Certification

ILEV ULEV

City MPG

11

Hwy MPG

19

Incremental Cost

\$4235

Natural Gas Dedicated

Dealer Locator URL:

<http://www.fleet.chrysler.com/dealer.jsp>

Transmission and Engine

4-speed automatic
 Magnum 5.2 L

View Specifications

Cost Analysis

Cost Analysis of Buying and Fueling an AFV



Dodge Ram Maxi Van

Enter your **fleet type**.

Enter the **state** where your fleet is located.

Enter your **tax rate**.

Cost Analysis of Buying and Fueling an AFV



Dodge Ram Maxi Van

Incremental Cost Before Incentives

Manufacturer's estimated cost to acquire this AFV above a comparable conventionally fueled vehicle.

Purchasing Incentives

Below we have calculated federal, state, and fuel provider incentives for which we believe you are eligible. Please verify this information and see others that may apply by [viewing your state AFV incentives](#).

AFV Incentives

Please add other incentive values if you find there are more that apply (*optional*).

Dealer Incentives

Net Incremental Cost with Purchasing Incentives Applied

Calculate fuel operating costs to see if the price of alternative fuels in your region can save your fleet money.

Cost Analysis of Buying and Fueling an AFV



Dodge Ram Maxi Van

Net Incremental Cost from previous page: \$4235

Regional Fuel Prices

Region	Gasoline	Diesel	CNG	Propane	Ethanol	Biodiesel
Lower Atlantic	1.4	1.41	1.12	1.19	1.33	1.46

Price report updated 11/04/2002 by the U.S. Department of Energy.

Alternative Fuel Vehicle vs. Gasoline Vehicle Fuel Costs

	Alternative Fuel Vehicle	Comparable Gasoline Vehicle
Fuel Price (per gallon)	\$ 1.12	\$ 1.4
Fuel Economy City/Highway (Averaged)	15	15.5
Annual Miles Traveled	15000	15000
Annual Fuel Cost	\$ 1120.00	\$ 1354.84
Annual Cost/Savings Using Alternative Fuel	\$ 234.84	

Please alter values as they pertain to you.

AFVs Available - 2003 MY

Natural Gas LDVs

- **Dedicated CNG Vehicles**
 - **Honda Civic GX**
 - **Dodge Ram Van/Maxi Van**
 - **Ford Crown Vic, F-150, E-Series Van and Wagon**
 - **Chevy Express, GMC Savana**



AFVs Available - 2003 MY

Bi-Fuel CNG/LPG LDVs

- **Ford F-150 (CNG/LPG)**
- **Chevy Silverado, GMC Sierra**
- **Chevy Express, GMC Savana**
- **Chevy Cavalier**



AFVs Available - 2003 MY

Flex-Fuel Ethanol (E85) LDVs

- Chrysler Town and Country, Dodge Caravan/Grand Caravan - Minivan
- Chrysler Sebring, Dodge Stratus Sedans
- Ford Taurus Sedan, Mercury Sable Wagon
- Ford Explorer/Sport; Mercury Mountaineer SUVs; Ford Ranger LD Pickup
- Chevy Tahoe, Suburban SUV; GMC Yukon/Yukon-XL/ SUV
- Chevy Silverado; GMC Sierra - LD Pickup
- Mazda B300 – LD Pickup

AFVs Available - MY 2003

Electric Vehicles

- **Nissan Altra-EV Mid-Size Wagon
lithium-ion**
- **Nissan Hypermini (lithium-ion)**
- **Solectria Citivan (Lead-Acid)**



AFVs Available - 2003 MY

Heavy Duty Vehicles – chassis examples:

- Transit Buses
- Paratransit Buses
- School Buses
- Shuttles/Airport Shuttles
- HD Trucks
- Street Sweepers & Refuse Haulers

Note: Many fuels represented by the engine options available for the chassis.

Using the AFV Fleet Buyer's Guide Tool

Are there other Advanced Technology Vehicles that you could look at?

Yes – check out the Buyers Guide for Consumers from the Clean Cities home page (ccities.doe.gov) or go to <http://www.ccities.doe.gov/vbg/consumers/> Then, select the class of vehicle in which you are interested or choose a variety of other tools related to product information. Remember, gasoline hybrid vehicles are not EPAct compliant.



Vehicle Buyer's Guide for Consumers

[Site Map](#) [Search](#)



- [What Are Your Choices?](#)
- [Product Information](#)
- [Information Resources](#)



The Vehicle Buyer's Guide for Consumers can help you learn about the alternative fuel and advanced technology vehicles—including hybrid and neighborhood electric vehicles—available today. You can use this site to learn more about the vehicle technologies, obtain pricing and technical specifications, locate your nearest alternative fuel station, contact a dealer, industry expert, or manufacturer, research financial incentives and laws in your state, and much more.

[Vehicle Buyer's Guide](#) | [Consumer Buyer's Guide](#) | [Fleet Buyer's Guide](#)

[\[DOE\]](#) [\[OTT\]](#) [\[Webmaster\]](#) [\[Feedback\]](#)



U.S. Department of Energy



Vehicle Buyer's Guide for Consumers

Home

Glossary

Site Map

Search

What are Your Choices?

Product Information

Information Resources

- Search by Fuel Type
- Search by Manufacturer
- Search by Vehicle Class
 - Two-Seater
 - Sedan
 - Pickup Truck
 - Van
 - Sport Utility Vehicle
 - Neighborhood Electric Vehicles
 - Electric Bicycles
- Dealers
- Fueling
- Maintenance
- Side-by-Side Comparison
- Financial Incentives and Laws

Search by Vehicle Class

Vehicle Class:

Two-Seater
Sedan
Electric Bicycle
Pickup Truck
Neighborhood Electric Vehicle
Van

SELECT

RESET

Are There Incentives Available?

[Vehicle Buyer's Guide](#) | [Consumer Buyer's Guide](#) | [Fleet Buyer's Guide](#)

[\[DOE\]](#) [\[OTT\]](#) [\[Webmaster\]](#) [\[Feedback\]](#)

- Search by Manufacturer
- Search by Vehicle Class
 - Two-Seater
 - Sedan
 - Pickup Truck
 - Van
 - Sport Utility Vehicle
 - Neighborhood Electric Vehicles
 - Electric Bicycles
- Dealers
- Fueling
- Maintenance
- Side-by-Side Comparison
- Financial Incentives and Laws

Search by Vehicle Class



This gasoline-electric hybrid vehicle is not EPACT compliant, but does meet California ULEV (Manual Transmission) and California SULEV (CVT Transmission) emission standards. Combining an efficient 1.0 liter, 12-valve, 3-cylinder gasoline engine with an electric motor powered by advanced nickel-metal hydride batteries, the Insight can travel up to 700 miles before needing to be re-fueled. Available in a 5-speed manual transmission, \$19080, or continuously variable transmission (CVT) \$21280.

	City MPG	Hwy MPG	Transmission and Engine
	61	68	Manual 5-Speed or CVT VTEC E 12-valve and a permanent magnet electric motor 1.0 liter
2003 Honda Insight 1-888-CC-HONDA	Sticker Price	Gas Equivalent Price	
Emissions Certification	19080	Unavailable	<input type="button" value="View Specifications"/>
ULEV	Hybrid Electric Hybrid Electric		
Dealer Locator URL:			<input type="button" value="Cost Analysis"/>
http://www.hondacars.com/models/model_overview.asp?ModelName=Insight			



This two passenger electric vehicle is powered by lightweight lithium-ion batteries. The Hypermini is only available for lease by select commercial fleets in California.

	City MPG	Hwy MPG	Transmission and Engine
	Unavailable	Unavailable	

Using the AFV Fleet Buyer's Guide Tool

All right, you know what you want and need. Are there any refueling sites for the fuel you have chosen?



Alternative Fuel Station Locator

The Alternative Fuel Station Locator can search our database of refueling stations for the entire country to find stations offering alternative fuels. To begin your search, simply follow these steps:

- Select a Fuel Type from the pull-down menu
- Insert a search radius (25 miles is the default)
- Select 'Search From' point: Address, City, or State
- Enter address, city and/or state
- Click the Search button

[Station Locator](#)
[Instructions](#)

Compressed Natural Gas (CNG) ▾	Stations Within Radius: <input type="text" value="25"/> Miles
Enter the search from location:	
Search From: <input style="width: 50px;" type="text" value="City"/>	
City: <input type="text" value="Palm Springs"/>	
State: <input style="width: 50px;" type="text" value="California"/>	
<input type="button" value="Search"/>	

[Help](#) [New Station Search](#) [New Route](#)

 We recommend using Netscape 4 or higher OR Microsoft Internet Explorer 5 or higher, with java enabled. A minimum screen resolution of 800x600 pixels is also highly recommended. If you experience problems with this site, contact the [Webmaster](#).



Alternative Fuel Station Locator

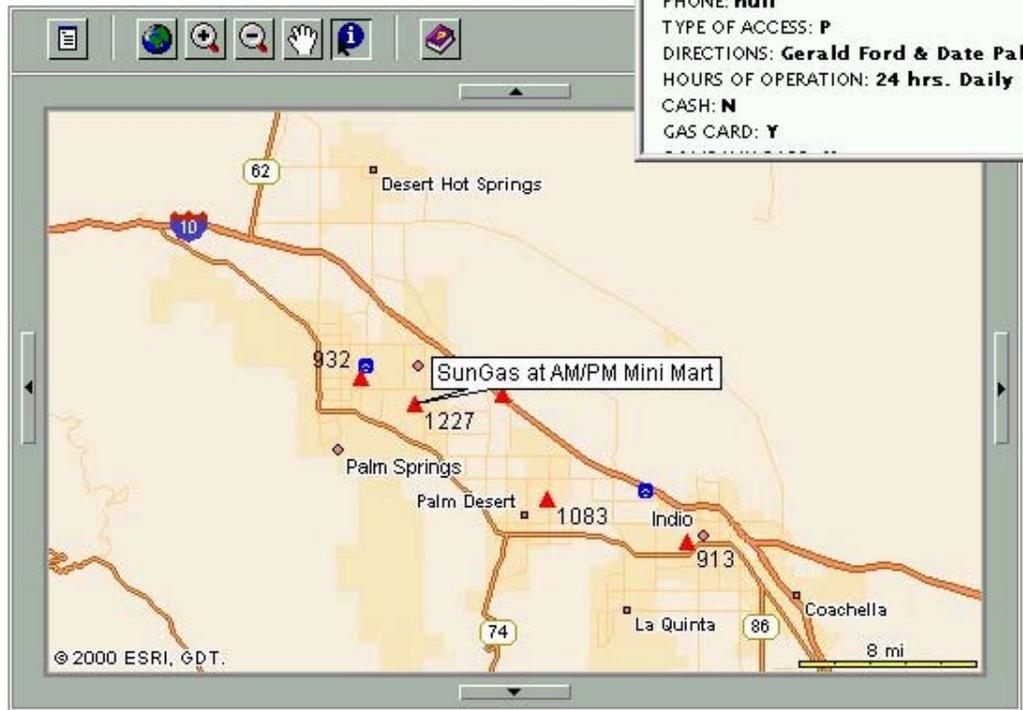
(Scroll Down to see the list of found results)

You should always call any station you plan to visit in advance to determine the type of access. Some stations in our database have addresses that are not in the Locator application. This may result in the station appearing in the map but not in the list.

Stations Details - Microsoft Internet Explorer

Alternative Fuel Station Locator

NAME: SunGas at AM/PM Mini Mart
FUEL TYPE: Compressed Natural Gas (CNG)
STREET ADDRESS: 36-001 Date Palm Drive
CITY: Cathedral City
STATE: CA
ZIP: 92234
PHONE: null
TYPE OF ACCESS: P
DIRECTIONS: Gerald Ford & Date Palm Drive
HOURS OF OPERATION: 24 hrs. Daily
CASH: N
GAS CARD: Y





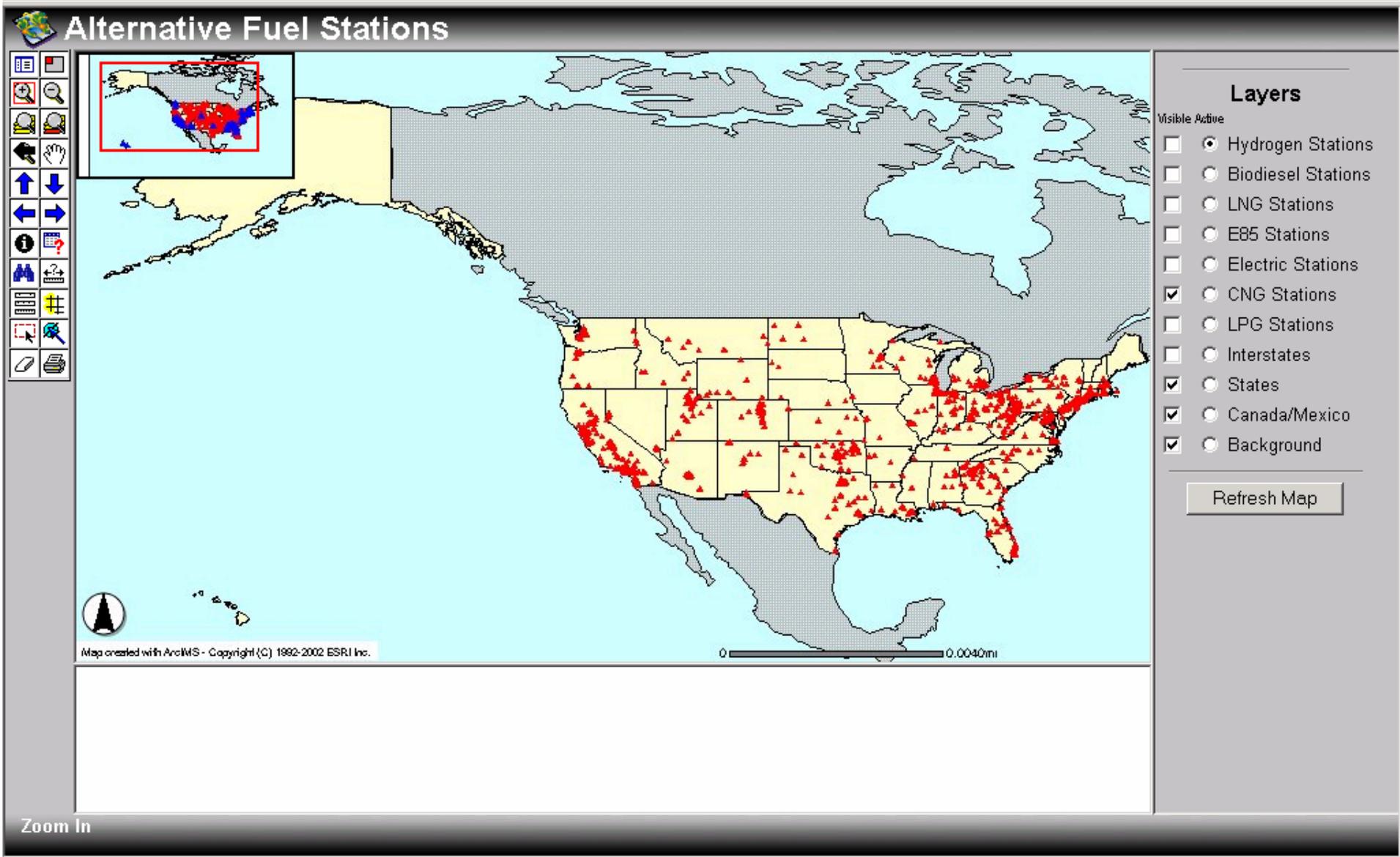
[Help](#) [New Station Search](#) [New Route](#)


6 Compressed Natural Gas (CNG) Refueling Station(s) Found
Around: Palm Springs, CA
Within Radius: 25 Mile(s)

Print Table

	Miles	Id	Name	Phone	Address	City	State	Zip	Type of Access
	3	932	Palm Springs Airport/SunLine/PFC	888-732-6487	3400 E. Tahquitz Canyon Way	Palm Springs	CA	92262	PR
	4	1227	SunGas at AM/PM Mini Mart		36-001 Date Palm Drive	Cathedral City	CA	92234	P
	8	677	Sunline Transit Agency/PFC	888-732-6487	32505 Harry Oliver Trail	Thousand Palms	CA	92276	PR
	10	1083	Waste Management of the Desert - PFC	888-732-6487	41575 Eclectic St.	Palm Desert	CA	92260	PR
	16	913	Sunline Indio/PFC	888-732-6487	83255 Hwy. 111	Indio	CA	92201	PR
	22	917	City of Banning		176 E. Lincoln St.	Banning	CA	92222	N

[Help](#) [New Station Search](#) [New Route](#)



Using the AFV Fleet Buyer's Guide Tool

You'd like to know more about
Incentives and Laws --
Federal, State, and Local -
- that might apply to you.
What do you do?

Select '**Laws and Regulations**' from the menu on the
Vehicle Buyer's Guide for Fleets.

Vehicle Buyer's Guide for Fleets Home - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites History Print Refresh Stop

Address <http://www.cities.doe.gov/vbg/fleets/> Go Links >>



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

Vehicle Buyer's Guide for Fleets

[Site Map](#) | [Search](#) | [Glossary](#) | [Ask a Question](#)



[Current Laws and Regulations](#)

[Expired and Repealed Laws and Regulations](#)

- [About Alternative Fuels and Vehicles](#)
- [Vehicle Models and Specs](#)
- [Fueling Stations](#)
- [Industry Contacts](#)
- [Is My Fleet Subject to Federal Regulations?](#)
- [Financial Incentives](#)
- [Laws and Regulations](#)
- [News, Documents, and Links](#)
- [Fleet Successes](#)

The Vehicle Buyer's Guide for Fleets is designed to educate fleet managers and policy makers about alternative fuels and vehicles and help them determine whether the Energy Policy Act of 1992 (EPA Act) affects them. Use the site to figure if your fleet is covered under EPA Act, obtain pricing and technical specifications for light- and heavy-duty AFVs, find an alternative fueling station in your area, or research information about state AFV purchasing incentives and laws.



Vehicle Buyer's Guide



Consumer Buyer's Guide



Fleet of the Month

[Vehicle Buyer's Guide](#) | [Consumer Buyer's Guide](#) | [Fleet Buyer's Guide](#)

[\[DOE\]](#) | [\[Clean Cities\]](#) | [\[OWIP\]](#) | [\[FCVT\]](#) | [\[Webmaster\]](#)
[\[Security and Privacy Notices\]](#)

ADMINISTRATION



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



Vehicle Buyer's Guide for Fleets

Home Site Map Search Glossary Ask a Question

- About Alternative Fuels and Vehicles
- Vehicle Models and Specifications
- Fueling Stations
- Industry Contacts
- Is My Fleet Subject to Federal Regulations?
- Financial Incentives
- Laws and Regulations**
- News, Documents, and Links
- Fleet Successes

Laws and Regulations



Current Alternative Fuel Vehicle Laws and Regulations

The federal government and many states have enacted laws governing vehicle conversions, conditions for receiving financial incentives, and stipulations for driving in high occupancy vehicle (HOV) lanes. For more information, contact the [National Alternative Fuels Hotline](#) or your local [Clean Cities Coordinator](#). To view laws:

1. Select either federal or state laws.
2. Press select to view the alternative fuel vehicle laws.

State/Federal

Florida
Georgia
Hawaii
Iowa
Idaho
Illinois

SELECT RESET

- About Alternative Fuels and Vehicles
- Vehicle Models and Specifications
- Fueling Stations
- Industry Contacts
- Is My Fleet Subject to Federal Regulations?
- Financial Incentives
- Laws and Regulations**
- News, Documents, and Links
- Fleet Successes

Laws and Regulations



Current Laws and Regulations

[Printable Version](#)

Florida



Laws and Regulations

A person operating an AFV must purchase a decal annually from the Florida Department of Motor Vehicles in lieu of the excise tax on gasoline. Refueling stations are not allowed to fuel an AFV that does not display the proper decal. State and local government AFV fleets are exempt from paying the decal fee. (Reference Florida Statutes 206.877)

Anyone who wishes to be a wholesale distributor of an alternative fuel must first obtain a license from the Florida Department of Revenue. (Reference Florida Statutes 206.89)

Electric vehicles (EVs) are protected from insurance surcharges based on factors such as new technology, passenger payload, weight-to-horsepower ratio, and the types of material used to manufacture the vehicle unless the Department of Insurance determines from actuarial data submitted to it that the surcharge is justified. (Reference Florida Statutes 627.06535)

County governments get waste reduction credits for using yard clippings, clean wood waste, or paper waste as feedstocks for the production of clean-burning fuels such as ethanol. (Reference Florida Statutes 403.706)

The Florida Clean Fuel Act established the Clean Fuel Florida Advisory Board under the

Florida Points of Contact:

NAME	AGENCY	TITLE	PHONE	FAX	EMAIL
Bill Young	Florida Space Coast Clean Cities Coalition	Clean Cities Coordinator	(321) 638-1443	(321) 638-1010	young@alpha.fsec.ucf.edu
Carlos Andres Gonzalez	Florida Gold Coast Clean Cities Coalition	Clean Cities Coordinator	(954) 985-4416	(954) 985-4417	carlosg@sfrpc.com
David Dunagan	U.S. Department of Energy, Atlanta Regional Office	Clean Cities Regional Program Manager	(404) 562-0561	(404) 562-0538	david.dunagan@ee.doe.gov
Alan Smith	Florida Energy Education Foundation	President	(941) 918-0390	(941) 918-8420	envirops@comcast.net
Alexander Mack	Florida State Energy Office	Community Program Administrator	(850) 488-2475	(850) 488-7688	alexander.mack@dca.state.fl.us
Kurt Eichin	Florida Department of Transportation	Metropolitan Planning Coordinator, Air Quality Conformity	(850) 414-4819	(850) 414-4898	kurt.eichin@dot.state.fl.us
Michael Roberts	U.S. Department of Transportation	Air Quality Specialist	(404) 562-3928	(404) 562-3700	michael.roberts@fhwa.dot.gov
Lynorae	U.S. Environmental	Environmental	(404)	(404)	

Using the AFV Fleet Buyer's Guide Tool

What about other industry contacts? Maybe I'd like to talk with experienced experts. Any ideas?

- About Alternative Fuels and Vehicles
- Vehicle Models and Specifications
- Fueling Stations
- Industry Contacts**
- Is My Fleet Subject to Federal Regulations?
- Financial Incentives
- Laws and Regulations
- News, Documents, and Links
- Fleet Successes



Industry Specialists

- [Natural Gas](#)
- [Liquefied Petroleum Gas \(LPG, Propane\)](#)
- [Ethanol](#)
- [Methanol](#)
- [Biodiesel](#)
- [Hydrogen](#)
- [Fuel Cell](#)
- [Light-Duty Alternative Fuel Vehicles](#)
- [Heavy-Duty Vehicles and Engines](#)
- [Reformulated Gasoline](#)
- [Hybrid Vehicles](#)
- [Electric Vehicles](#)

For a broader list of industry contacts, try searching the AFDC [related links database](#).

Using the AFV Fleet Buyer's Guide Tool

Where can I find real-world success stories? For example, I am interested in CNG airport ground services vehicles.

- About Alternative Fuels and Vehicles
- Vehicle Models and Specifications
- Fueling Stations
- Industry Contacts
- Is My Fleet Subject to Federal Regulations?
- Financial Incentives
- Laws and Regulations
- News, Documents, and Links
- Fleet Successes**



Fleet Success Stories

Learning from others' experiences can be key to success! In these stories, you will be able to see how other fleets use AFVs and learn who you can contact for more information.

1. Search the Success Stories database by selecting from one or all of the pull-down menus.
 2. Click the "Select" button to view the success stories using the search
- [Fleet of the Month](#)
[Fleet Success Stories](#) on to clear your selections.

Category:	Application:	Fuel:
Airport Federal Government Freight/Package Delivery Local Government National Parks and Attractions Private Fleet Transit Fleet	Airline Ground Service Vehicles Convent Light-Duty Delivery Vehicles Medium-Duty Delivery Vehicles Heavy-Duty Delivery Vehicles Motor Pools Police Fleets	Biodiesel CNG Electric Ethanol Hydrogen LNG Propane

SELECT RESET

[Vehicle Buyer's Guide](#) [Consumer Buyer's Guide](#) [Fleet Buyer's Guide](#)



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

Vehicle Buyer's Guide for Fleets

Home Site Map Search Glossary Ask a Question

- About Alternative Fuels and Vehicles
- Vehicle Models and Specifications
- Fueling Stations
- Industry Contacts
- Is My Fleet Subject to Federal Regulations?
- Financial Incentives
- Laws and Regulations
- News, Documents, and Links
- Fleet Successes**



Fleet Success Stories

Click on a story title to view the entire story. If the combination you selected didn't find any stories, try selecting from one menu only.

Story Title	Applications	Fuel Category
Dallas/Fort Worth (DFW) Airport	Airline Ground Service Vehicles, Shuttles, Taxis	CNG Electric
Denver International Airport (DIA)	Airline Ground Service Vehicles, Rental Cars, Shuttles	CNG Electric
Los Angeles World Airports	Airline Ground Service Vehicles, Rental Cars, Shuttles	CNG Electric LNG
Sacramento International Airport	Airline Ground Service Vehicles, Rental Cars, Shuttles	CNG Electric
Salt Lake City International Airport	Airline Ground Service Vehicles, Rental Cars, Shuttles	Biodiesel CNG
San Francisco International Airport	Airline Ground Service Vehicles, Shuttles	CNG

Using the AFV Fleet Buyer's Guide Tool

**What about dealers in
your area selling AFVs?
Can I receive help
there?**

About Alternative Fuels and Vehicles

Vehicle Models and Specifications

- Light-duty Vehicles
- Heavy-duty Vehicles
- Find Used Vehicles

Fueling Stations

Industry Contacts

Is My Fleet Subject to Federal Regulations?

Financial Incentives

Laws and Regulations

News, Documents, and Links

Fleet Successes

Vehicle Models

Search by Fuel Type

Search by Manufacturer

Search by Vehicle Class

Search Hybrid Electric Vehicles

Search Neighborhood Electric Vehicles

Combined Category Search

Side-by-Side Comparison

Dealers

AFV Dealers

Where can you buy an alternative vehicle (ATV)? Use the buttons below to find the dealers nearest you, in your area.

- A list of the light-duty vehicle manufacturers (OEM)
- Dealer locator Web sites
- Hotline phone numbers
- Vehicle Web sites

Link to an Original Equipment Manufacturer (OEM) from the list below.

- [DaimlerChrysler](#)
- [Ford Motor Co.](#)
- [General Motors - Chevrolet](#)
- [General Motors - GMC](#)
- [Honda](#)
- [Mazda](#)
- [Mercedes-Benz](#)
- [Nissan](#)
- [Solectria Corp.](#)

DaimlerChrysler

DAIMLERCHRYSLER

DOE's Private and Municipal Fleet Rulemaking

What are the implications and considerations?

- **DOE must rule because of environmental litigation**
- **Will DOE's 30% petroleum goal be changed?**
- **Would the P&L rule contribute significantly?**
- **Could the P&L rule be enforced? At what cost?**
- **If passed, would require fleets to begin purchasing % of new vehicles as AFVs**
- **Bottom line - it won't pass**

DOE's Private and Municipal Fleet Rulemaking

What are the options to the P&L rule?

- **Voluntary fleet adoption**
 - Incentives
 - Infrastructure
 - Involvement and economics (business case)
- **Niche Market Encouragement and Stimulation**
- **Do nothing – let the market evolve**
 - Hybrids
 - FFVs
 - Hydrogen

The Case for Niche Markets

Niche Market Characteristics

- **Large Fleets**
- **Central Refueling**
- **Standard Routes and Distances**
- **Trained Maintenance Staff**
- **Community PR Value – Cleaner Air**

The Case for Niche Markets

Major Niche Markets

- **Shuttles (Airport Taxis)**
- **Long-Haul MD/HD (Freight and Package Delivery) Fleets on Standard Routes**
- **Transit Buses**
- **School Buses**
- **Delivery Fleets**
- **Federal Government/National Parks**

The Case for Niche Markets

Local Government Possibilities

- Motor Pools
- Police Fleets
- School Buses
- Street Sweepers
- Refuse Haulers
- Support Operations



Hybrids - Where Do They Fit?

- **Advantages**

- Interim contributor to reduce oil imports
- Economically available now - tax incentives
- Use current infrastructure
- Quieter and cleaner
- Eligible for CAAA credits

- **Disadvantages**

- Generally petroleum based
- Not eligible for EPA credit

Hydrogen - The Fuel of the Future?

- **Advantages**

- Plentiful: variety of sources (NG, H₂O, methanol)
- Clean burning - depending on energy source in production
- Used in IC engines or fuel cells
- Can be quieter, lower maintenance

- **Disadvantages**

- Intense energy use in production
- Cryogenic as a liquid if produced and transported
- New infrastructure required
- New vehicle engines and systems, fuel cell or IC
- More expensive

Basics of the Hydrogen Fuel Cell

Electric Power from Hydrogen Fuel

1. Hydrogen fuel is fed into the anode of the fuel cell. Helped by a catalyst, hydrogen atoms are split into electrons and protons.
2. Electrons are channeled through a circuit to produce electricity.
3. Protons pass through the polymer electrolyte membrane.
4. Oxygen (from the air) enters the cathode and combines with the electrons and protons to form water.
5. Water vapor and heat are released as byproducts of this reaction.

From American Honda Motors Web Site

Basics of the Hydrogen Fuel Cell

Schematic of Hydrogen Fuel Cell Operation

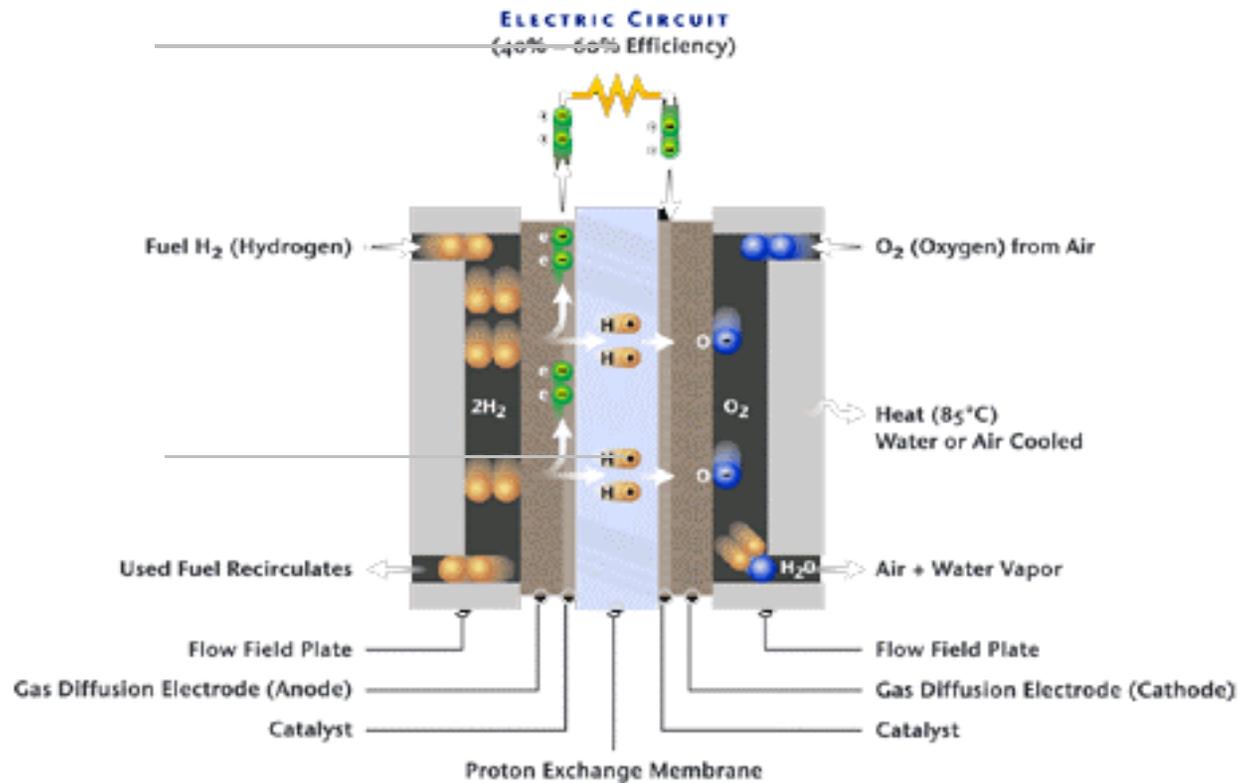


Image Courtesy of Ballard Power Systems

Making the Case for AFVs

- Case by Case Basis
- Examine the Economics
- Verify the Infrastructure
- What fuel will work for you?
- Get the commitment of your organization
- Get involved with your Clean Cities Coalition
- Learn from the Web Success Stories
- Check out incentives and rebates on Web
- Look for Funding Opportunities
- Come to the Clean Cities Conference!

Additional Information

National Alternative Fuels and Clean Cities Hotline

800-423-1363 or 800-CCITIES

Primary Web Sites

- **Clean Cities:** www.ccities.doe.gov
- **Buyers Guides:** www.ccities.doe.gov/vbg
- **AFDC:** www.afdc.doe.gov
- **U.S. DOE:** www.energy.gov
- **U.S. EPA:** www.epa.doe.gov
- **DOE/EREN:** www.eren.doe.gov

**See you in Ft.
Lauderdale
for the 10th
National
Clean Cities
Conference
and Expo!**



**10th National Clean Cities
Conference and Expo
May 2-4, 2004**

Thanks for Being Here

Questions?

Comments?