



The Parker Ranch installation in Hawaii

## How FEMP helps Green Fed Fleets

Green Fleets: Tools and Strategies

**Amanda Sahl**

Federal Energy Management Program

GreenGov Symposium 2010

Washington, DC

October 5, 2010



FEMP facilitates the Federal Government's implementation of sound, cost-effective energy management and investment practices to enhance the nation's energy security and environmental stewardship.

# Executive Order 13514

*Federal Leadership in Environmental, Energy, and Economic Performance*

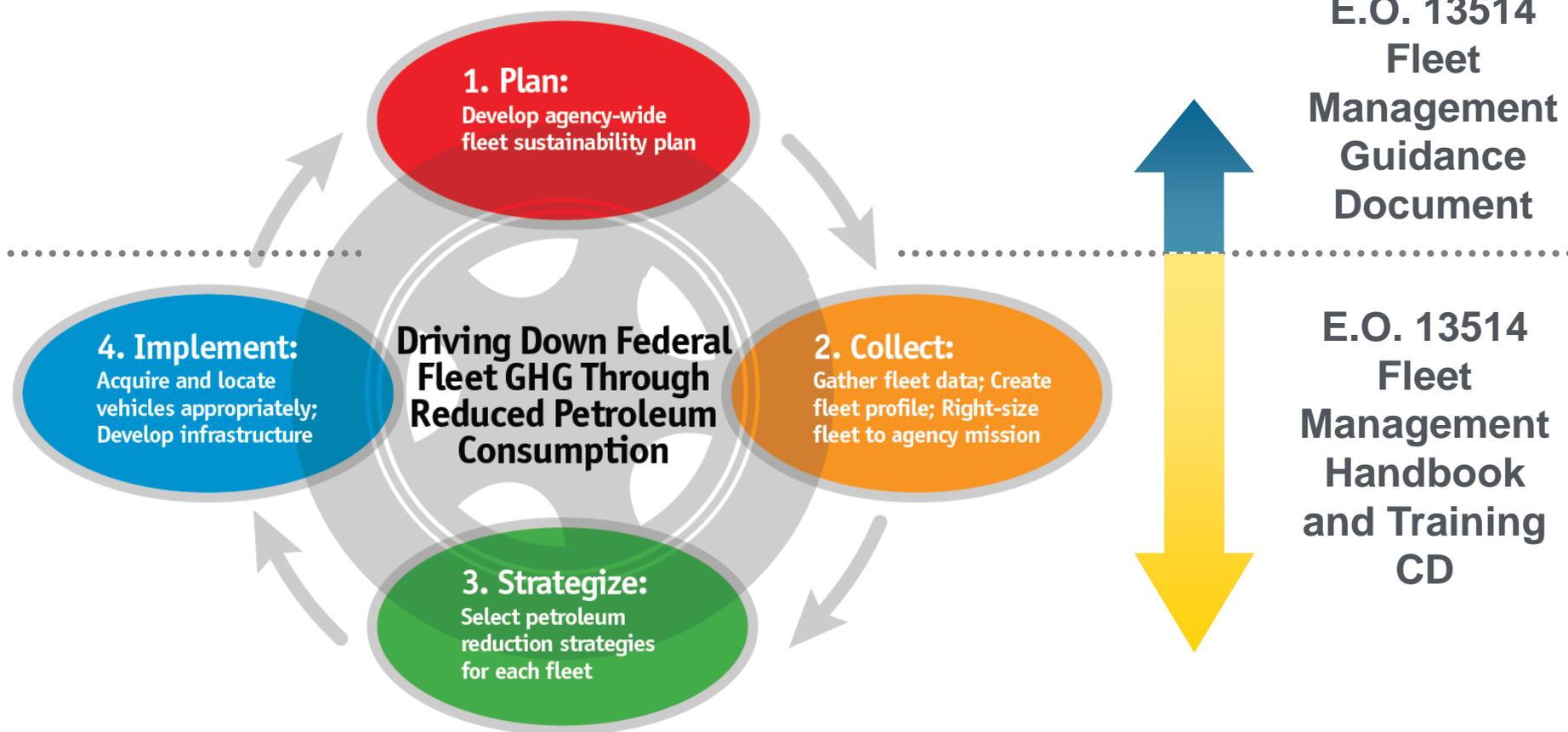


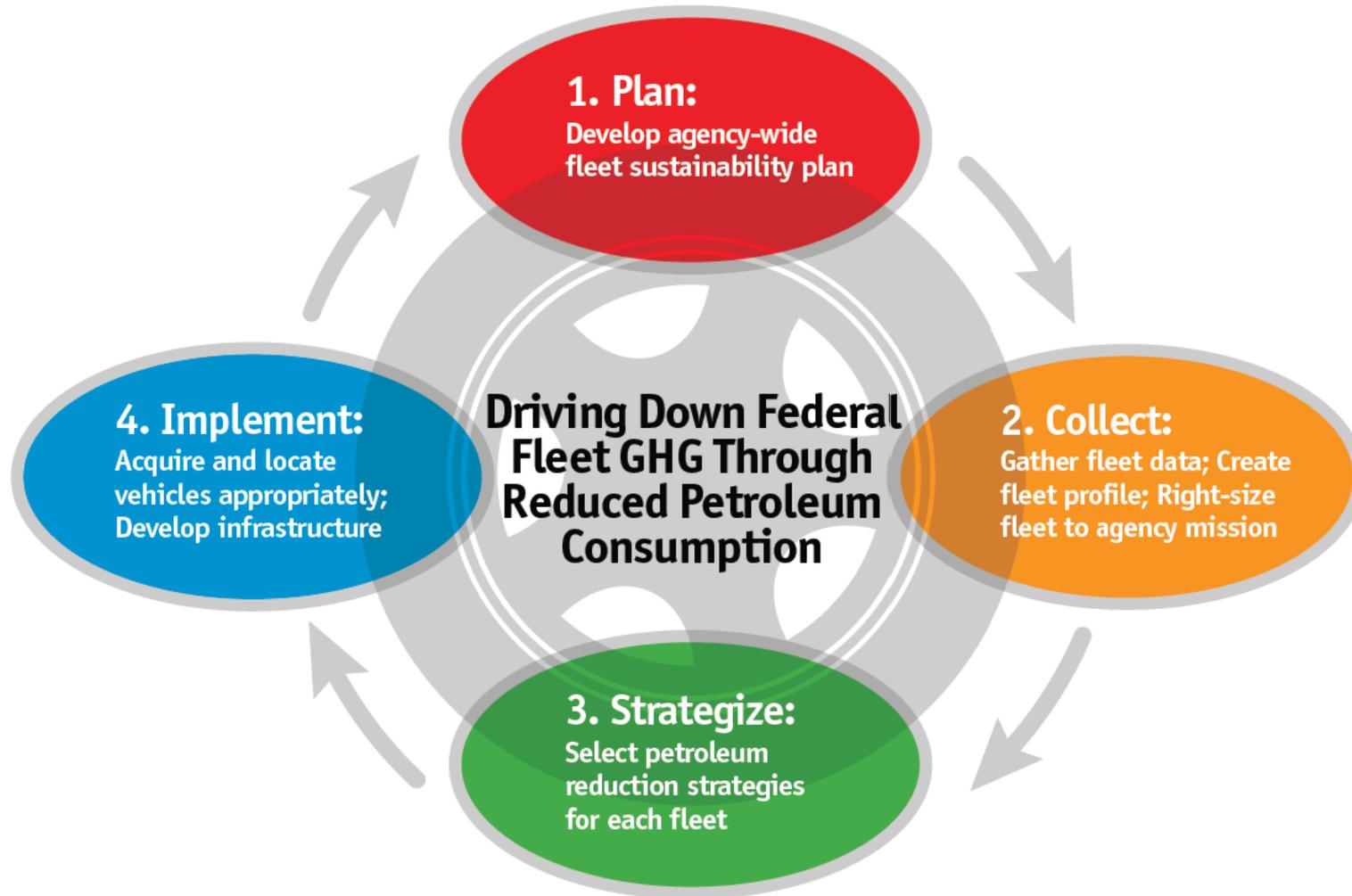
- Signed on October 5, 2009
- Establishes “integrated agency strategy for sustainability, **including reducing GHG emissions**, within the Federal government”
- “To **lead by example** and achieve a clean energy economy”

- **Plan:** Section 12 Guidance Document
- **Collect:** FAST
- **Strategize:** Driving Principles of Petroleum Reduction
  - Reduce VMT
  - Increase Fleet Fuel Efficiency
  - Use Alternative Fuels
- **Implement:**
  - Optimization Tool
  - Fleet Atlas
- Information, Training, and other tools

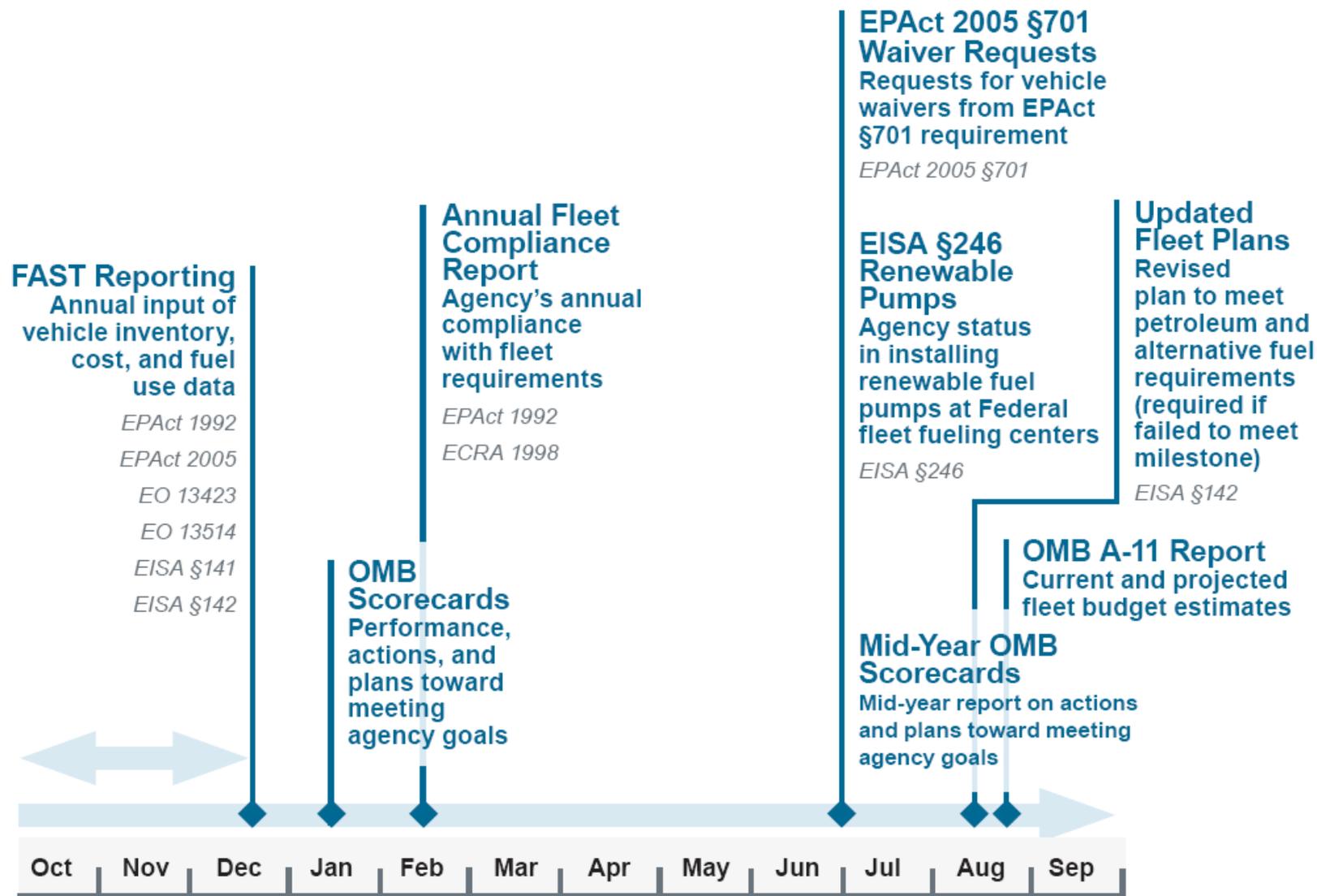
# Fleet Guidance Framework – *Two Documents*

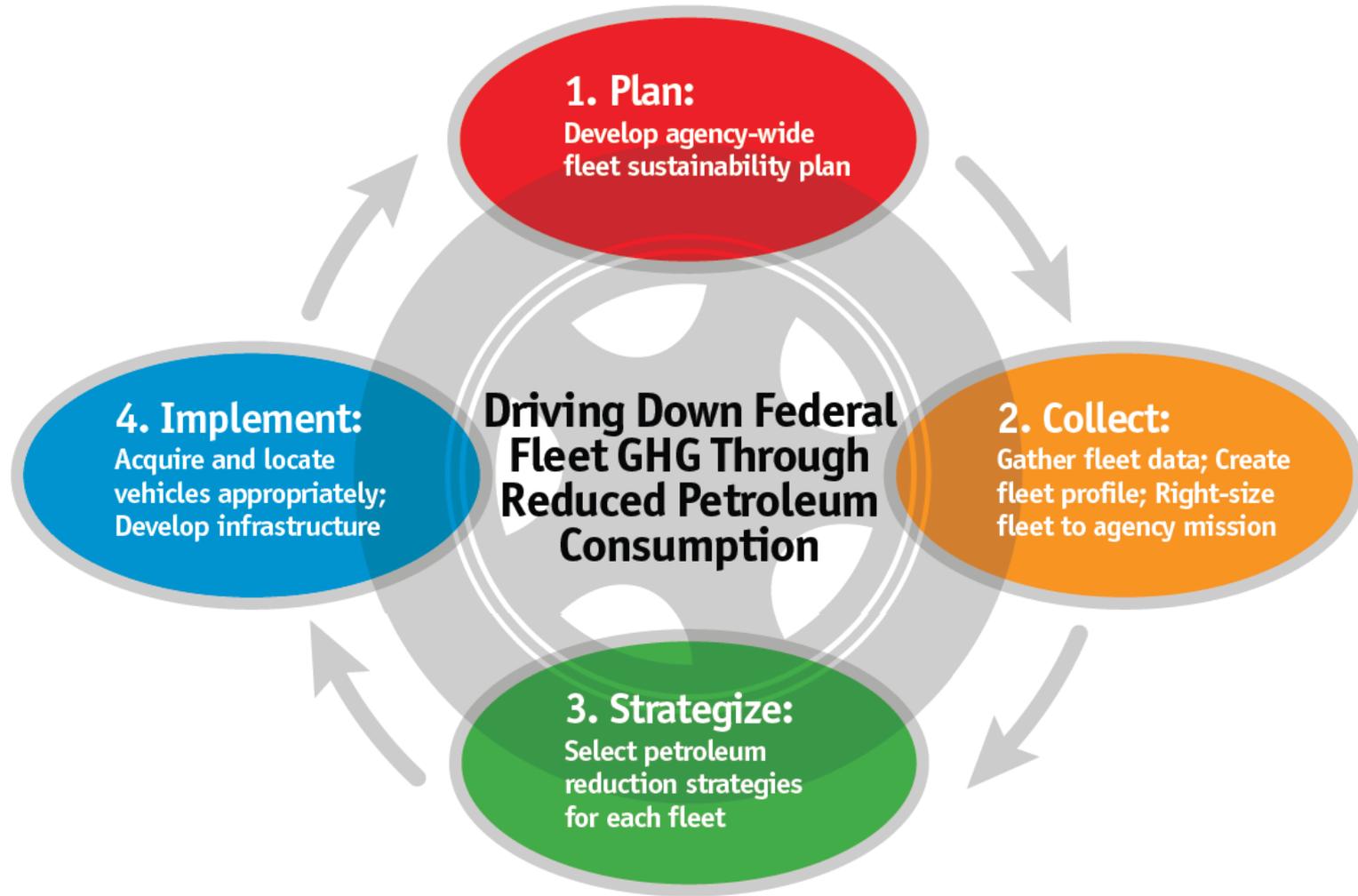
Guidance and Handbook are organized around a cyclical fleet management framework—**plan, collect, strategize, and implement**

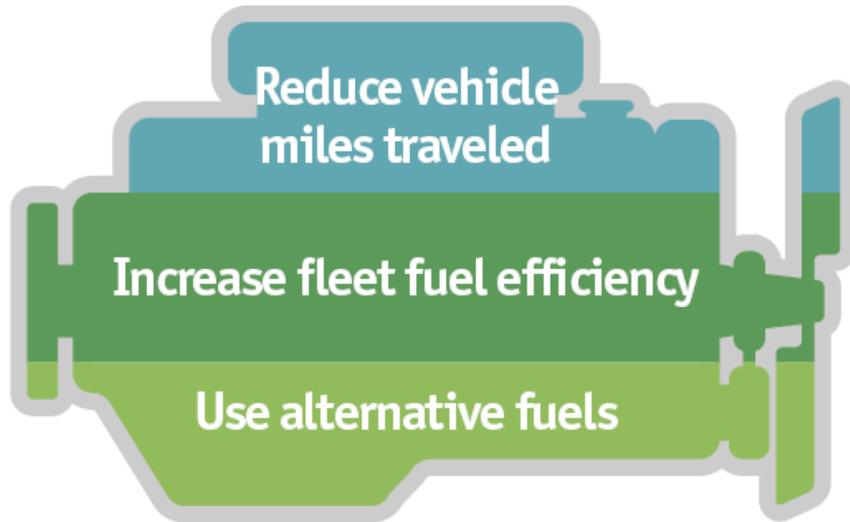




# Federal Automotive Statistical Tool (FAST)







## Reducing VMT in completing mission

*Consolidating trips*

*Video and Web conferencing*

*Using mass transportation/shuttles*

*Improving routing*

## Replacing existing vehicles with higher fuel economy vehicles

*Right-sizing vehicles*

*Includes HEVs and LSEVs*

## Operational changes

*Improved maintenance*

*Driving more efficiently*

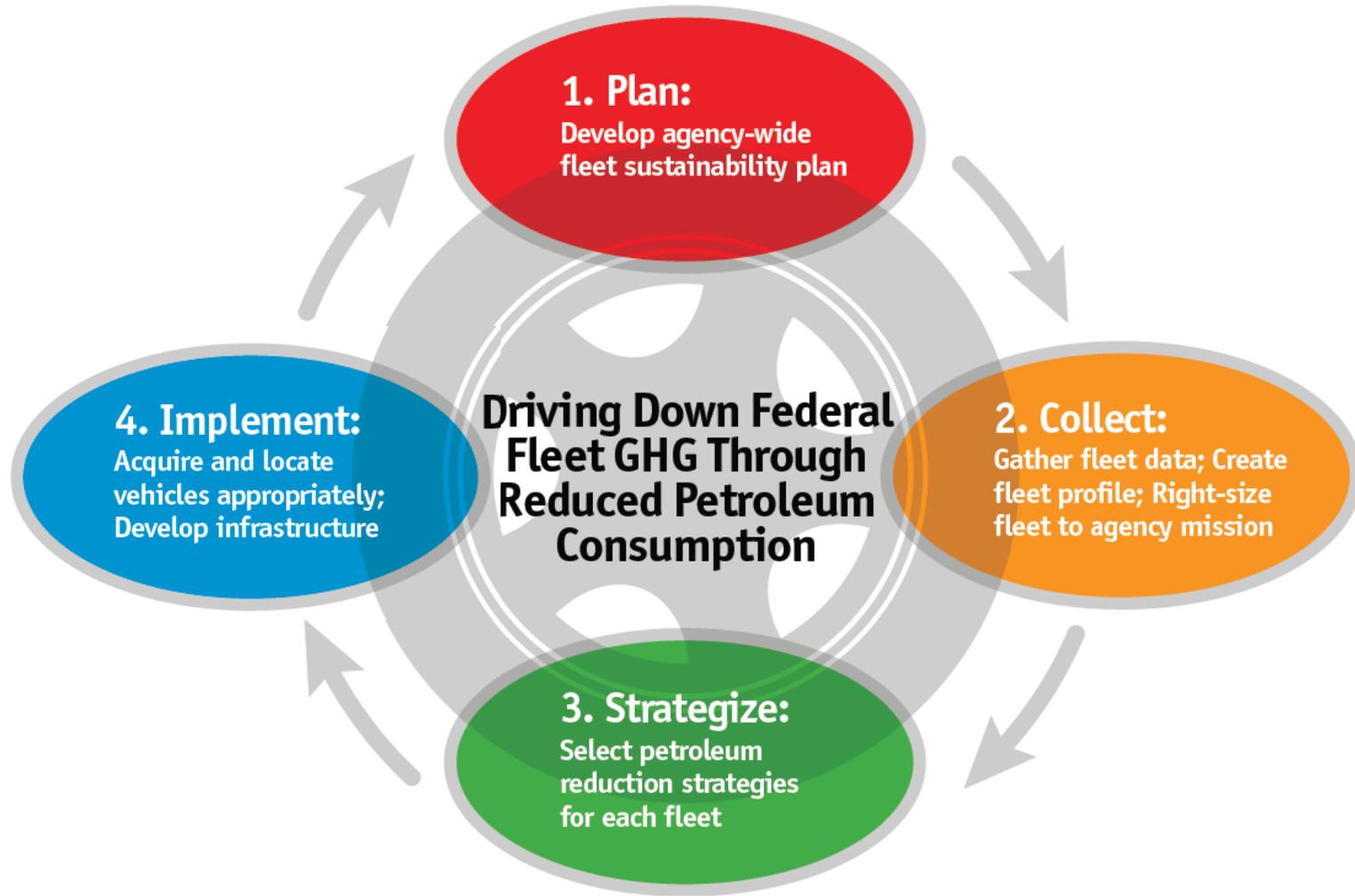
*Avoiding Idling*

## Maximize displacement of petroleum w/ alternative fuels

*E85, CNG, etc. that require infrastructure and AFVs*

*B20 that requires infrastructure*

*EVs and charging infrastructure*



Uses fleet characteristics to optimize:

- Vehicle orders
- Infrastructure development

You control:

- Goal (e.g., max GHG reduction)
- Budget
- Minimum AFVs purchased
- Etc.

## Navy 2005 data and optimization results

Strategy	Cost \$	AFVs acquired	EPAAct %	# AF stations built	% AFVs w/ access to AF
Navy actual	1.2M	2,161	131%	0	10.6%
“Max EPAAct”	1.2M	2,182	134%	0	13.1%
“Min cost”	281K	1,239	75%	0	12.5%
“Max AF use”	409K	1,232	75%	0	23.1%
“Max AF use and AF Station”	822K	1,231	75%	9	41.3%

**Best Optimal Solution !**

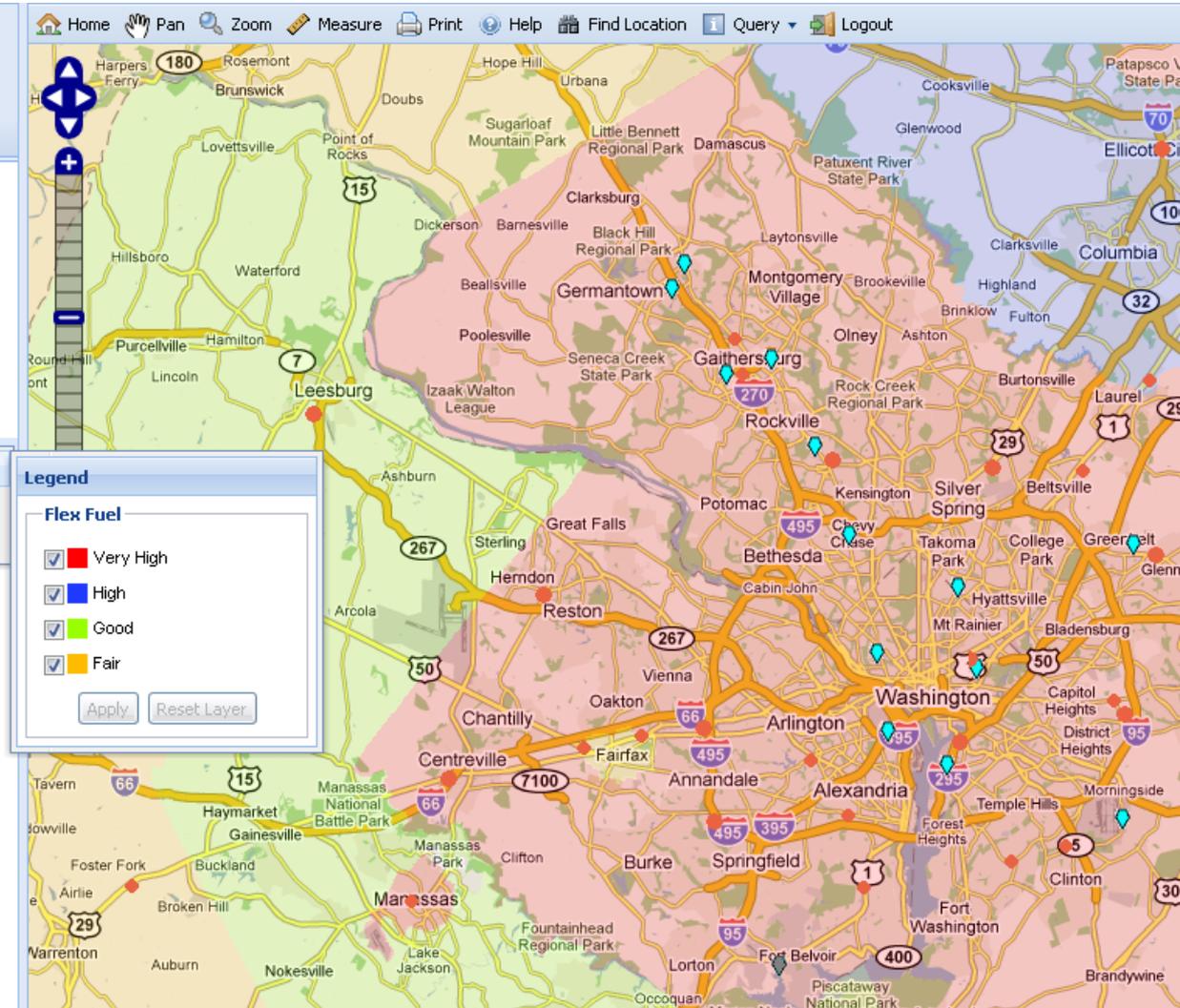


**NREL**  
National Renewable  
Energy Laboratory

Layers Legend

- Ethanol Production
  - Ethanol Plants - producing
  - Ethanol Plants (idle) (ptolemy)
  - Ethanol Plants - Under Construction
  - HEV Density
- Fleets
  - Private Fleet
- Fueling Stations
  - E85 Stations
- Vehicle Density
  - Flex Fuel

View Legend ▶  
Adjust Transparency ▶  
Metadata ▶



**FleetAtlas**  
Allows users to enter fleet location data for easy comparison to infrastructure, Publicly-owned AFV's, etc.

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## Training CD

- Interactive CD with training and reference modules
- Helps navigate through documents
- Available to all fleet managers

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## FedFleet Sessions

- Green Vehicle Acquisition Series
- E.O. 13514 Overview
- Hot New Topics in Federal Fleets
- Electric Vehicles 101
- *And 8 more!*

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## Online Webinars

*(Coming in FY11)*

- Live webinar with questions and answers
- Archived on the web for 24-7 access
- First topic: *Introduction to Federal Fleet Management*

## Alternative Fuel Station Locator & mobile station locator

**Alternative Fuels & Advanced Vehicles Data Center**

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

**Basic Station Search** | Map a Route | Stations by State

First: Select one or more fuels.

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

Second: Enter a complete address

301 East North Water Street Chicago

Show stations within a 10 miles

[Advanced Options](#)

**Get Results**

Results 1 to 10 of 20

- B** [University of Illinois at Chicago](#)  
Compressed Natural Gas  
1351 S Morgan  
Chicago IL 60608  
Distance: 2.4 Miles  
Access: Private access only
- C** [City of Chicago](#)  
Compressed Natural Gas  
3746 S Iron  
Chicago IL 60609  
Distance: 4.9 Miles  
Access: Private - government only
- D** [City of Chicago](#)  
Ethanol (E85)  
3746 S Iron  
Chicago IL 60609  
Distance: 4.9 Miles  
Access: Private - government only
- E** [Gas City #70](#)  
Ethanol (E85)  
4070 N Clark St

Some locations can't be precisely located by the mapping application, so we recommend you call stations to verify location.

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**Data, Analysis & Trends**

**Federal Fleets**

The Energy Policy Act (EPAct) of 1992 requires certain "covered" federal agency fleets of alternative fuel vehicles (AFVs) each year. In addition, EPAct 2005 requires federal fleets in dual-fuel vehicles the majority of the time if alternative fuel is available within 10 miles of the garaged location of the vehicles unless a waiver has been requested. Federal agencies must comply with Executive Order (E.O.) 13423, signed by then President George W. Bush in 2003, which requires agencies to decrease petroleum consumption by 2% per year (relative to 2002 baseline) through fiscal year 2015. In addition, the mandate requires agencies to increase by 10%, compounded annually, based on their fiscal year 2005 baseline use. E.O. 13423, which was signed by then President William Clinton in 2000.

This page uses data reported through the Federal Automotive Statistical Tool (FAST) to track federal fleet's AFV-acquisition, petroleum-reduction efforts, and alternative fuel use. Please see the [methodologies](#) page for an explanation of which vehicles and fuels are covered and track charts that review information on covered vehicles in federal fleets reported under the terms of E.O. 13149, which mandated that agencies reduce petroleum consumption by 20%.

The following tables feature Excel data files that can be downloaded, saved, and manipulated for research.

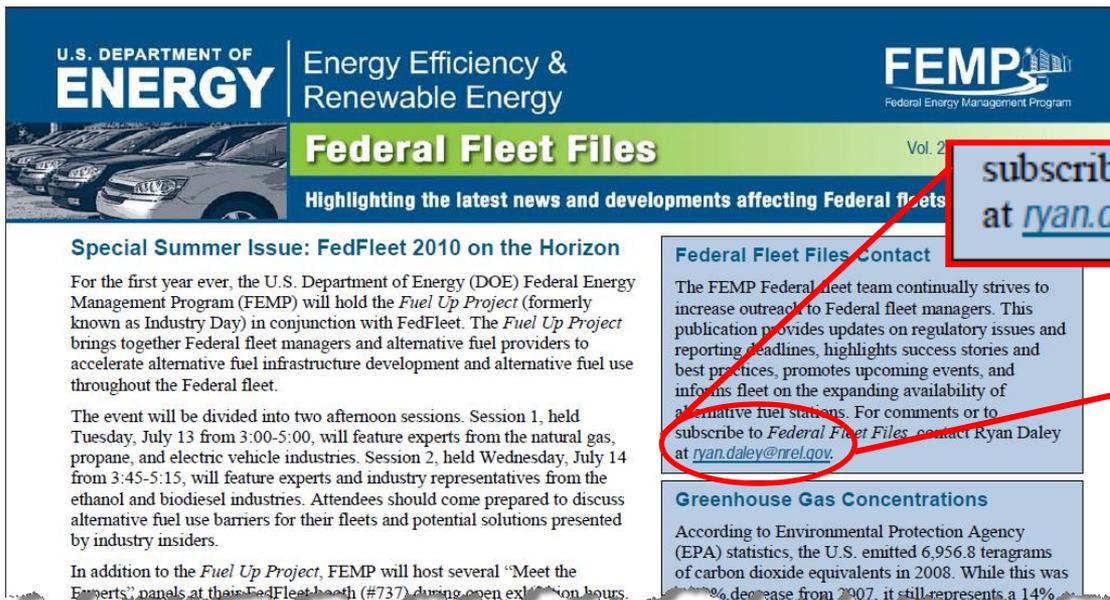
**Federal Fleet Vehicles**

Description	File
<b>2009 Waivered FFVs by Location and Federal Agency</b> Data is based on waiver approvals for 2009 (submitted in 2008)	<a href="#">(Excel 2 MB)</a>
<b>2008 Waivered FFVs by Location and Federal Agency</b> Data is based on waiver approvals for 2008 (submitted in 2007)	<a href="#">(Excel 2 MB)</a>
<b>Federal AFVs by Fuel Type</b> Trend of AFV inventory by fuel types from 2000-2008	<a href="#">(Excel 21 KB)</a>
<b>Total Domestic Fed Fleet AFVs by Agency, Fuel Type, and Year</b>	<a href="#">(Excel 56 KB)</a>

## Waivered Vehicle Location Data

[www.afdc.energy.gov](http://www.afdc.energy.gov)

## Subscribe to *Federal Fleet Files*!



The image shows the cover of the 'Federal Fleet Files' magazine. At the top left is the U.S. Department of Energy logo. To its right is the text 'Energy Efficiency & Renewable Energy'. Further right is the 'FEMP' logo (Federal Energy Management Program). Below the logo is a photograph of several cars parked in a row. The title 'Federal Fleet Files' is prominently displayed in a green box, with 'Vol. 2' to its right. Below the title is the subtitle 'Highlighting the latest news and developments affecting Federal fleets'. The cover is divided into three main sections: 'Special Summer Issue: FedFleet 2010 on the Horizon', 'Federal Fleet Files Contact', and 'Greenhouse Gas Concentrations'. A red circle highlights the contact information in the 'Federal Fleet Files Contact' section.

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

FEMP  
Federal Energy Management Program

**Federal Fleet Files** Vol. 2

Highlighting the latest news and developments affecting Federal fleets

**Special Summer Issue: FedFleet 2010 on the Horizon**

For the first year ever, the U.S. Department of Energy (DOE) Federal Energy Management Program (FEMP) will hold the *Fuel Up Project* (formerly known as Industry Day) in conjunction with FedFleet. The *Fuel Up Project* brings together Federal fleet managers and alternative fuel providers to accelerate alternative fuel infrastructure development and alternative fuel use throughout the Federal fleet.

The event will be divided into two afternoon sessions. Session 1, held Tuesday, July 13 from 3:00-5:00, will feature experts from the natural gas, propane, and electric vehicle industries. Session 2, held Wednesday, July 14 from 3:45-5:15, will feature experts and industry representatives from the ethanol and biodiesel industries. Attendees should come prepared to discuss alternative fuel use barriers for their fleets and potential solutions presented by industry insiders.

In addition to the *Fuel Up Project*, FEMP will host several "Meet the Experts" panels at their FedFleet booth (#737) during open exhibition hours.

**Federal Fleet Files Contact**

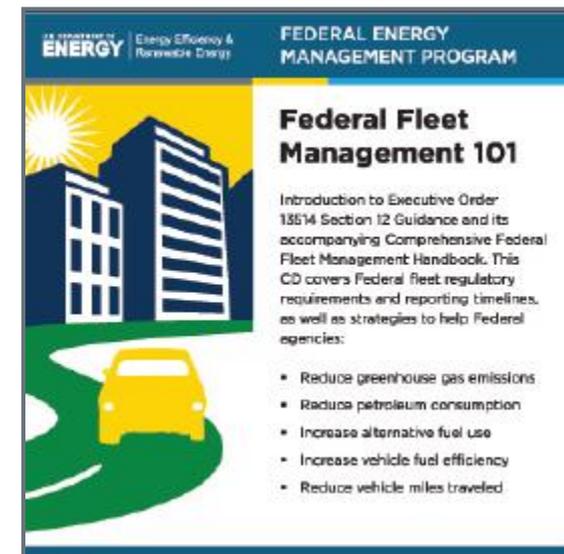
The FEMP Federal fleet team continually strives to increase outreach to Federal fleet managers. This publication provides updates on regulatory issues and reporting deadlines, highlights success stories and best practices, promotes upcoming events, and informs fleet on the expanding availability of alternative fuel stations. For comments or to subscribe to *Federal Fleet Files*, contact Ryan Daley at [ryan.daley@nrel.gov](mailto:ryan.daley@nrel.gov).

**Greenhouse Gas Concentrations**

According to Environmental Protection Agency (EPA) statistics, the U.S. emitted 6,956.8 teragrams of carbon dioxide equivalents in 2008. While this was a 14% decrease from 2007, it still represents a 14%

subscribe to *Federal Fleet Files*, contact Ryan Daley at [ryan.daley@nrel.gov](mailto:ryan.daley@nrel.gov).

Pick up your Federal  
Fleet Management 101  
Interactive CD  
or, order copies online at:  
[www.femp.energy.gov/library](http://www.femp.energy.gov/library)



The image shows the cover of the 'Federal Fleet Management 101' CD. At the top left is the U.S. Department of Energy logo. To its right is the text 'Energy Efficiency & Renewable Energy'. Further right is the 'FEDERAL ENERGY MANAGEMENT PROGRAM' logo. Below the logo is a graphic of a building and a car. The title 'Federal Fleet Management 101' is prominently displayed. Below the title is the subtitle 'Introduction to Executive Order 13514 Section 12 Guidance and its accompanying Comprehensive Federal Fleet Management Handbook. This CD covers Federal fleet regulatory requirements and reporting timelines, as well as strategies to help Federal agencies:'. Below the subtitle is a list of five bullet points: 'Reduce greenhouse gas emissions', 'Reduce petroleum consumption', 'Increase alternative fuel use', 'Increase vehicle fuel efficiency', and 'Reduce vehicle miles traveled'.

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

FEDERAL ENERGY MANAGEMENT PROGRAM

**Federal Fleet Management 101**

Introduction to Executive Order 13514 Section 12 Guidance and its accompanying Comprehensive Federal Fleet Management Handbook. This CD covers Federal fleet regulatory requirements and reporting timelines, as well as strategies to help Federal agencies:

- Reduce greenhouse gas emissions
- Reduce petroleum consumption
- Increase alternative fuel use
- Increase vehicle fuel efficiency
- Reduce vehicle miles traveled

Thank You!

**Amanda Sahl**

Federal Energy Management Program

*[www.eere.energy.gov/femp/program/fedfleet\\_management.html](http://www.eere.energy.gov/femp/program/fedfleet_management.html)*