

Online Clean Air Vehicle Decision Tools for Fleets

100 Best Fleets Workshop- June 10, 2013

Richard Battersby, CAFM, CFPF

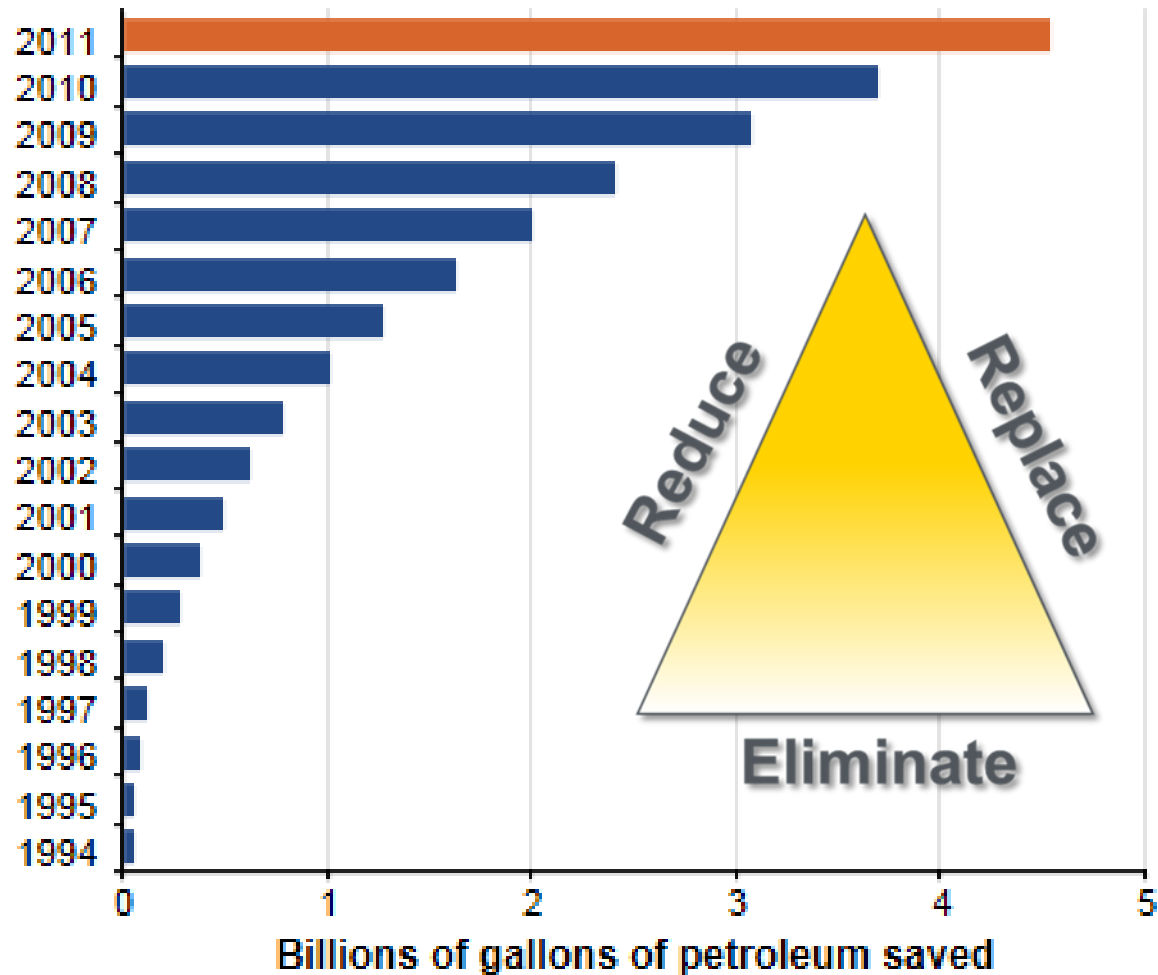
UC Davis Fleet & East Bay Clean Cities Coalition

Clean Cities Background

- Started in 1993 by US Department of Energy
- In response to Energy Policy Act of 1992 (EPA Act)
- Mission: Reduce petroleum consumption
- Energy, Economic, and Environmental Security
- Almost 100 Coalitions- geographically based

Presentation at: www.cleancitieseastbay.org

Clean Cities Goals



Clean Cities Technologies

- Alternative fuels and vehicles
- Hybrid electric vehicles
- Idle reduction technologies
- Fuel economy measures
- Trip reduction
- Low-level fuel blends

Clean Cities Technologies

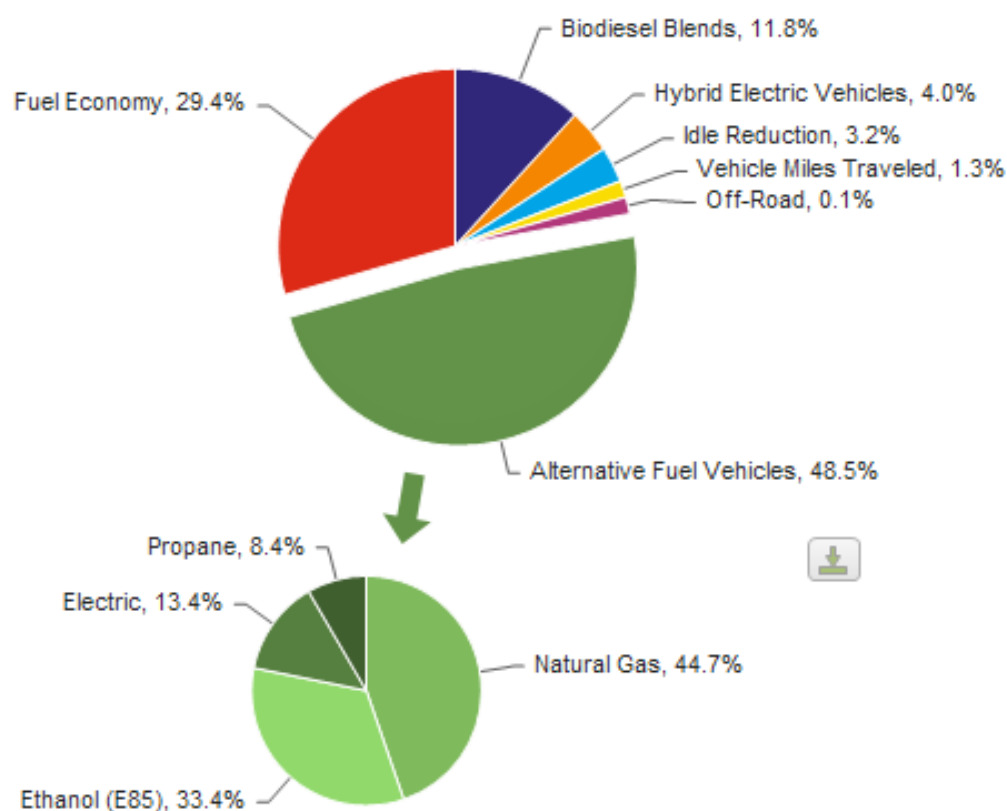
Petroleum Savings

Technology Breakdown

Vehicle Inventory

Station Inventory

Petroleum Reduction by Technology Type



In 2009, Clean Cities saved 446 million gallons of petroleum, with alternative fuel vehicles making the largest contribution, at 220 million gallons.

Source: [2009 Clean Cities Annual Metrics Report](#)

Why Alternative Fuel Vehicles?

- Avoid petroleum consumption
- Likely produced in US
- Cleaner burning/less pollution
- Can have lower cost of operation
- Mandated
- Intangibles: HOV, image, political

Current Alternative Fuels

- Biodiesel
- Electricity
- Ethanol
- Hydrogen
- Natural gas
- Propane

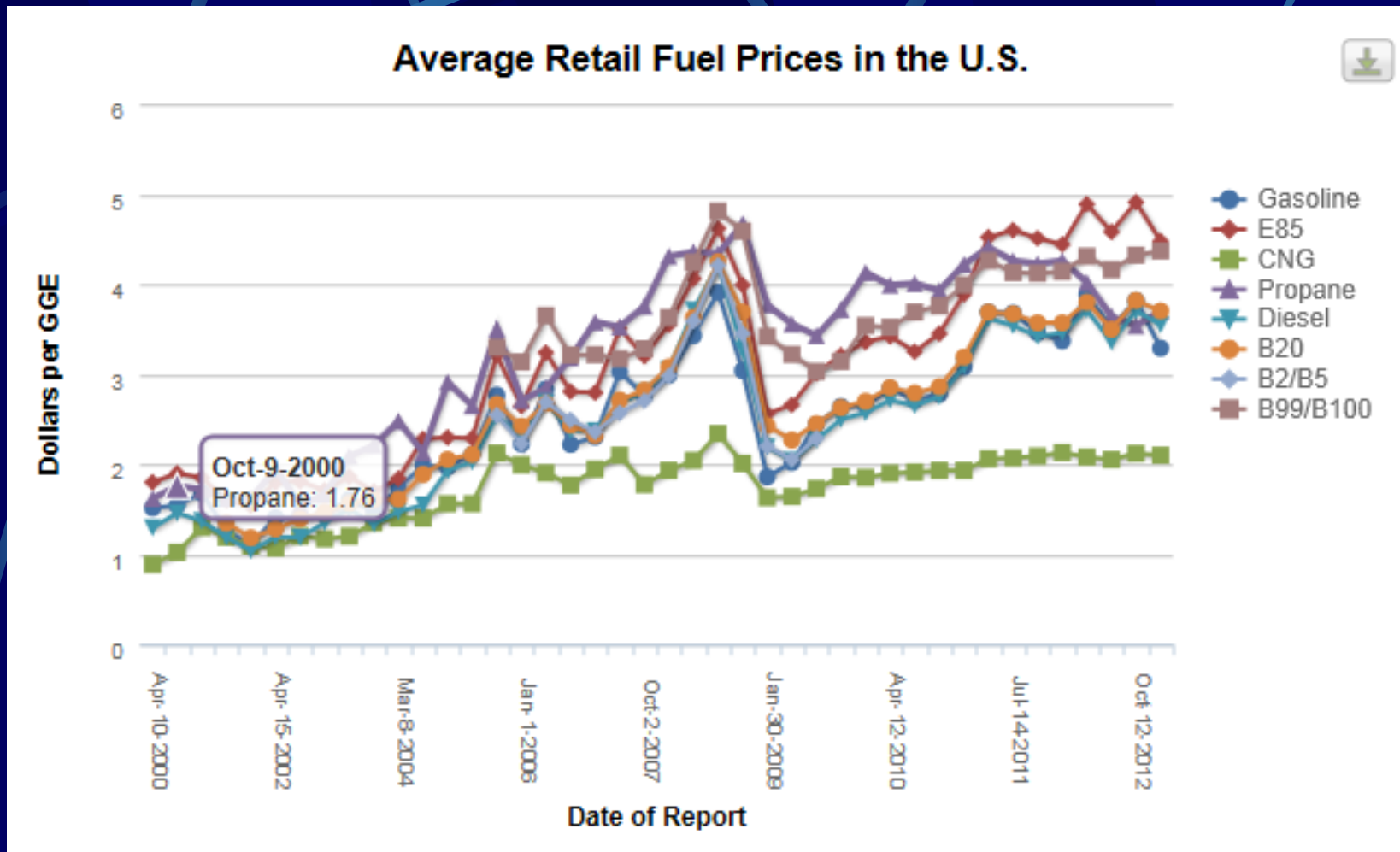


Future Technology?

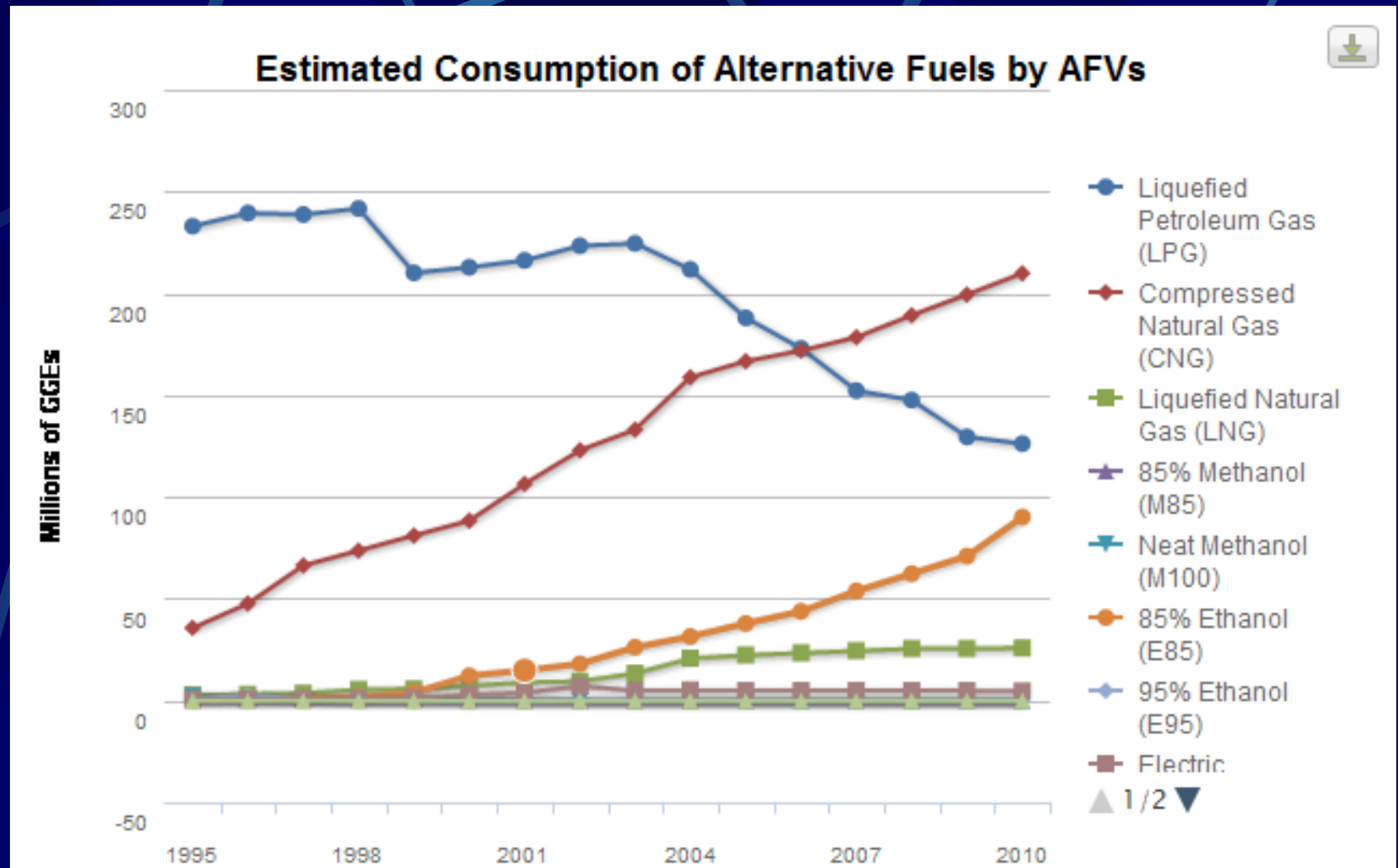
ALL FOR ONE
allinol



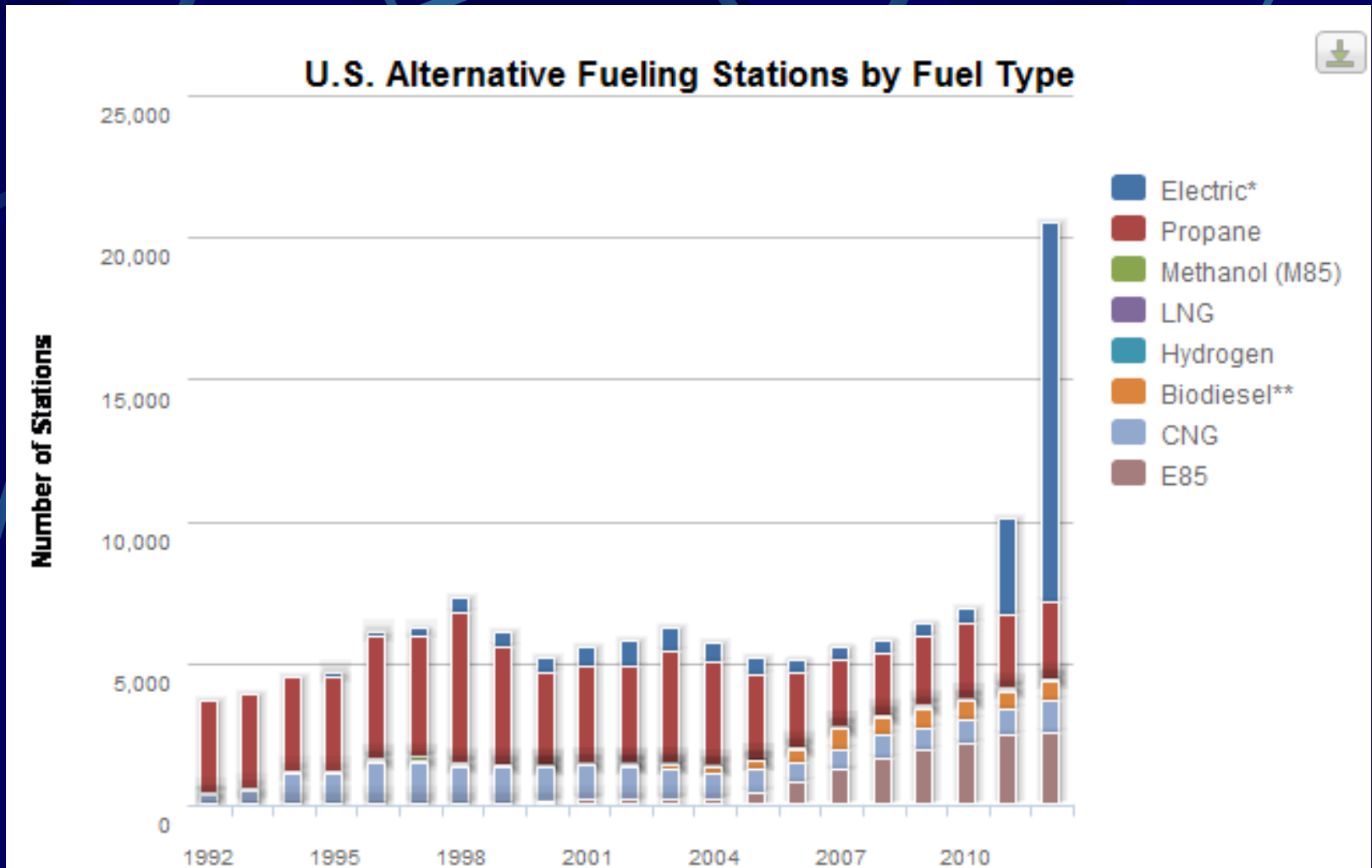
Alternative Fuel Pricing



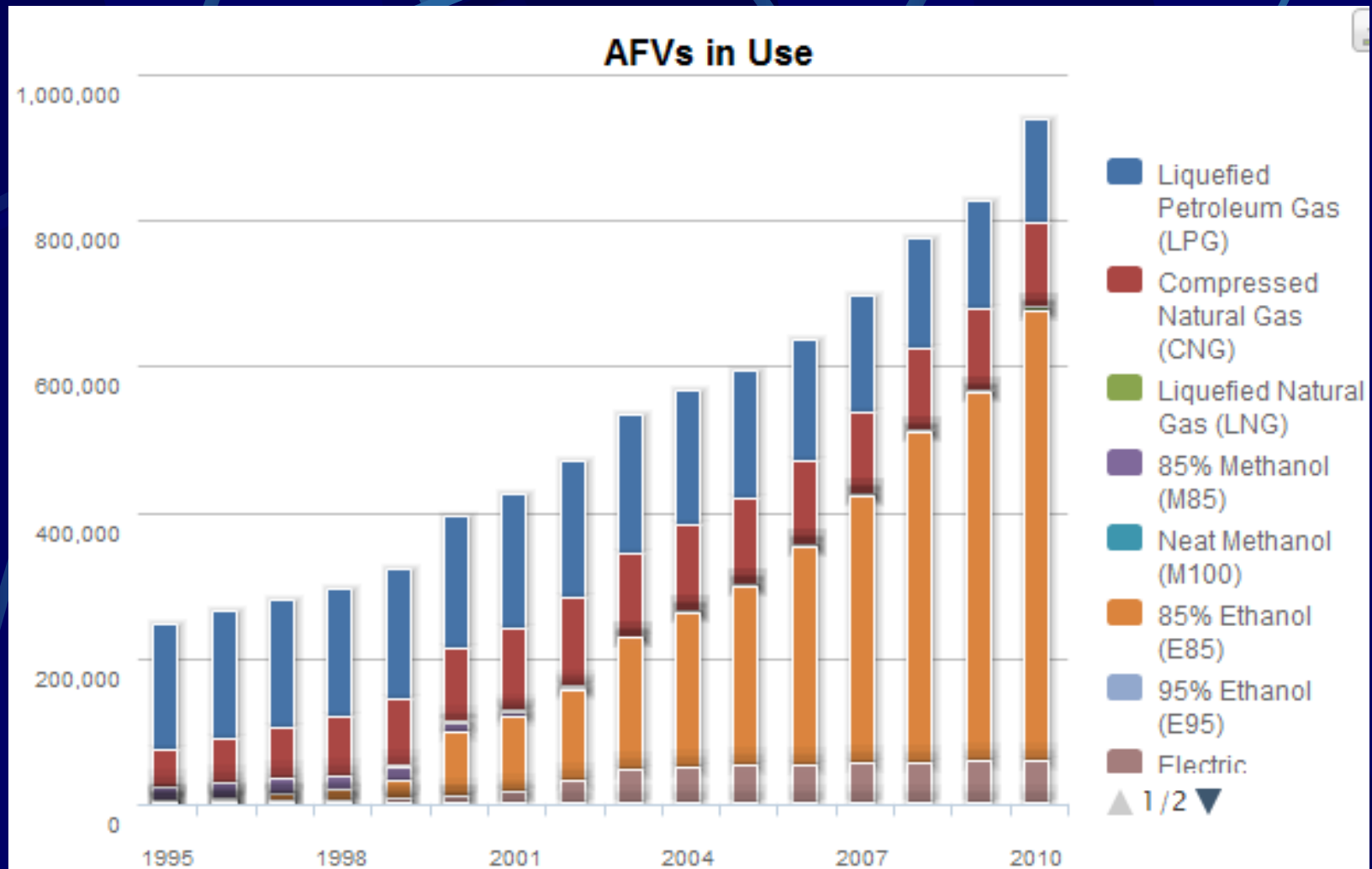
Alternative Fuel Use



Alternative Fuel Stations



AFV's in Use



Data??? Options???



Alternative Fuels Data Center

- Information about alternative fuels, vehicles, and fueling infrastructure
- Laws and incentives
- Interactive online tools
- Maps and data
- Deployment case studies
- Searchable publications database

The screenshot displays the homepage of the Alternative Fuels Data Center (AFDC), a resource from the U.S. Department of Energy's Energy Efficiency & Renewable Energy (EERE) program. The header features the EERE logo and navigation links for Home, Programs & Offices, and Consumer Information. Below the header, a green banner contains the title "Alternative Fuels Data Center" and a search bar. The main content area is organized into several sections: "Fuels & Vehicles" with icons for Biodiesel, Electricity, Ethanol, Hydrogen, Natural Gas, and Propane; "Maps & Data" with links to U.S. Alternative Fueling Stations by Fuel Type, Alternative Fuel Vehicles in Use, and U.S. Hybrid Electric Vehicle Sales by Model; "Tools" with links to Laws & Incentives, Petroleum Reduction Planning Tool, Vehicle Cost Calculator, Light-Duty Vehicle Search, and Heavy-Duty Vehicle Search; and a "Poll" section asking users to represent different fleet types. A "Station Locator" map is also visible. The footer includes a "Take a guess" interactive element and a description of the AFDC as a resource for reducing petroleum consumption.

U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

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Alternative Fuels Data Center

Alternative Fuels Data Center SEARCH

Search Help

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EERE » AFDC

Portable Version Share

Fuels & Vehicles

More Fuels & Vehicles

Biodiesel Electricity Ethanol Hydrogen Natural Gas Propane

Maps & Data

More Maps & Data

- U.S. Alternative Fueling Stations by Fuel Type
- Alternative Fuel Vehicles in Use
- U.S. Hybrid Electric Vehicle Sales by Model

Tools

More Tools

- Laws & Incentives
- Petroleum Reduction Planning Tool
- Vehicle Cost Calculator
- Light-Duty Vehicle Search
- Heavy-Duty Vehicle Search

Find State Information

Select a state GO

Poll

Tell us about yourself. I represent.

- ☐ Private-sector fleet
- ☐ Federal/state fleet
- ☐ Local public-sector fleet
- ☐ Fuel dealer/producer

Station Locator

Find alternative fueling station locations.

Take a guess: How many public alternative fueling stations operate in the United States? The answer may surprise you.

The Information Source for Alternative Fuels and Advanced Vehicles

The Alternative Fuels Data Center (AFDC) provides information, data, and tools to help fleets and other transportation decisions makers find ways to reduce petroleum consumption through the use of alternative and renewable fuels, advanced vehicles, and other fuel-saving measures.

The AFDC is a resource of the U.S. Department of Energy's Clean Cities program

<http://www.afdc.energy.gov/>

Alternative Fuel Price Report

Alternative Fuels Data Center

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LAWS &
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Publications

Find publications about alternative transportation, including alternative fuels, advanced vehicles, and regulated fleets.

Keyword

alternative fuel price report

SEARCH

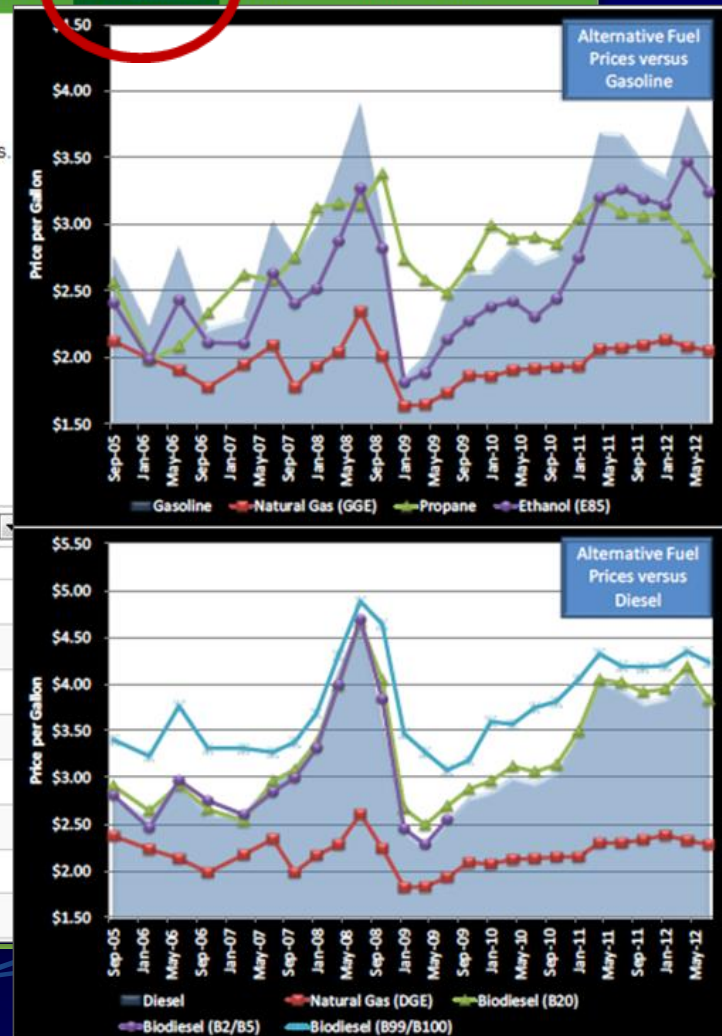
[More search options](#)

Search Results | 42 publications

Display 10 results

Sort by Relevance

Title	Author	Date	Category
Clean Cities Alternative Fuel Price Report, July, 2012	Babcock, S.	7/1/2012	Reports
Clean Cities Alternative Fuel Price Report, April 2012	Babcock, S.	4/1/2012	Reports
Clean Cities Alternative Fuel Price Report, January 2012	Babcock, S.	1/1/2012	Reports
Clean Cities Alternative Fuel Price Report, October 2011	Babcock, S.	10/1/2011	Reports
Clean Cities Alternative Fuel Price Report, July 2011	Babcock, S.	8/1/2011	Reports
Clean Cities Alternative Fuel Price Report, April 2011	Babcock, S.	5/1/2011	Reports
Clean Cities Alternative Fuel Price Report, January 2011	Laughlin, M.D.	2/1/2011	Reports



Alt Fuel Vehicle Buyer's Guide

U.S. DEPARTMENT OF
ENERGY | Energy Efficiency & Renewable Energy

EERE Home | Programs & Offices | Consumer Information

Alternative Fuels Data Center

FUELS & VEHICLES **CONSERVE FUEL** **LOCATE STATION**

Publications Tools About Home

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

Publications


Find publications about alternative transportation.

Keyword **Category**

Choose one or more categories to search.

<input type="checkbox"/> Biodiesel	<input type="checkbox"/> All-Electric Vehicles
<input type="checkbox"/> Electricity	<input type="checkbox"/> Plug-in Hybrid Electric Vehicles
<input type="checkbox"/> Ethanol	<input type="checkbox"/> Hybrid Electric Vehicles
<input type="checkbox"/> Hydrogen	<input type="checkbox"/> Flex Fuel Vehicles
<input type="checkbox"/> Natural Gas	<input type="checkbox"/> Fuel Cell Vehicles
<input type="checkbox"/> Propane	<input type="checkbox"/> Natural Gas Vehicles
<input type="checkbox"/> Methanol	<input type="checkbox"/> Propane Vehicles
	<input type="checkbox"/> Diesel Vehicles

Clean Cities 2013 Vehicle Buyer's Guide



- Natural Gas
- Propane
- Electric
- Hybrid
- Ethanol Flex-Fuel
- Biodiesel

Clean Cities
U.S. Department of Energy

Clean Cities 2013 Vehicle Buyer's Guide

Latest Additions

- [Clean Cities Alternative Fuel Price Report, January, 2013](#)
- [Clean Cities 2013 Vehicle Buyer's Guide](#)

[All Latest Additions](#)

+ Technology Bulletins

+ Newsletters

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Tools

The Alternative Fuels Data Center offers a large collection of helpful tools. These calculators, interactive maps, and data searches can assist fleets, fuel providers, and other transportation decision makers in their efforts to reduce petroleum use.



Calculators



Vehicle Cost Calculator

Compare cost of ownership and emissions for most vehicle models. [mobile](#)



Petroleum Reduction Planning Tool

Create a plan for your fleet to reduce petroleum consumption and emissions.



GREET Fleet Footprint Calculator

Calculate your fleet's petroleum use and greenhouse gas emissions footprint.



PEV Readiness Scorecard

Assess your community's readiness for the arrival of plug-in electric vehicles.



Interactive Maps



Alternative Fueling Station Locator

Locate alternative fueling stations and get maps and driving directions. [mobile](#)



TransAtlas

Analyze vehicle densities and locations of fueling stations and production facilities.



BioFuels Atlas

Compare feedstocks and analyze biofuel production by location.



Truck Stop Electrification Sites

Locate truck stops with electrification sites to reduce the need for idling. [mobile](#)



Data Searches



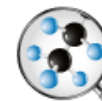
Light-Duty Vehicle Search

Compare light-duty alternative fuel vehicles, electric vehicles, and hybrids.



Heavy-Duty Vehicle and Engine Search

Find medium- and heavy-duty alternative fuel vehicles, engines, and hybrid systems.



Fuel Properties Comparison

Compare alternative fuel properties and characteristics.



Laws and Incentives Search

Search for laws and incentives related to alternative fuels and advanced vehicles.

AFDC Vehicle Searches, LD

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Light-Duty Vehicle Search

Search our light-duty alternative fuel vehicle database to find and compare alternative fuel vehicles and generate printable reports to aid in decision-making. These vehicles might not qualify for vehicle-acquisition credits under the U.S. Department of Energy's [EPA State and Fuel Provider](#) or [Federal Fleet Management](#) programs. Contact these programs if you have questions about eligible vehicles.

Cars and Trucks

Low Speed

Fuel Type Manufacturer Class

Plug-in Hybrid Electric (4)

All

All

☒

2014 (0)

[More Years](#)

☒

2013 (4)

☐

2012 (2)

Compare



[Chevrolet - Volt \(2013\)](#)



[Ford - C-MAX ENERGY \(2013\)](#)



[Ford - Fusion ENERGY \(2013\)](#)



[Toyota - Prius Plug-in \(2013\)](#)

Select

[All](#) | [None](#)

SIDE-BY-SIDE COMPARISON

Light-Duty Vehicle Search

Search our light-duty alternative fuel vehicle database to find and compare alternative fuel vehicles and generate printable reports to aid in decision-making. These vehicles might not qualify for vehicle-acquisition credits under the U.S. Department of Energy's [EPA State and Fuel Provider](#) or [Federal Fleet Management](#) programs. Contact these programs if you have questions about eligible vehicles.

Cars and Trucks

Low Speed

Detail

Detail

© GM Corp.



Chevrolet - Volt (2013)

Fuel: Plug-in Hybrid Electric (Hybrid Electric)
Class: Sedan/Wagon

Fuel Economy (Gasoline): 35 mpg city, 40 mpg highway
Fuel Economy (Plug-in Hybrid Electric): 101 mpge city, 93 mpge highway

Emission Certification: California PZEV, Tier 2 Bin 2

Engine: 4-cyl, 1.4L
Transmission: Auto

Dealer: [Locate a dealer](#)

[Cost Analysis](#)

Detail

Detail

© Ford Motor Company



Ford - C-MAX ENERGY (2013)

Fuel: Plug-in Hybrid Electric (Hybrid Electric)
Class: Sedan/Wagon

Fuel Economy (Gasoline): 44 mpg city, 41 mpg highway
Emission Certification: Tier 2 Bin 3

Engine: 4-cyl, 2.0L
Transmission: ECVT

Dealer: [Locate a dealer](#)

[Cost Analysis](#)

AFDC Vehicle Searches, HD

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Heavy-Duty Vehicle and Engine Search

Search our database to find and compare specific vehicles, engines, or hybrid propulsion systems and generate printable reports.

Vehicles

Chassis

Engines & Power Sources

Hybrid Propulsion Systems

Manufacturer

Fuel Type

Application

All

CNG (14)

Bus - Transit (14)

Compare

☐ [COBUS Industries LP - COBUS 3000 CNG](#)

☐ [Daimler Buses North America - Orion VII CNG LF](#)

☐ [EIDorado National - Axess](#)

☐ [EIDorado National - E-Z Rider II BRT](#)

☐ [EIDorado National - XHF](#)

☐ [Foton America - FCB 30-foot; FCB 35-foot; FCB 40-foot](#)

☐ [Motor Coach Industries - D4500CT Commuter Coach](#)

☐ [NABI-North American Bus Industries - 31LFW / 35LFW / 40LFW](#)

☐ [NABI-North American Bus Industries - 42BRT](#)

☐ [NABI-North American Bus Industries - 60BRT](#)

Heavy-Duty Vehicle and Engine Search

Search our database to find and compare specific vehicles, engines, or hybrid propulsion systems and generate printable reports.

Vehicles


Chassis

Engines & Power Sources


Hybrid Propulsion Systems

Detail

Detail



EIDorado National - Axess
Application: Bus - Transit
Fuel Type Options: CNG, LNG, Diesel/Electric
Vehicle Class: Class 8 (over 33,000 lbs)
Transmission Make: Allison B400R
Transmission Type: Automatic
Number of Passengers: 22-37
Description: The Axess is a low-floor, 35- or 40-ft transit bus with roof-mounted CNG or LNG tanks.
Compatible Power Sources:
• [Cummins Westport Inc. - ISL G 250 - 320 hp](#)



Foton America - FCB 30-foot; FCB 35-foot; FCB 40-foot
Application: Bus - Transit
Fuel Type Options: CNG, Diesel/Electric
Vehicle Class: Class 8 (over 33,000 lbs)
Transmission Make: Allison B300R; B400R
Number of Passengers: 40
Description: The Foton FCB bus is available in 30-, 35-, or 40-ft CNG or diesel-electric models.
Compatible Power Sources:
• [Cummins Westport Inc. - ISL G 250 - 320 hp](#)
Compatible Hybrids:
• [Eaton - Diesel Electric](#)

AFDC Alt Fuel Station Locator

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Alternative Fueling Station Locator

Find alternative fueling stations near an address or ZIP code or along a route in the United States. Enter a state to see a station count.

Find Stations

Plan a Route

1400 J St Sacramento, CA

All Fuels

more search options

Alternative fuel stations near 1400 J St
Sacramento, CA 95814
Excluding private stations

A

Esquire Plaza Garage

1215 K St
Sacramento, CA 95814
Phone: 888-758-4389
Fuel: Electric
Electric charging types: Level 2
Distance: 0.1 mi

B

Ace Parking

901-949 13th St
Sacramento, CA 95814
Phone: 888-758-4389
Fuel: Electric

Embed

Add a Station

Legend

Biodiesel

CNG

Electric

Ethanol

Hydrogen

LNG

Propane

Map data ©2013 Google - Terms of Use

Data DownloadDeveloper Tools

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Maps and Data

Find maps and charts showing transportation data and trends related to alternative fuels and vehicles.

All

Vehicles

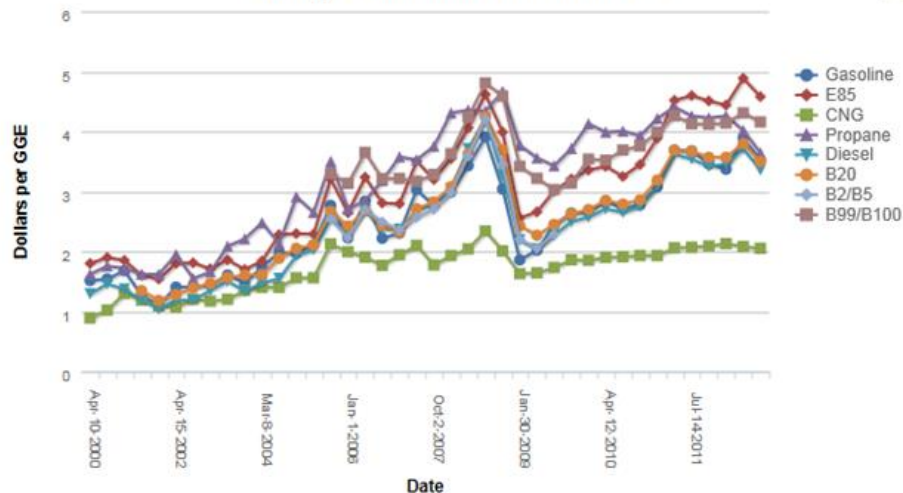
Fuels & Infrastructure

Laws & Incentives

Regulated Fleets

Clean Cities

Average Retail Fuel Prices in the U.S.



Source: [Clean Cities Alternative Fuel Price Reports](#)

Notes: Fuel volumes 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 average monthly retail fuel prices in the United States from 2000 to 2012. The price of petroleum fuels (gasoline and diesel fuel) is the primary driver of overall fuel prices. For as petroleum prices rise, so does demand for alternative fuels, thereby pushing their prices upward as well. However, natural gas prices have been buffered from this driver, because its primary market is utilities, and due to recent increases in domestic natural gas production.

Search:

GO

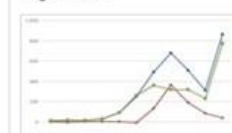
Average Retail Fuel Prices in the U.S.

September 2012




U.S. Biodiesel Production, Exports, and Consumption

August 2012



Mobile Alt Fuel Station Locator

U.S. DEPARTMENT OF **ENERGY** | Energy Efficiency & Renewable Energy

 **Alternative Fueling Station Locator**

Fuel Type
Biodiesel (B20 and above) ▼

Location
Enter a city, postal code, or address
Cleveland, OH

☒ **Include private stations**
Not all stations are open to the public. Choose this option to also search private stations.

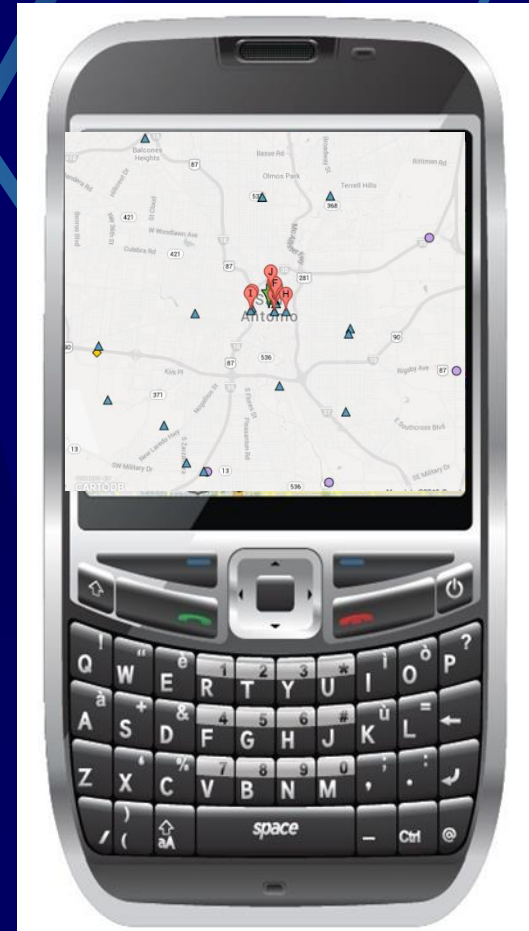
Caution: The AFDC recommends that users verify that station code area instead of the actual location.

If you're having difficulty, please contact the technical response team.

[Station Locator Full Site >](#)

[Clean Cities Home >](#)

[EERE Home >](#)



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Tools

The Alternative Fuels Data Center offers a large collection of helpful tools. These calculators, interactive maps, and data searches can assist fleets, fuel providers, and other transportation decision makers in their efforts to reduce petroleum use.



Calculators



Vehicle Cost Calculator

Compare cost of ownership and emissions for most vehicle models. [mobile](#)



Petroleum Reduction Planning Tool

Create a plan for your fleet to reduce petroleum consumption and emissions.



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PEV Readiness Scorecard

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TransAtlas

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BioFuels Atlas

Compare feedstocks and analyze biofuel production by location.



Truck Stop Electrification Sites

Locate truck stops with electrification sites to reduce the need for idling. [mobile](#)



Data Searches



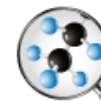
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Laws and Incentives Search

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Petroleum Reduction Planning Tool

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Petroleum Reduction Planning Tool

This planning tool helps your vehicle fleet reduce petroleum consumption and greenhouse gas (GHG) emissions. Create a comprehensive plan for your fleet by using several savings methods. If your fleet includes multiple vehicle types, add more vehicles to each method.

ASSUMPTIONS

My Current Plan

SET GOAL

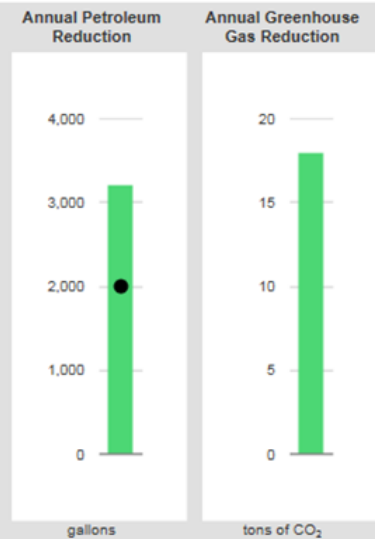
CLEAR PLAN

LOG IN TO SAVE/VIEW PLANS

START NEW PLAN

Savings Methods

		Petroleum Reduction gal/yr	GHG Reduction tons CO ₂ /yr	Fuel Cost Savings \$/yr	Impact on Plan percent
<u>Replace Vehicles</u>	ADD ANOTHER	3,220	18	\$500	100%
Replace 10 midsize gas cars with 8 midsize cars using ethanol (E85) 80% of the time	edit delete	3,220	18	\$500	100%
<u>Use Alternative Fuel in Existing Vehicles</u>	ADD TO PLAN	0.00	0.00	\$0.00	0%
<u>Reduce Idling</u>	ADD TO PLAN	0.00	0.00	\$0.00	0%
<u>Reduce Mileage</u>	ADD TO PLAN	0.00	0.00	\$0.00	0%
<u>Drive Efficiently</u>	ADD TO PLAN	0.00	0.00	\$0.00	0%
Total savings from plan per year		3,220 gallons	18 tons of CO ₂	\$500	100%



● Petroleum reduction goal

Total Cost of Ownership

Vehicle Purchase Price

- Funding/Incentives

+ Operating Expense (fuel, repairs,
insurance)

- Residual Value (resale)

= Total Cost of Ownership

Infrastructure?

Total Cost of Ownership, Based on Actuals circa 2007

Vehicle	Acquisition Cost	Clean Air Vehicle Rebate	Estimated Resale Value (KBB trade-in GOOD cond, 80,000 miles)	HOV Lane Access Decal Premium	Estimated Lifetime Net Capital Cost	Estimated Lifetime Fuel, Maintenance & Repairs (Total CPM x 80,000 miles)	Estimated Lifetime Net Capital + Lifetime Operating Costs
2001 Toyota Camry CNG*	\$25,029.00	(\$2,000.00)	(\$5,220.00)	\$0.00	\$17,809.00	\$13,520.00	\$31,329.00
2001 Honda Civic CNG	\$19,981.00	(\$2,000.00)	(\$6,220.00)	\$0.00	\$11,761.00	\$14,720.00	\$26,481.00
2001 Chevrolet Cavalier	\$13,248.00	\$0.00	(\$2,335.00)	\$0.00	\$10,913.00	\$24,320.00	\$35,233.00
2002 Toyota Prius Hybrid	\$21,587.00	(\$2,000.00)	(\$9,315.00)	(\$1,000.00)	\$9,272.00	\$11,680.00	\$20,952.00
2002 Ford Taurus SE	\$16,027.00	\$0.00	(\$3,670.00)	\$0.00	\$12,357.00	\$18,800.00	\$31,157.00
2003 Chevrolet Cavalier	\$12,413.00	\$0.00	(\$2,450.00)	\$0.00	\$9,963.00	\$15,920.00	\$25,883.00
2003 Ford Taurus SE	\$16,038.00	\$0.00	(\$4,020.00)	\$0.00	\$12,018.00	\$15,920.00	\$27,938.00
2003 Toyota Prius Hybrid	\$21,324.00	(\$2,000.00)	(\$10,035.00)	(\$1,000.00)	\$8,289.00	\$10,480.00	\$18,769.00
2004 Chevrolet Cavalier	\$12,339.00	\$0.00	(\$3,725.00)	\$0.00	\$8,614.00	\$23,600.00	\$32,214.00
2004 Ford Taurus SE	\$16,134.00	\$0.00	(\$4,325.00)	\$0.00	\$11,809.00	\$14,880.00	\$26,689.00

AFDC TCO Calculator



Vehicle Cost Calculator

This tool uses basic information about your driving habits to calculate total cost of ownership and emissions for makes and models of most vehicles, including alternative fuel and advanced technology vehicles. Also see the cost [calculator widgets](#).

ASSUMPTIONS

Choose vehicles to compare

Select up to eight vehicles to compare from the makes and models below or [create your own custom vehicle](#).

2012 Make Model

[Create Custom Vehicle](#)

Tell us how you use your car

Because vehicle efficiencies vary depending on how you use your car, this information allows the tool to more accurately calculate fuel usage.

Normal Daily Use

Average daily driving distance miles

Days per week

Weeks per year

Percent highway

Other Trips

Annual mileage miles

Percent highway

Annual Driving Distance **11926 miles**
City Distance **5301 miles**
Highway Distance **6625 miles**

AFDC TCO Calculator Variables

Fuel Prices

☒ Gasoline \$ 4.25 /gal

☒ E85 \$ 3.76 /gal

Tell us how you use your car [EDIT](#)

Normal Daily Use

Average daily driving distance miles

Days per week

Weeks per year

Percent highway

Other Trips

Annual mileage miles

Percent highway

Electricity Use

Enter your ZIP code so we can find the electricity price and calculate the emissions from generating electricity in your area.

ZIP Code

E85 Ethanol Use

For flex fuel vehicles that run on either E85 or gasoline, how often do you anticipate using E85?

Percent E85 use %

Annual Driving Distance 11926 miles
City Distance 5301 miles
Highway Distance 6625 miles



AFDC TCO Calculator

Choose vehicles to compare

Select up to eight vehicles to compare from the makes and models below or [create your own custom vehicle](#).

2012 Ford Focus FWD 4cyl 2.0L Auto(AM6)

[Create Custom Vehicle](#)

	Vehicle	Price	Fuel Economy (City/Hwy)	Fuel Type
<input checked="" type="checkbox"/>	 2012 Ford Focus BEV FWD Automatic (variable gear ratios) EV	\$ <input type="text" value="39,200"/> Tax Credit?	31/34 kWh/100m	Electric
<input checked="" type="checkbox"/>	 2012 Ford Focus FWD 4cyl 2.0L Auto(AM6) Gasoline	\$ <input type="text" value="16,500"/>	28/38 mpg	Gasoline

[Clear all](#)

Fuel Prices

☒ Gasoline

\$ /gal

AFDC TCO Calculator

Choose vehicles to compare

Select up to eight vehicles to compare from the makes and models below or [create your own custom vehicle](#).



2012

Ford

Focus FWD 4cyl 2.0L Auto(AM6)

ADD >>

[Create Custom Vehicle](#)

	Vehicle	Price	Fuel Economy (City/Hwy)	Fuel Type
	2012 Ford Focus BEV FWD Automatic (variable gear ratios) EV	\$ 29,200 Tax Credit?	31/34 kWh/100m	Electric
	2012 Ford Focus FWD 4cyl 2.0L Auto(AM6) Gasoline	\$ 16,500	28/38 mpg	Gasoline

[Clear all](#)



Fuel Prices

☒ Gasoline

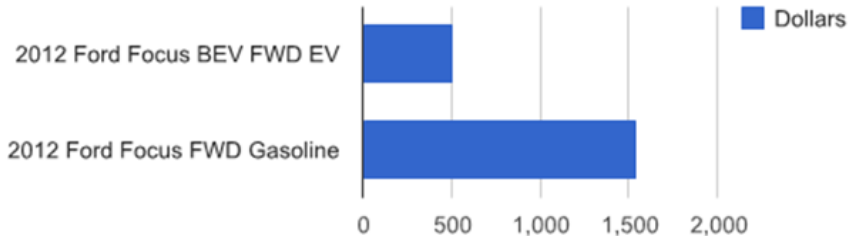
\$ 4.25 /gal

AFDC TCO Calculator

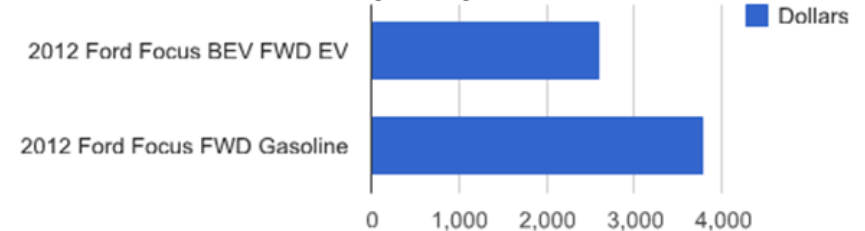
Results

Vehicle	Annual Fuel Use 	Annual Electricity Use 	Annual Fuel/Elec Cost 	Annual Operating Cost 	Cost Per Mile 	Annual Emissions (lbs CO ₂) 
2012 Ford Focus BEV FWD EV	0 gal	3,896 kWh	\$515	\$2,620	\$0.22	3,339
2012 Ford Focus FWD Gasoline	364 gal	0 kWh	\$1,546	\$3,803	\$0.32	9,004
	Graph	Graph	Graph	Graph	Graph	Graph

Annual Fuel Cost (Dollars)

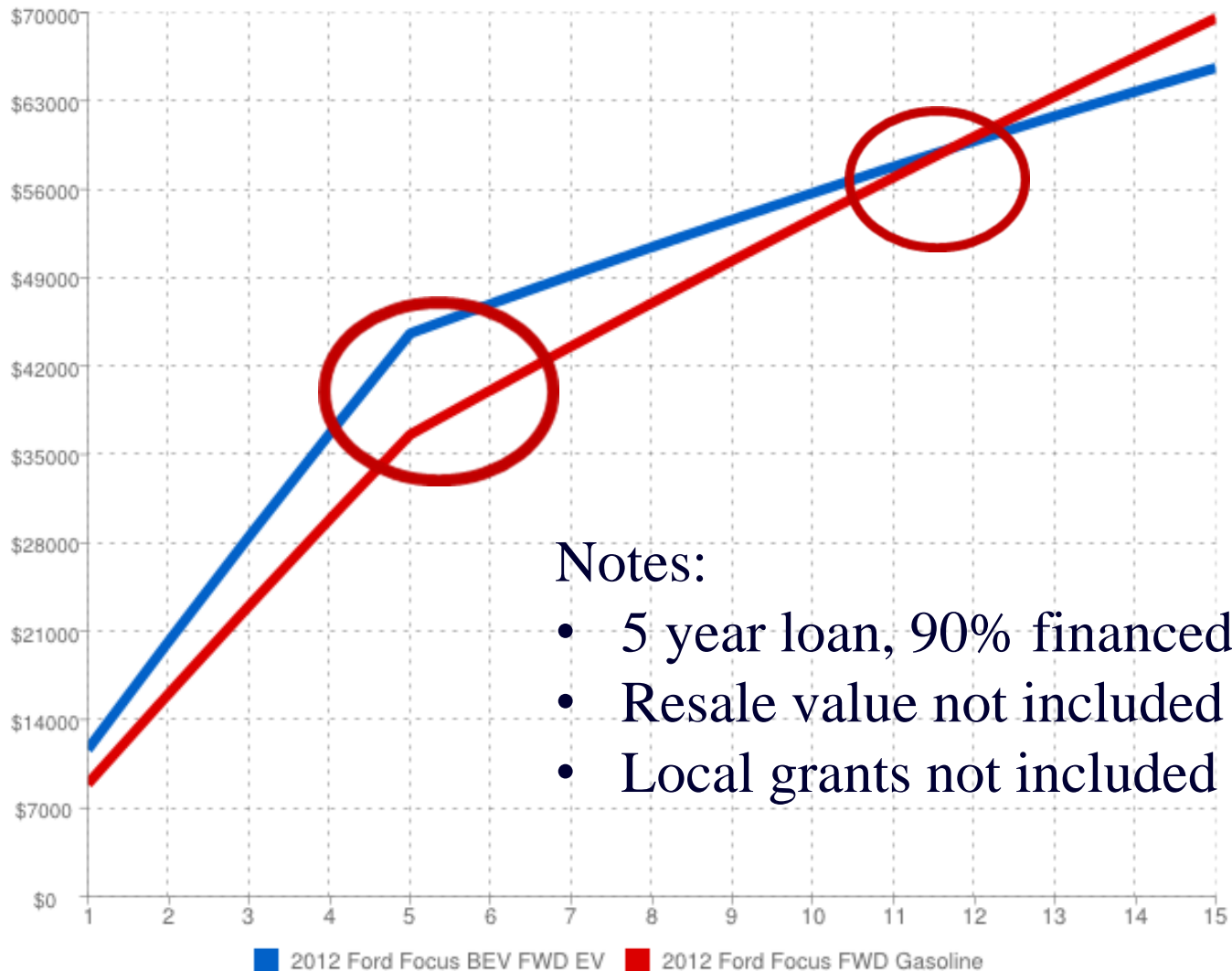


Annual Operating Cost (Dollars)



AFDC TCO Calculator Graph

Cumulative Cost of Ownership by Year (Dollars)




AFDC TCO Calculator Notes

- Good for quick “ballparking”
- Purchase price allows for funding/incentives
- Compares purchase and operating costs well (fuel maintenance, tires, insurance, license, and registration)
- Based on five year, 90% financed purchase
- Fuel costs are key
- Does not include resale value
- Does not include value of emission reduction
- Verify emissions calculations for electricity
- Infrastructure costs?

CNG/Diesel Cost Calculator

[CROSS COUNTRY TOUR](#)[THE CNG TRUCK](#)[SAVINGS CALCULATOR](#)[WHY NATURAL GAS?](#)




LA to DC on CNG

THE FREIGHTLINER NATURAL GAS TOUR



CALCULATE YOUR NATURAL GAS SAVINGS

The Freightliner Cascadia 113 Day Cab tractor runs on the cleanest technology available: natural gas. Natural gas vehicles help fleets go green and add green to the bottom line. While the cost of diesel continues to rise, the cost of natural gas remains steady and significantly cheaper. Use the calculator below to find out how much money you can save by choosing Freightliner's natural gas lineup.


[LEARN ABOUT THE TRUCK](#)

SAVINGS CALCULATOR:

Natural Gas Application:		
<input checked="" type="radio"/> Compressed Natural Gas		
<input type="radio"/> Liquid Natural Gas		
Fleet Size:	<input type="range"/>	10 Trucks
Average Miles Per Year:	<input type="range"/>	50,000 Miles
Average Diesel MPG:	<input type="range"/>	6 MPG
Diesel Cost:	<input type="range"/>	\$ 4.5
Natural Gas Cost: ¹	<input type="range"/>	\$ 1.75
Incremental NG Truck Cost:	<input type="range"/>	\$ 50,000
Government Incentives:	<input type="range"/>	\$ 32,000

Natural Gas	Diesel
 92,593 Gallons Equivalent Used	 83,333 Gallons Diesel Used
\$ 183,102 Total Annual Fuel Cost	\$ 375,000 Total Annual Fuel Cost

Results

 Payback on Incremental Truck Cost	0.94 Years
---	----------------------

Annual Fuel Savings

\$ 191,898

<http://www.freightlinergreen.com/calculator>

Need More? FuelEconomy.gov

Fuel economy information

- ✓ Side-by-side comparisons
- ✓ Fuel economy ratings
- ✓ Energy impact
- ✓ Smog score
- ✓ GHG emissions
- ✓ Fuel costs

U.S. DEPARTMENT OF **ENERGY** | Energy Efficiency & Renewable Energy | Office of Transportation & Air Quality | U.S. ENVIRONMENTAL PROTECTION AGENCY

www.fueleconomy.gov
the official U.S. government source for fuel economy information

Mobile | Español | Site Map | Links | FAQ | Videos | Contacts

Find a Car | Save Money & Fuel | Benefits | Your MPG | Advanced Vehicles & Fuels | About EPA Ratings | More...

 A New Fuel Economy and Environmental Label for a New Generation of Cars
Beginning model year 2013: compare cars, save money at the pump, reduce air pollution

 Fuel Economy and Environment
City 26 MPG, Highway 32 MPG, Combined 22 MPG
Annual Fuel Cost \$2,150
You Save \$1,850 in fuel costs over 5 years compared to the average new vehicle

Learn More

Find and Compare Cars

MPG and environmental ratings for new and used cars
Compare Side-by-Side
Power Search

Your MPG





Calculate or Share Your MPG
Estimates from Drivers Like You
Enter your MPG at the pump

Save Money

Gas Mileage Tips
Fuel Cost Calculator
Find the Cheapest Gas

Hybrids and Electrics

Hybrids
Plug-in Hybrids
Electric Vehicles

<div>Personalize</div> <div>Edit Vehicles</div>	<div>2013 Honda Civic Natural Gas X</div> <div>Natural Gas Vehicle</div>  <div>1.8 L, 4 cyl, Automatic 5-spd</div>	<div>2013 Honda Fit EV X</div> <div>Electric Vehicle</div>  <div>Automatic (A1)</div> <div>MSRP: \$36,625</div>	<div>2013 Ford C-Max Energi Plug-in Hybrid X</div> <div>Plug-in Hybrid</div> <div>© Ford Motor Company</div>  <div>2.0 L, 4 cyl, Automatic (variable gear ratios)</div> <div>MSRP: \$32,950</div> <div>Plug-in Hybrid Calculator</div>	<div>2013 Toyota Prius X</div> <div>Hybrid Vehicle</div>  <div>1.8 L, 4 cyl, Automatic (variable gear ratios)</div> <div>MSRP: \$24,200 - \$30,005</div>
	EPA Fuel Economy			
<div>Miles per Gallon Equivalent</div> <div>1 gallon of gasoline=33.7 kW-hr</div>		<div>ELECTRICITY</div> <div>118</div> <div>Combined</div> <div>132 City 105 Highway</div> <div>29 kW-hrs/100 mi</div>	<div>ELECTRICITY + GASOLINE ⓘ</div> <div>100</div> <div>Combined</div> <div>.0 gal/100 mi of gas plus 34 kW-hrs/100 mi ⓘ</div>	
<div>Miles per Gallon</div>	<div>NATURAL GAS</div> <div>31</div> <div>Combined</div> <div>27 City 38 Highway</div> <div>3.2 gallons/100 mi</div>		<div>REGULAR GASOLINE</div> <div>43</div> <div>Combined</div> <div>44 City 41 Highway</div> <div>2.3 gallons/100 mi</div>	<div>REGULAR GASOLINE</div> <div>50</div> <div>Combined</div> <div>51 City 48 Highway</div> <div>2.0 gallons/100 mi</div>
Unofficial MPG Estimates from Vehicle Owners				
Learn more about "Your MPG" <div>Disclaimer</div>	User MPG estimates are not yet available for this vehicle	User MPG estimates are not yet available for this vehicle	<div>Average based on 9 vehicles</div> <div>56.2</div> <div>33 Lo → 132 Hi</div> <div> <div>!</div> <div>Not comparable to EPA fuel economy because these estimates do not include electricity use.</div> </div>	<div>Average based on 2 vehicles</div> <div>46.7</div> <div>45 Lo → 48 Hi</div>
				View Individual Estimates
Fuel Economics ⓘ				
<div>You save or spend*</div> <div>Note: The average 2013 vehicle gets 23 MPG</div>	<div>You SAVE \$6,750</div> <div>in fuel costs over 5 years compared to the average new vehicle</div>	<div>You SAVE \$9,250</div> <div>in fuel costs over 5 years compared to the average new vehicle</div>	<div>You SAVE \$7,000</div> <div>in fuel costs over 5 years compared to the average new vehicle</div>	<div>You SAVE \$6,250</div> <div>in fuel costs over 5 years compared to the average new vehicle</div>
<div>Annual Fuel Cost*</div>	CNG: \$1,000	Elec: \$500	Electricity + Gasoline: \$950	Gas: \$1,100

Personalize

Edit Vehicles

2013 Honda Civic Natural Gas



Natural Gas Vehicle



1.8 L, 4 cyl, Automatic 5-spd

2013 Honda Fit EV



Electric Vehicle



Automatic (A1)

MSRP: \$36,625

2013 Ford C-Max Energi Plug-in Hybrid



Plug-in Hybrid

© Ford Motor Company



2.0 L, 4 cyl, Automatic (variable gear ratios)

MSRP: \$32,950

[Plug-in Hybrid Calculator](#)

2013 Toyota Prius



Hybrid Vehicle



1.8 L, 4 cyl, Automatic (variable gear ratios)

MSRP: \$24,200 - \$30,005

Fuel Economics ⓘ

You save or spend*

Note: The average 2013 vehicle gets 23 MPG

You SAVE \$6,750

in fuel costs over 5 years compared to the average new vehicle

You SAVE \$9,250

in fuel costs over 5 years compared to the average new vehicle

You SAVE \$7,000

in fuel costs over 5 years compared to the average new vehicle

You SAVE \$6,250

in fuel costs over 5 years compared to the average new vehicle

Annual Fuel Cost*

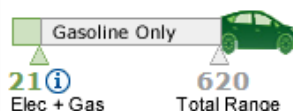
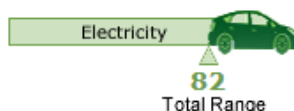
CNG: \$1,000

Elec: \$500

Electricity + Gasoline: \$950

Gas: \$1,100

Driving Range (miles)



NATURAL GAS

ELECTRICITY

ELECTRICITY + GASOLINE

REGULAR GASOLINE

Cost to Drive 25 Miles

\$1.69

\$0.87

\$1.19 ⓘ
(Cost to drive 25 miles on a single charge)

\$1.80

Fuel to Drive 25 Miles

0.8 gallons

7.25 kW-hrs

7.1 kW-hrs of electricity and 0.1 gallons of gas

0.5 gallons

Cost to Fill the Tank

\$39

Miles on a Tank

536 miles

Tank Size

11.9 gallons

REGULAR GASOLINE ONLY

Cost to Drive 25 Miles

\$2.10

Fuel to Drive 25 Miles

0.6 gallons

Cost to Fill the Tank

\$45

Tank Size

14.0 gallons

*Based on 45% highway, 55% city driving, 15,000 annual miles and current fuel prices. [Personalize](#).

MSRP and tank size data provided by Edmunds.com, Inc.

Miles on a tank and refueling costs assume 90% of fuel in tank will be used before refueling.

Compare Side-by-Side

Fuel Economy

Energy and Environment

Safety

Specs

Personalize

Edit Vehicles

2013 Honda Civic
Natural Gas



Natural Gas Vehicle



1.8 L, 4 cyl, Automatic 5-spd

2013 Honda Fit EV



Electric Vehicle



Automatic (A1)

MSRP: \$36,625

2013 Ford C-Max Energi
Plug-in Hybrid



Plug-in Hybrid

© Ford Motor Company



2.0 L, 4 cyl, Automatic (variable gear ratios)

MSRP: \$32,950

Plug-in Hybrid Calculator

2013 Toyota Prius



Hybrid Vehicle



1.8 L, 4 cyl, Automatic (variable gear ratios)

MSRP: \$24,200 - \$30,005

Energy Impact Score

Annual Petroleum
Consumption

- U.S. barrel
 - Imported barrel

1 barrel = 42 gallons

NATURAL GAS



0.1 barrels

ELECTRICITY



0.2 barrels

ELECTRICITY + GASOLINE



4.2 barrels

REGULAR GASOLINE



6.6 barrels

Greenhouse Gas Emissions

Units:

Metric tons per year

Show:

Tailpipe CO2

NATURAL GAS

3.3 metric tons per year



ELECTRICITY

0.0 metric tons per year



ELECTRICITY + GASOLINE

1.6 metric tons per year



REGULAR GASOLINE

2.7 metric tons per year



EPA Smog Rating

State of purchase:

California

Not Available



ZEV
DHNXV00.05ET



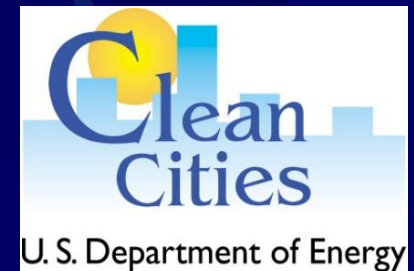
PZEV
DFMXV02.0VZP



PZEV
DTYXV01.8HC3



Questions?





Funding Strategies 101

- **Clean air vehicles cost more**
- **Internal funding mechanisms**
(you pay for it)
- **External funding sources**
(somebody else pays for it!)

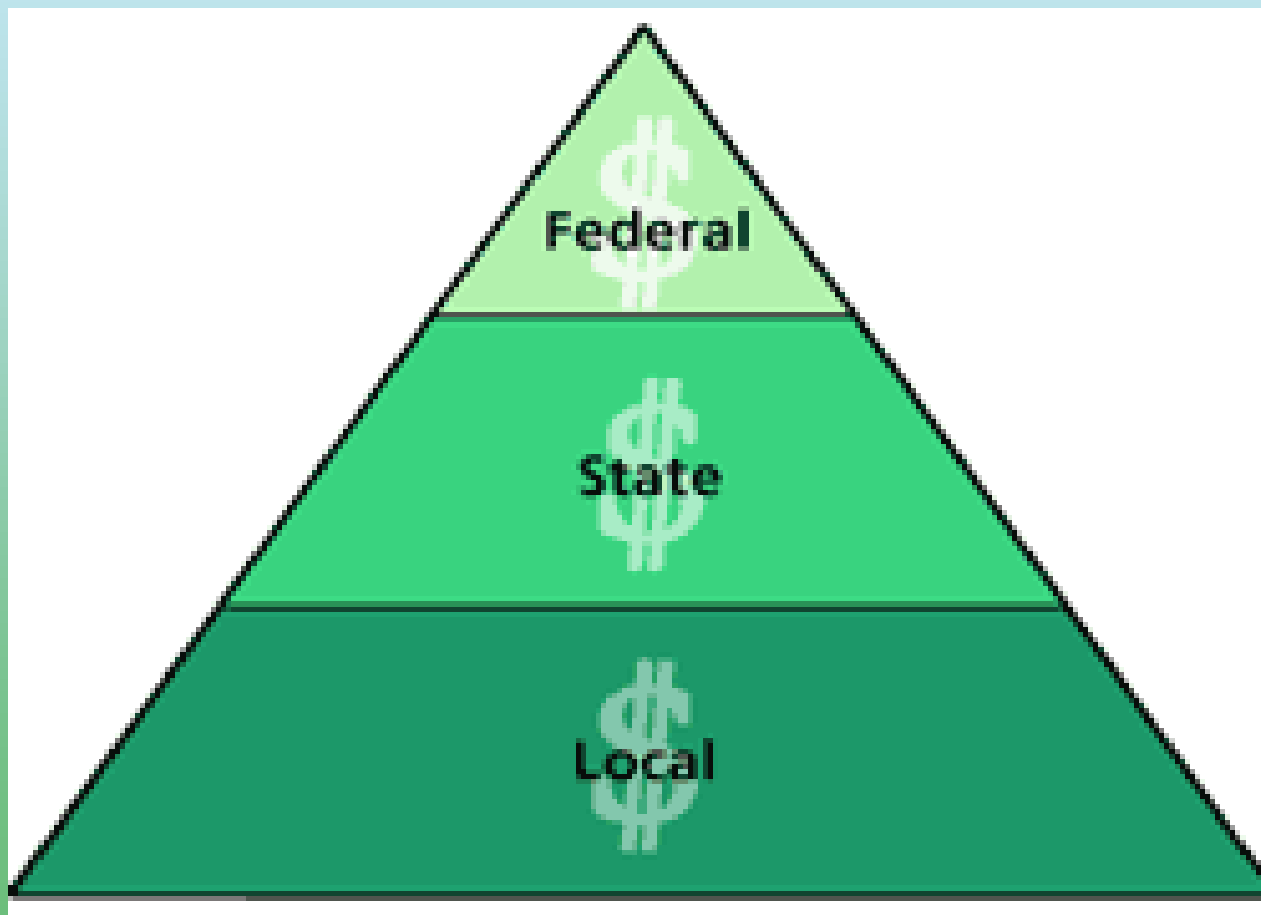


Funding Strategies 101

- **Grants**
- **Vouchers/Incentives**
- **Rebates/tax credits**
- **Leasing?**



THE FUNDING PYRAMID

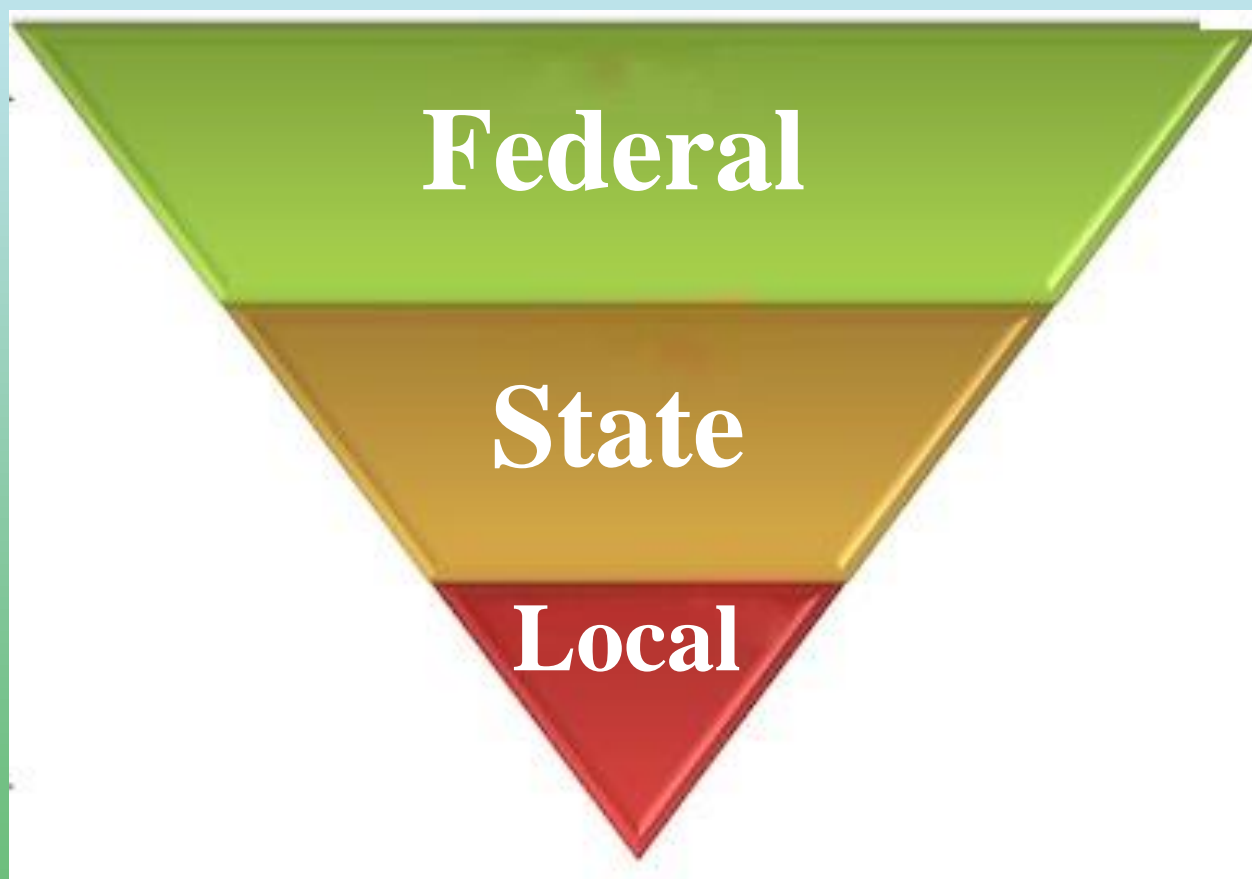




THE INVERTED FUNDING PYRAMID

\$\$\$

Threshold
Effort
Paperwork

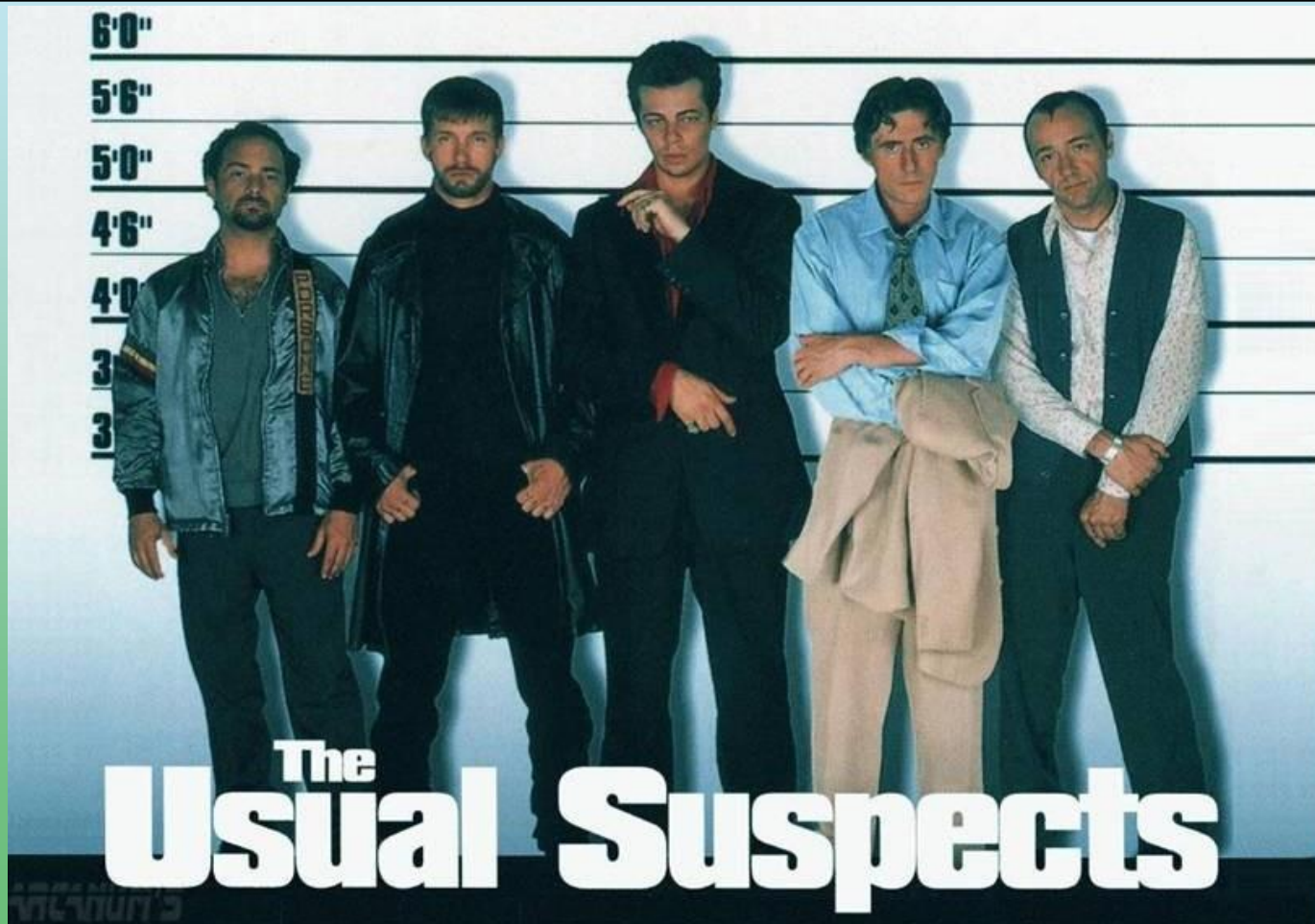




U.S. Department of Energy
Energy Efficiency
and Renewable Energy

Clean
Cities

FUNDING SOURCES





FEDERAL

- **Department of Energy (DOE)**
 - EERE, VTP, SEP, Clean Cities
 - <http://www1.eere.energy.gov/vehiclesandfuels/financial/index.html>
- **Environmental Protection Agency (EPA)**
 - National and Regional, NCDC and DERA clean diesel
 - <http://www.epa.gov/otaq/diesel/index.htm>
- **Department of Transportation (DOT)**
 - FTA, FHWA, TCSP, FAA (VALE), etc.
 - http://www.dot.gov/Government_Services.htm
- **Department of Agriculture (USDA)**
 - REAP, Flex Fuel dispensers, biofuel production
 - http://www.usda.gov/wps/portal/usda/usdahome?navid=GRANTS_LOANS



FEDERAL GRANT SOURCES (test)





STATE

CA Energy Commission

<http://www.energy.ca.gov/contracts/transportation.html>

CA Air Resources Board

<http://www.arb.ca.gov/ba/fininfo.htm>



STATE (CA Energy Commission)

Solicitations for Transportation Area Programs

- Vehicle Incentives
 - Fueling Infrastructure
 - Fuel Production
 - Manufacturing
 - Market and Program Development
 - Innovative Technologies, Advanced Fuels, and Federal Cost Sharing
 - Partner Agency Solicitations
- American Recovery and Reinvestment Act (ARRA)



CEC AB 118

Annual program budget of approximately \$100 million to support projects that:

- Develop and improve alternative and renewable low-carbon fuels.
- Optimize alternative and renewable fuels for existing and developing engine technologies.
- Produce alternative and renewable low-carbon fuels in California.
- Decrease, on a full fuel cycle basis, the overall impact and carbon footprint of alternative and renewable fuels and increase sustainability.
- Expand fuel infrastructure, fueling stations, and equipment.
- Improve light-, medium-, and heavy-duty vehicle technologies.
- Retrofit medium- and heavy-duty on-road and non-road vehicle fleets.
- Expand infrastructure connected with existing fleets, public transit, and transportation corridors.
- Establish workforce training programs, conduct public education and promotion, and create technology centers.



AB 118 GASEOUS VEHICLE INCENTIVE

Natural Gas and Propane Vehicles

GVW (lbs)	Incentive Amounts	
	Natural Gas	Propane
Up to 8,500	\$3,000	\$3,000
8,501 – 14,000	\$8,000	\$6,000
14,001 – 26,000	\$20,000	\$10,000
26,001 & greater	\$32,000	

Propane School Buses

GVW (lbs)	Incentive Amounts
Up to 14,000	\$15,000
Greater than 14,000	\$20,000



AB 118 PREVIOUS YEAR AWARDS

Table ES-1: Funding Awarded to Date (in Millions)

Category	Funded Activity	Initial Awards 2008-09 / 2009-10 (First Investment Plan)	Augmented Awards 2010-11 (Second Investment Plan)	Total Award
ARRA	Cost-Sharing for Federal Projects	\$36.5	-	\$36.5
Electric Drive	Charging Infrastructure	\$3.2	\$2.4	\$5.6
	Convert State Vehicles to Plug-in Hybrid Vehicles	\$0.6	-	\$0.6
	Light-Duty Vehicle Rebates	\$2.0	-	\$2.0
	Medium- and Heavy-Duty Vehicle Rebates	\$4.0	-	\$4.0
	Medium- and Heavy-Duty Advance Vehicle Demonstrations	\$10.0	\$2.0	\$12.0
	Manufacturing Facilities and Equipment	\$19.0	\$5.9	\$24.9
Hydrogen	Public Fueling Stations	\$15.7	-	\$15.7
	Transit Project	\$3.0	-	\$3.0
	Fuel Standards Development	\$4.0	-	\$4.0
Natural Gas	Fueling Infrastructure	\$5.1	-	\$5.1
Propane	School Bus Incentives*	\$2.0	-	\$2.0
Biofuels	Biomethane Production	\$35.1	\$0.2	\$35.3
	Diesel Substitutes Production	\$2.8	\$1.5	\$4.3
	Advanced Ethanol and Gasoline Substitutes Production	\$3.5	\$1.9	\$5.4
	California Ethanol Producers Incentive Program	\$6.0	-	\$6.0
	E85 Fueling Stations	\$1.0	-	\$1.0
	Upstream Biodiesel Infrastructure	\$3.9	-	\$3.9
Workforce Agreements	Workforce Training and Development	\$15.0	\$0.8	\$15.8
Other Agreements	Sustainability Research	\$1.5	-	\$1.5
	Technical Assistance and Analysis	\$1.6	-	\$1.6
Total		\$175.5	\$14.6	\$190.2

Source: California Energy Commission

* Solicitation is currently underway.



AB 118 PLANNED INVESTMENTS

Table ES-2: Future Funding Solicitations and Agreements (in Millions)

Category	Funded Activity	Funds Remaining From Second Investment Plan 2010-11	Proposed Allocations From Third Investment Plan 2011-12	Total Future Funding
Electric Drive	Plug-in Electric Vehicle Regional Readiness Plans*	\$1.0	\$1.0	\$2.0
	Charging Infrastructure	-	\$7.0	\$7.0
	Medium- and Heavy-Duty Advance Vehicle Demonstrations**	\$8.9	\$8.0	\$16.9
	Manufacturing Facilities and Equipment**	-	\$10.0	\$10.0
Hydrogen	Fueling Infrastructure	\$10.2	\$8.5	\$18.7
Natural Gas	Fueling Infrastructure	\$1.6	\$8.0	\$9.6
	Light-, Medium- and Heavy-Duty Vehicles*	\$10.2	\$12.0	\$22.2
Propane	Light- and Medium-Duty Vehicles*	\$2.4	-	\$2.4
	Light-Duty Vehicles	-	\$1.0	\$1.0
	Medium- and Heavy-Duty Vehicles	-	\$3.0	\$3.0
	Fueling Infrastructure	-	\$0.5	\$0.5
Biofuels	Biomethane Production	\$5.3	\$8.0	\$13.3
	Diesel Substitutes Production	\$3.9	\$8.0	\$11.9
	Advanced Ethanol and Gasoline Substitutes Production	\$4.5	\$8.0	\$12.5
	E85 Fueling Stations	\$5.1	\$5.0	\$10.1
	Upstream Biodiesel Infrastructure	\$3.1	-	\$3.1
Innovative Technologies	Innovative Technologies, Advanced Fuels and Federal Cost-Sharing	\$6.3	\$3.0	\$9.3
Workforce Agreements	Workforce Training and Development	-	\$6.5	\$6.5
Other Agreements	Sustainability Studies	\$2.0	\$0.5	\$2.5
	Marketing, Education and Outreach	\$2.0	-	\$2.0
	Technical Assistance and Analysis	\$3.7	\$2.0	\$5.7
	Measurement, Verification and Evaluation	\$1.7	-	\$1.7
Total		\$71.8	\$100.0	\$171.8

Source: California Energy Commission.

*Solicitation is currently underway using funds from the second Investment Plan. Funds from the third Investment Plan may be used to supplement this solicitation.

**Funding eligibility for these activities has been expanded beyond strictly electric drive technologies.



STATE (CA Air Resources Board)

ARB Grant Programs for Clean On- and Off-Road Vehicles/Equipment

- Air Quality Improvement Program (AB 118)
- Carl Moyer Program
 - Voucher Incentive Program
- Enhanced Fleet Modernization Program (AB118)
- Goods Movement Emission Reduction Program
- Loan Incentives Program
- Lower-Emission School Bus Program / School Bus Retrofit and Replacement Account

<http://www.arb.ca.gov/ba/fininfo.htm>



ARB HVIP VOUCHER PROGRAM

ARB FY - 2011 Estimated Balance: \$12,161,442.00

HVIP Voucher Funding (as of July 27, 2011)

ARB FY11 Voucher Funding Requested: \$5,860,000 (277 vehicles)

ARB FY11 Voucher Funding Remaining: \$12,226,442

CEC FY11 Voucher Funding: \$3,800,000 (funding exhausted--155 vehicles)

SCAQMD FY10 Voucher Funding: \$1,430,000 (funding exhausted--41 vehicles)

ARB FY10 Voucher Funding: \$19,445,000 (funding exhausted--667 vehicles)

2011 HVIP Voucher Amounts

New HVIP voucher amounts are slightly lower than last year and can be seen in the table below. If you have any questions, please call the HVIP toll-free line.

Gross Vehicle Weight in Pounds (lbs)		Base Incentive ¹
8,501 – 10,000 lbs ²	Plug-in Hybrid	\$10,000
	Zero-Emission	\$15,000
10,001 – 19,500 lbs		\$15,000 ³
19,501 – 33,000 lbs		\$20,000
33,001 – 38,000 lbs		\$25,000
> 38,000 lbs		\$30,000

¹The first HVIP-eligible vehicle purchased by a fleet and ARB-certified hybrid vehicles above 14,000 lbs are each eligible for an additional \$5,000 voucher.

²This weight category includes plug-in hybrid and zero-emission vehicles only.

³Zero-emission commercial vehicles in this weight category are eligible for \$20,000



ARB CLEAN VEHICLE REBATE PROJECT



CLEAN VEHICLE REBATE PROJECTSM

The Clean Vehicle Rebate Project ([CVRP](#)) is funded by the California Environmental Protection Agency's Air Resources Board ([ARB](#)) and administered statewide by the California Center for Sustainable Energy ([CCSE](#)). A total of \$11.1 million has been appropriated for FY 2009-2011 to promote the production and use of zero-emission vehicles ([ZEV](#)), including electric, plug-in hybrid electric, and fuel cell vehicles. Rebates of up to \$2,500 per light-duty vehicle are available for individuals and business owners who purchase or lease new eligible zero-emission or plug-in hybrid electric vehicles.

Of this \$11.1 million, \$2 million was provided by the California Energy Commission on May 26, 2011. Funding from the Energy Commission is specifically dedicated to light-duty [ZEVs](#) capable of freeway operation and certified for four or more passengers. [Click here](#) to read a press release which provides more information about this funding announcement.

IMPORTANT MESSAGE: FY 2010-2011 funding for the [CVRP](#) has been distributed. We expect FY 2011-2012 funding to become available later this year. Please check back regularly for updated information. In the interim, [CCSE](#) will be accepting applications for eligible [CVRP](#) vehicles and putting these applicants on a waiting list until FY 2011-2012 funds are added.



ARB CLEAN VEHICLE REBATE PROJECT



CLEAN VEHICLE
REBATE PROJECTSM

Vehicle Eligibility

- New vehicles only
- Battery electric, plug-in hybrid electric, and fuel cell vehicles
- Vehicles must be purchased or leased on or after March 15, 2010
- Vehicles up to 8500lb in GVWR (cars, zero-emission motorcycles, and neighborhood electric vehicle)
- Only ARB-certified or approved zero-emission or plug-in hybrid electric vehicles



OTHER STATE LEVEL RESOURCES

- **For your state energy office, look here:**
<http://www.naseo.org/members/states/default.aspx>
- **Alternative Fuels and Advanced Vehicles Data Center**
<http://www.afdc.energy.gov/afdc/states/>



NASEO STATE ENERGY OFFICE LOCATOR

NASEO

Transforming America's Energy Future

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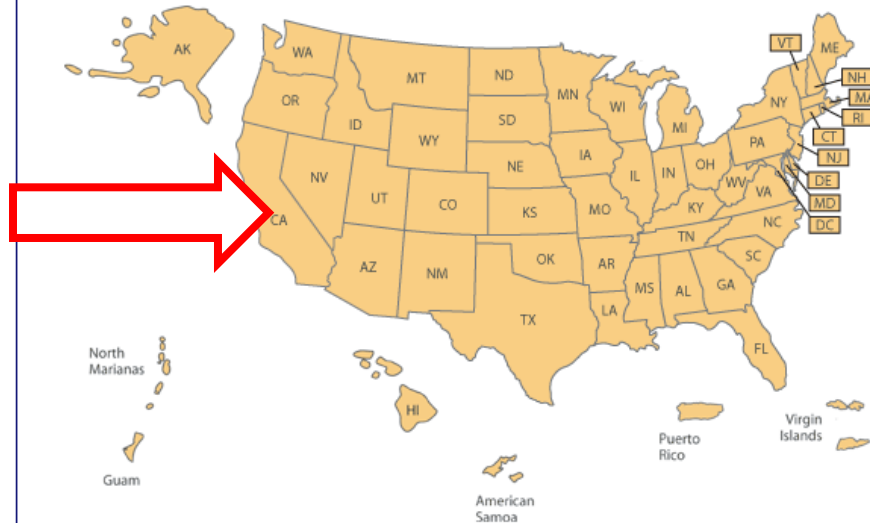
State/Territory
Energy Offices

Affiliates

NASEO State & Territory Energy Office Members

Click on the map below for information about each state energy office:

Select a State





NASEO STATE ENERGY OFFICE LOCATOR

State/Territory Energy Offices

Affiliates

NASEO State & Territory Members California

California Energy Commission

1516 Ninth Street, MS #39
Sacramento, CA 95814-5512
916.654.4287 fax: 916.654.4423
www.energy.ca.gov

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CALIFORNIA REPUBLIC

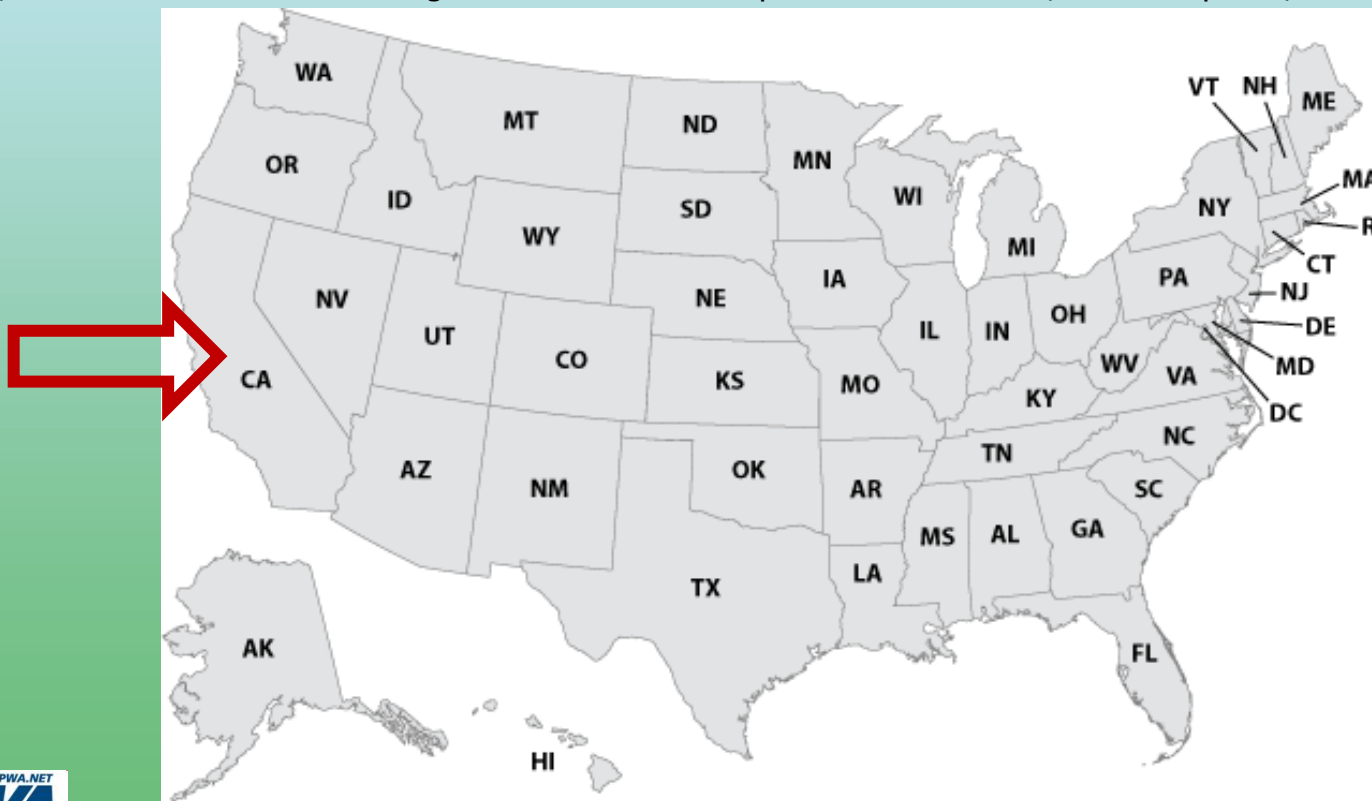




AFDC STATE RESOURCE DIRECTORY

State Information

Click on the map below to obtain state-specific information on alternative fuel and advanced vehicle incentives and laws, locations of alternative fueling stations and truck stop electrification sites, area fuel prices, and much more.





AFDC STATE RESOURCE DIRECTORY

U.S. DEPARTMENT OF
ENERGY

Energy Efficiency &
Renewable Energy

Alternative Fuels & Advanced Vehicles Data Center

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

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Publications

Videos

Tools

State Information

Spanish Resources

Data Downloads

Related Links

Glossary

Codes & Standards

Search Help > More Search Options >

Site Map
EERE Information Center

Select a new state

California Information

This state page compiles information related to alternative fuels and advanced vehicles in California and includes new incentives and laws, alternative fueling station locations, truck stop electrification sites, fuel prices, and local points of contact.

Incentives and Laws >

Read about [California's Incentives and Laws](#), including the latest ones listed below.

- [Employer Invested Emissions Reduction Funding - South Coast](#)
- [Air Quality Improvement Program Funding - Ventura County](#)
- [Low Emissions School Bus Grants](#)
- [High Occupancy Vehicle \(HOV\) Lane Exemption](#)

To look up nationwide legislative activity, visit [Incentives and Laws](#).

Locator Tools



Alternative Fueling Station Locator >

Look up the locations of California's 1182 alternative refueling stations.

- [Biodiesel \(36\)](#)
- [Ethanol \(62\)](#)
- [Natural Gas \(221\)](#)
- [Electricity \(604\)](#)
- [Hydrogen \(22\)](#)
- [Propane \(237\)](#)

For a nationwide search, visit the [Alternative Fueling Station Locator](#).



AFDC STATE RESOURCE DIRECTORY

California Incentives and Laws

Listed below are incentives, laws, and regulations related to alternative fuels and advanced vehicles for California. Your Clean Cities coordinator at your [local coalition](#) can provide you with information about grants and other opportunities. You can also access coordinator and other agency contact information in the [points of contact](#) section.

Incentives and Laws

[View All](#)[Advanced Search](#)

Information in this list is updated annually after California's [legislative session](#) ends.
Last Updated May 2011

State Incentives

- [Hybrid Electric Vehicle Purchase Vouchers](#)
- [Plug-In Hybrid and Zero Emission Light-Duty Vehicle Rebates](#)
- [Alternative Fuel and Vehicle Research and Development Incentives](#)
- [High Occupancy Vehicle \(HOV\) Lane Exemption](#)
- [Alternative Fuel Vehicle \(AFV\) and Fueling Infrastructure Grants](#)
- [Emissions Reductions Grants](#)
- [Heavy-Duty Vehicle Emissions Reduction Grants](#)
- [Natural Gas Vehicle \(NGV\) Home Fueling Infrastructure Incentive - South Coast](#)
- [Low Emissions School Bus Grants](#)
- [Alternative Fuel and Advanced Technology Research and Development](#)
- [Advanced Transportation Financing](#)
- [Compressed Natural Gas \(CNG\) Tax Exemption for Transit Use](#)
- [Vehicle Emissions Reduction Grants - Sacramento](#)
- [Employer Invested Emissions Reduction Funding - South Coast](#)
- [Technology Advancement Funding - South Coast](#)
- [Low Emission Vehicle Incentives and Technical Training - San Joaquin Valley](#)
- [Air Quality Improvement Program Funding - Ventura County](#)

Utility/Private Incentives

- [Electric Vehicle Supply Equipment \(EVSE\) Incentive - Coulomb Technologies](#)
- [Electric Vehicle Supply Equipment \(EVSE\) Rebate - LADWP](#)
- [Electric Vehicle Supply Equipment \(EVSE\) Incentive - ECOTality](#)
- [Alternative Fuel Vehicle \(AFV\) and Hybrid Electric Vehicle \(AFV\) Insurance Discount](#)
- [Electric Vehicle \(EV\) Charging Rate Credit - SMUD](#)
- [Electric Vehicle \(EV\) Charging Rate Reduction - LADWP](#)
- [Electric Vehicle \(EV\) Charging Rate Reduction - SCE](#)
- [Clean Vehicle Electricity and Natural Gas Rate Reduction - PG&E](#)
- [Electric Vehicle \(EV\) and Natural Gas Infrastructure Charging Rate Reduction - SDG&E](#)
- [Natural Gas Rate Reduction - SoCalGas](#)
- [Biofuel Volume Rebate Program - Propel Fuels](#)

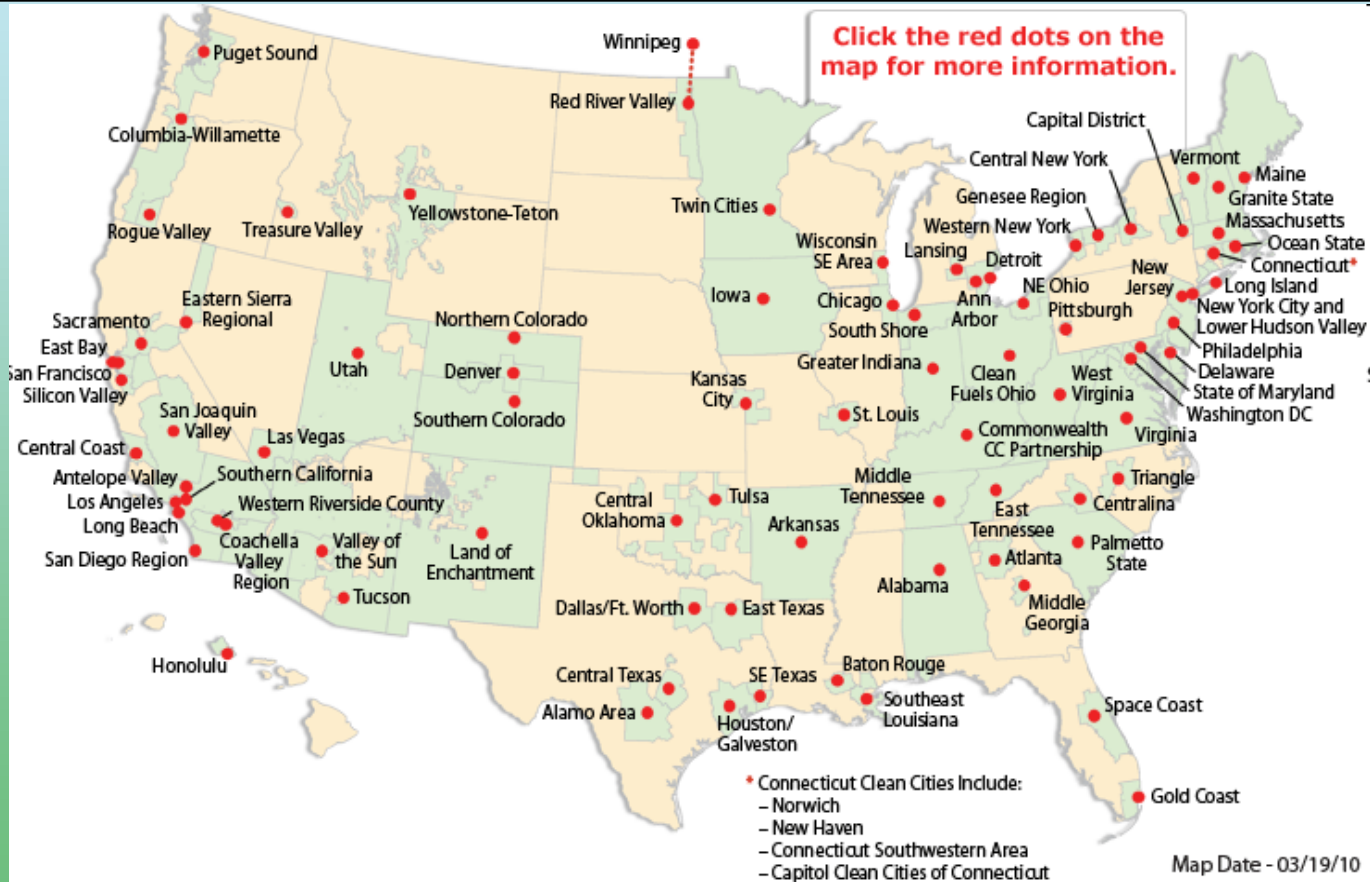


LOCAL

- ***Clean Cities***
- ***Air Quality Management Districts***
- ***Metropolitan Planning Organizations (MPO)***
Congestion Mitigation & Air Quality (CMAQ) Funds
- Transit/Transportation Authorities
- Utilities
- City, state, non-profits, and corporate philanthropy
- Carbon/pollution offsets and credits (?)



LOCAL CLEAN CITIES COALITIONS





BAY AREA AIR QUALITY MANAGEMENT DISTRICT



Funding Sources

Carl Moyer Program
Mobile Source Incentive
Fund
Transportation Fund for
Clean Air
Other Funding
Opportunities

Carl Moyer Memorial Air Quality Standards Attainment Program

Approximately \$14 million is available for emission reduction projects! The Air District will start accepting project applications for the Carl Moyer Program Year 13 funding cycle on August 8, 2011.

Grants are available for projects that:

- install verified emission control devices
- replace older heavy-duty engines with newer and cleaner engines
- replace older equipment with newer and cleaner equipment
- purchase new equipment that is cleaner than the law requires
- install electric idling-reduction equipment

Eligible Equipment Categories

- [Agricultural Equipment](#)
- [Locomotives](#)
- [Trucks](#)
- [Off-Road Equipment](#)
- [Marine](#)
- [Shore power](#)



BAY AREA AIR QUALITY MANAGEMENT DISTRICT



Funding Sources

- Carl Moyer Program
- Mobile Source Incentive Fund
- Transportation Fund for Clean Air
- Other Funding Opportunities

Mobile Source Incentive Fund

The Mobile Source Incentive Fund (MSIF) funding source was authorized by the Bay Area Air Quality Management District in December 2004, and is used for both public and private sector projects. MSIF revenues are collected from a \$2 registration surcharge fee on vehicles registered with the Department of Motor Vehicles in the District's jurisdiction. This surcharge generates about \$11 million for the fund every year. MSIF revenues are used to finance vehicle scrap programs, agricultural assistance programs, and the purchasing of new lower-emission school buses.



BAY AREA AIR QUALITY MANAGEMENT DISTRICT



Funding Sources

- Carl Moyer Program
- Mobile Source Incentive Fund
- Transportation Fund for Clean Air
- Other Funding Opportunities

Transportation Fund for Clean Air

- County Program Manager Fund
- Regional Fund

Transportation Fund for Clean Air

The Transportation Fund for Clean Air (TFCA) is a grant program funded by a \$4 surcharge on motor vehicles registered in the Bay Area. This generates approximately \$22 million per year in revenues.

TFCA provides grants to projects that implement the most cost-effective projects in the Bay Area that will decrease motor vehicle emissions, and thereby improve air quality. Projects must be consistent with the 1988 California Clean Air Act and the Bay Area Ozone Strategy.

Funding Process

TFCA funds are available through two main channels: the Regional Fund and the County Program Manager Fund. The Regional Fund receives about 60% of the TFCA revenues and is administered directly by the Air District. The Program Manager Fund receives approximately 40% of the TFCA revenues and is administered in coordination with the Bay Area's nine county congestion management agencies (CMAs).

Eligible Project Types

The TFCA program can fund a wide range of project types, including the purchase or lease of clean air vehicles; shuttle and feeder bus service to train stations; ridesharing programs to encourage carpool and transit use; bicycle facility improvements such as bike lanes, bicycle racks, and lockers; arterial management improvements to speed traffic flow on major arterials; smart growth projects; and transit information projects to enhance the availability of transit information. Projects must be conducted within the Air District's jurisdiction.

Who Can Apply?



METROPOLITAN TRANSPORTATION COMMISSION

The screenshot shows the MTC website's funding page. At the top, there's a navigation bar with the MTC logo, the text 'Metropolitan Transportation Commission', a search bar labeled 'SEARCH MTC SITE', and a 'GO' button. Below this is a 'Funding' section with three main tiles: 'PROJECT SEARCH' featuring the MTC FMS logo, 'OneBayArea Grant Program' with a map of the Bay Area, and '2011 TIP' (Transportation Improvement Program) with a graphic of a car. To the left of these tiles is a vertical sidebar menu with links: Home, About MTC, News, Jobs & Contracts, Meetings & Events, Get Involved, Services, Library, Maps & Data, and Funding. The 'Funding' section is expanded, showing a list of links: OneBayArea Grant, TIP, RM 2, STIP (RTIP & TIP), STP-CMAQ, ARRA, Project Delivery / Program Monitoring, FTA, TDA & STA, Proposition 1B Bond Program, and FMS. Below the tiles are two columns: 'OPPORTUNITIES' and 'INFORMATION'. The 'OPPORTUNITIES' column includes links for 'OneBayArea Grant Program' (released July 8, 2011), 'Call for Projects: Pavement Management Technical Assistance Program (P-TAP) Round 13' (applications due Friday, October 7, 2011), and 'Transportation Development Act (TDA) and State Transit Assistance (STA)' (download claim documents). The 'INFORMATION' column includes links for 'ARRA' (American Recovery & Reinvestment Act), 'FY 2009-10 Federal Obligation Report' (annual listing of projects), 'Transportation Improvement Program (TIP)' (listing of projects receiving federal funds), 'Proposition 1B Transportation Bond Program in the Bay Area' (Transit, Highways and Trade Corridors), and 'Regional Measure 2 (RM 2)'. At the bottom left of the screenshot is a logo for the American Public Works Association (APWA).

Metropolitan Transportation Commission

SEARCH MTC SITE

Funding

GO

PROJECT SEARCH

OneBayArea

2011 TIP

Fund Management System

Grant Program

Transportation Improvement Program

OPPORTUNITIES

INFORMATION

ARRA

American Recovery & Reinvestment Act: status of delivery, background and regional project priorities

FY 2009-10 Federal Obligation Report

Annual listing of Federally obligated projects in FY 2009-10 (PDF).

Transportation Improvement Program (TIP)

The TIP is a listing of projects that receive federal funds or that are subject to federal action.

Proposition 1B Transportation Bond Program in the Bay Area

Transit, Highways and Trade Corridors

Regional Measure 2 (RM 2)

Links

- OneBayArea Grant
- TIP
- RM 2
- STIP (RTIP & TIP)
- STP-CMAQ
- ARRA
- Project Delivery / Program Monitoring
- FTA
- TDA & STA
- Proposition 1B Bond Program
- FMS



MPO LOCATOR



RITA

Research and Innovative Technology Administration
Bureau of Transportation Statistics

[About RITA](#) | [Press Room](#) | [Offices](#) | [Jobs](#) | [Photos & Video](#) | [Contact Us](#)

[About BTS](#) [BTS Press Room](#) [Data and Statistics](#) [Publications](#) [Subject Areas](#) [External Links](#)

[RITA > BTS > External Links](#)

Print

Metropolitan Planning Organizations

Metropolitan Planning Organizations are responsible for planning, programming and coordination of federal highway and transit investments in urbanized areas.

Alabama

- [Birmingham RPC - Birmingham \(AL\)](#)
- [Dothan MPO - Dothan \(AL\)](#)
- [East Alabama Regional Planning and Development Commission - Anniston \(AL\)](#)
- [Gadsden-Etowah MPO - Gadsden \(AL\)](#)
- [Huntsville MPO - Huntsville \(AL\)](#)
- [Lee-Russell COG - Opelika \(AL\)](#)
- [Montgomery Division of PPT - Montgomery \(AL\)](#)
- [North-Central Alabama Regional COG - Decatur \(AL\)](#)
- [Northwest Alabama COLG - Muscle Shoals \(AL\)](#)
- [South Alabama RPC - Mobile \(AL\)](#)
- [West Alabama PDC - Northport \(AL\)](#)

Alaska

- [Anchorage MATS - Anchorage \(AK\)](#)

Arizona

- [Flagstaff MPO - Flagstaff \(AZ\)](#)
- [Maricopa AOG - Phoenix \(AZ\)](#)
- [Pima AOG - Tucson \(AZ\)](#)
- [Yuma MPO - Yuma \(AZ\)](#)

Arkansas

- [Arkthoma RPC - Fort Smith \(AR\)](#)
- [Metropolitan - Little Rock \(AR\)](#)
- [Northwest Arkansas RPC - Springdale \(AR\)](#)
- [Southeast Arkansas RPC - Pine Bluff \(AR\)](#)
- [West Memphis MPO - West Memphis \(AR\)](#)

California

- [AMBAG - Marina \(CA\)](#)
- [Butte County Association of Governments - Chico \(CA\)](#)
- [Council of Fresno County Governments - Fresno \(CA\)](#)
- [Kern COG - Bakersfield \(CA\)](#)
- [Merced County Association of Governments - Merced \(CA\)](#)