

# Tools, Information, and Assistance: Resources for States

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State Biofuels Workshop  
July 16, 2007

# Outline

- DOE/NREL Resources
  - FreedomCAR: Clean Cities
  - FreedomCAR: EPACT
  - WIP: Technical Assistance Project
  - Biomass: Program website
  - Coming soon
- Other agencies
- Other organizations

# Clean Cities: National Petroleum Displacement through Local Implementation

- 90 coalitions represent 2/3 of population, 1/3 of land area and almost 5500 stakeholders
- Several represent whole states
- Major players in local projects and state policy
- Link to niche markets, fleets, suppliers, experts
- Core program provides tools, resources, grants



# On-line Resources

Address: <http://www.eere.energy.gov/cleancities/>

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

## Clean Cities

About the Program | Program Areas | Information | Resources | Financial Opportunities | Technologies | Success Stories

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EERE Information Center

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**UL E85 Fuel Dispenser Listing**

**Clean Fleet Guide**

**The Campaign for an American Fuel**

**Alternative Fuels Data Center**

**Sign Up Today!** **Clean Cities Now**  
Your news is now only a click away

**All About Coalitions**

- Coalitions
- Corridors
- Success Stories
- Partnerships & Alliances

- Coordinator Contacts
- Program Contacts
- Starting a Coalition
- Coalition Annual Questionnaire
- Coordinator Toolbox

**Helpful Tools**

- Document Database
- Alternative Fuels Station Locator
- Clean Fleet Guide
- Toolkits
- Funding
- State & Federal Incentives & Laws
- Technical Assistance - Tiger Teams

**Clean Cities Technology Areas:**

- Alternative Fuels & Vehicles - AFDC
- Fuel Blends
- Fuel Economy
- Hybrid Electric Vehicles
- Idle Reduction

Printable Version

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

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

## Alternative Fuels Data Center

About the AFDC | Fuels | Vehicles | Fueling & Infrastructure | Applications | Incentives & Laws | Information Resources

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**UL E85 Fuel Dispenser Listing**

**CNG Propane Biodiesel H<sub>2</sub>**  
Ethanol Electricity

**Helpful Tools**

- Alternative Fuels Station Locator
- Alternative Fuel Properties Comparison
- Toolkits
- Alternative Fuels Training
- Education Resources
- Related Links
- Industry Contacts
- Clean Fleet Guide
- Frequently Asked Questions About Alternative Fuels

**Alternative Fuels**

- Alternative Fuel Vehicles
- Fueling & Infrastructure
- Fleet Applications & Niche Markets
- State & Federal Incentives & Laws

Printable Version

The Alternative Fuels Data Center is a vast collection of information on alternative fuels and the vehicles that use them. Alternative fuels described here are those defined by the Energy Policy Act of 1992, including bio-diesel, electricity, ethanol, hydrogen, natural gas, and propane. This site has more than 3,000 documents in its database, an interactive fuel station mapping system, current listings of available alternative fuel vehicles, and lots of alternative fuels information and related links.

Address: <http://www.eere.energy.gov/fleetguide/>

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

## Clean Fleet Guide

About the Guide | Fleet Tools | Technologies | Fueling & Infrastructure | Information Resources

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**UL E85 Fuel Dispenser Listing**

**Alternative Fuels Data Center**

**Clean Cities**

**Got a Fleet Related Question?**

**Sign Up Today!** **Clean Cities Now**  
Your news is now only a click away

**Greening your fleet can mean green in your pocket**

The Clean Fleet Guide features tools to help fleets make "green" vehicle and fuel decisions. Supported by Clean Cities, this site offers specs on available alternative fuel and advanced technology vehicles, tools to perform cost analyses based on specific locations, and information on other technologies that can help improve fuel economy. In addition, users will find "clean fleet" strategies they can use to build their own green fleet.

**Vehicles and Equipment**

- Vehicle Make and Model Search
- Idle Reduction Equipment Search

**Costs and Incentives**

- Hybrid Electric Vehicle Cost Calculator
- Flexible Fuel Vehicle Cost Calculator
- Natural Gas Vehicle Cost Calculator
- State and Federal Incentives and Laws

**Fueling and Infrastructure**

- Fuel Infrastructure Development
- Find an Alternative Fueling Station
- Truck Stop Electrification Locator

**Fleet Evaluation Tools**

- Energy Policy Act (EPA) Compliance Assessment
- Clean Strategies for Specific Fleet Types
- Fuel Economy Improvement

Address: <http://www.eere.energy.gov/ethanol/>

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

## Ethanol

Ethanol is a renewable transportation fuel that is a key element in the U.S. Department of Energy's Advanced Energy Initiative. Ethanol produced in the United States is typically made from starch crops, primarily corn. It can also be made from sugar crops or agricultural waste and "cellulosic biomass," such as fast-growing trees and switchgrass.

DOE's FreedomCAR and Vehicle Technologies Program maintains a wide range of information about ethanol and other alternative fuels in the Alternative Fuels Data Center through its Clean Cities activity. This page links to relevant information on these sites about ethanol.

**Ethanol Basics**

- What is Ethanol?
- What is E85?
- How is Ethanol Made?
- Ethanol Market
- Ethanol Benefits
- Ethanol Blends
- Ethanol Publications
- Ethanol Industry Contacts
- Ethanol Related Links
- Energy Balance of Ethanol

**Drive an Ethanol Vehicle**

- Current Models
- Used Vehicles
- Flexible Fuel Vehicle Cost Calculator

**Ethanol Incentives and Laws**

- Federal Incentives and Laws
- State Incentives and Laws

**Fueling with Ethanol**

- Finding an Ethanol Station
- Installing an Ethanol Station
- The Campaign for an American Fuel: Powering Flex Fuel Vehicles with E85

**Fleet Information**

- E85 Fleet Toolkit
- Compare Ethanol

# Incentives and Laws

- Federal & State
  - By state
  - By type
  - By fuel
  - By user
  - Points of contact

Incentives & Laws: State Summary - Microsoft Internet Explorer

Address: http://www.eere.energy.gov/afdk/progs/tech\_matrix.cgi

State	Alternative Fuel - All	Biodiesel	Ethanol	Natural Gas	Liquefied Petroleum Gas (LPG)	Electric Vehicles (EV and NEV)	Hydrogen/Fuel Cells	Blends
Federal US	16	22	20	17	17	20	20	2
Alabama	0	0	0	2	1	0	0	0
Alaska	1	1	1	1	1	2	1	0
Arizona	1	2	2	2	2	10	7	0
Arkansas	2	5	3	5	5	4	4	2
California	16	18	17	25	19	32	20	1
Colorado	5	6	6	2	7	5	5	1
Connecticut	2	2	2	0	6	6	4	0
Delaware	2	4	2	2	2	2	2	0
Dist. of Columbia	3	3	3	4	3	3	3	0

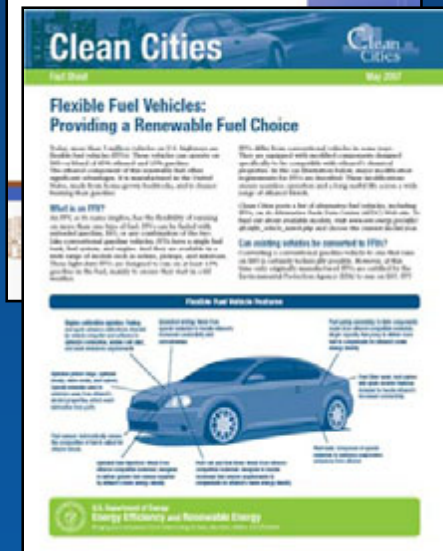
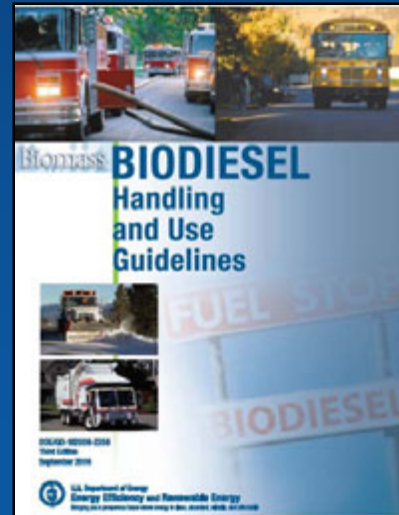
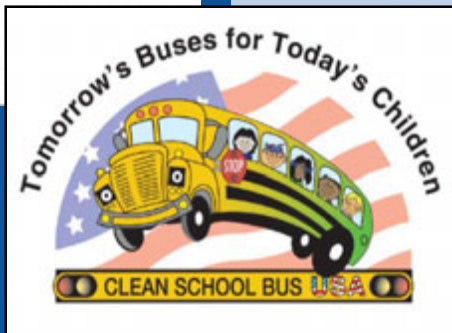
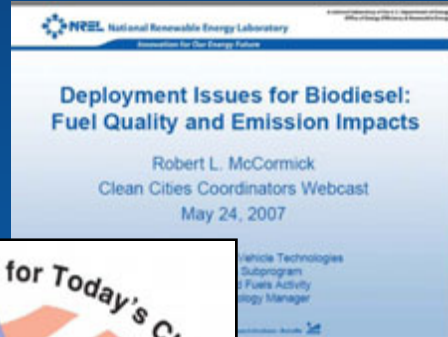
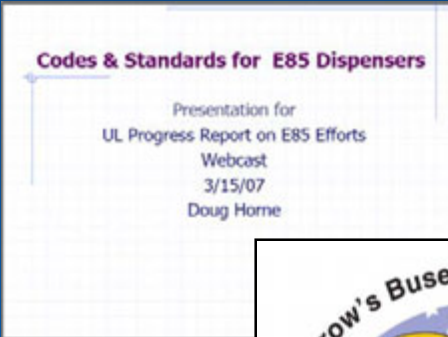
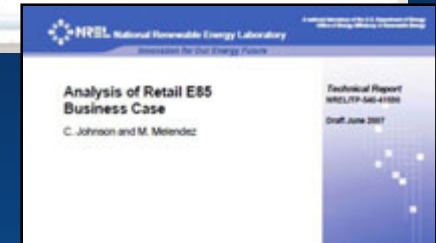
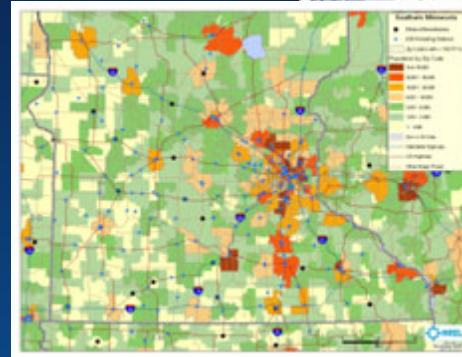
If you have questions or would like to add an incentive to the database, e-mail [technicalresponse@icfi.com](mailto:technicalresponse@icfi.com).

[Methodology](#)



# Analysis & Publications

- Webcasts
- Technology bulletins
- Quarterly newsletter
- Fact sheets & reports
- GIS analysis for infrastructure



# Technical & Logistical Assistance

- Tiger Teams:
  - NREL or industry experts to help solve specific issues
  - Requested by Coordinators
- Coordinator Assistance & Networking
- Technical Response Service: backs up DOE Information Center Hotline
  - 1-877-EERE-INF (1-877-337-3463)
- Technical Support to Industry
  - UL listing of E85 dispensers



# EPACT Regulatory Programs

- Implementing federal regulations and Executive Orders affecting federal, state, and alt. fuel provider fleets
  - Vehicle acquisition for state fleets plus new alternative compliance option
  - Vehicles plus alt fuel use for providers
  - Vehicles, petroleum reduction, alt fuel use for fed fleets
- Providing tools and resources to meet and exceed requirements

# Installing New E85 Fueling Stations

The screenshot shows a web browser window displaying the AFDC (Alternative Fuels Data Center) website. The browser's address bar shows the URL <http://www.eere.energy.gov/afdc/e05toolkit/>. The website header includes the U.S. Department of Energy logo and the text "Energy Efficiency and Renewable Energy" with the tagline "Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable". The AFDC logo is also present. The main navigation bar includes links for "About the AFDC", "Fuels", "Vehicles", "Fueling & Infrastructure", "Applications", "Incentives & Laws", "Information Resources", and "Home". The "Fueling & Infrastructure" link is highlighted, and the "E85 Fleet Toolkit" page is displayed. The page features a sidebar with a table of contents, a main content area with introductory text and a list of topics, and a right-hand sidebar with a search bar and a list of featured content items.

U.S. Department of Energy  
Energy Efficiency and Renewable Energy  
*Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable*

AFDC

CCRC Home

## Alternative Fuels Data Center

About the AFDC | Fuels | Vehicles | **Fueling & Infrastructure** | Applications | Incentives & Laws | Information Resources | Home

### E85 Fleet Toolkit

<b>Getting Started</b>	<p>This toolkit is sponsored by the <a href="#">EPAct Program</a>, which saw a need for reliable information on how to develop E85 infrastructure. Fleets can use this toolkit to assist in:</p> <ul style="list-style-type: none"><li>• Evaluating the best options for their fleets,</li><li>• Learning about the equipment and technologies required to install an E85 fueling site,</li><li>• Learning about other fleets' successes and difficulties in implementing E85 infrastructure,</li><li>• Getting important contact information and resources, and</li><li>• Developing E85 (85% ethanol/15% gasoline) fueling stations.</li></ul> <p>This toolkit contains information on the following topics:</p> <p><a href="#">Getting Started</a> - Start here to learn about E85! These answers to common questions can help save you time and guide you in the right direction.</p> <p><a href="#">E85 Fuel</a> - See the benefits of E85, get E85 fuel specifications, and learn about the fuel.</p> <p><a href="#">Equipment and Processes</a> - Learn the basics on codes and standards, the permitting process, equipment requirements, specifications, costs, and maintenance issues.</p> <p><a href="#">E85 Retail Stations</a> - Find existing E85 fueling stations.</p>
<b>E05 Fuel</b>	
<b>E05 Fueling Options</b>	
<b>Equipment &amp; Processes</b>	
<b>E05 Vehicles</b>	
<b>Risk Management</b>	
<b>Ensuring Success</b>	
<b>Contacts</b>	
<b>Publications</b>	
<b>Related Links</b>	
<b>Bulletin Board</b>	

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The **FLEXFUEL** Campaign for an American Fuel

Document Database

Energy Policy Act (EPAct)

Clean Cities

Clean Fleet Guide

<http://www.eere.energy.gov/fleetguide>

Internet

# Training & Outreach

- State E85 Workshops to increase awareness and use in state fleets
  - Madison, Raleigh, Lansing, Des Moines
  - 50-75 attendees per workshop
- Fleet conferences & exhibits
- Success stories

The screenshot shows the 'Alternative Fuels Data Center' website. The main heading is 'Information Resources'. Under 'Publications', there is a section for 'Alternative Fuel Driver Training' which includes a list of resources:
 

- Rollout as a vehicle Fuel (EPA/2005/2-1-00)
- Congressed Natural Gas as a vehicle Fuel (EPA/2005/2-2-00)
- E85 as a vehicle Fuel (EPA/2005/2-3-00)
- E85 as a vehicle Fuel (EPA/2005/2-4-00)
- Alternative Fuel Driver Training Companion Manual (EPA/2005/2-5-00)

The screenshot shows an article from EPAct titled 'Bioduels Boost AFV Credits and Awareness in North Carolina'. The article discusses how North Carolina's biodiesel industry is helping to increase the use of alternative fuels in state fleets. It mentions that the state's biodiesel industry is growing and that the state's fleet is using more alternative fuels. The article also mentions that the state's biodiesel industry is helping to reduce greenhouse gas emissions and that the state's fleet is using more alternative fuels.

The screenshot shows an article from EPAct titled 'What's New: Fall 2007 Update'. The article provides a list of E85 availability in various states. The table below shows the data:

State	E85 Availability
Alabama	Yes
Alaska	No
Arizona	Yes
Arkansas	Yes
California	Yes
Colorado	Yes
Connecticut	Yes
Delaware	Yes
District of Columbia	Yes
Florida	Yes
Georgia	Yes
Hawaii	No
Idaho	Yes
Illinois	Yes
Indiana	Yes
Iowa	Yes
Kansas	Yes
Kentucky	Yes
Louisiana	Yes
Maine	Yes
Maryland	Yes
Massachusetts	Yes
Michigan	Yes
Minnesota	Yes
Mississippi	Yes
Missouri	Yes
Montana	Yes
Nebraska	Yes
Nevada	Yes
New Hampshire	Yes
New Jersey	Yes
New Mexico	Yes
New York	Yes
North Carolina	Yes
North Dakota	Yes
Ohio	Yes
Oklahoma	Yes
Oregon	Yes
Pennsylvania	Yes
Rhode Island	Yes
South Carolina	Yes
South Dakota	Yes
Tennessee	Yes
Texas	Yes
Utah	Yes
Vermont	Yes
Virginia	Yes
Washington	Yes
West Virginia	Yes
Wisconsin	Yes
Wyoming	Yes

# Alternative Compliance Tool

- Helps state fleets to design custom strategies to reduce petroleum
- Currently open to regulated fleets

The screenshot shows a web browser window displaying the 'Alternative Compliance Planning Tool' interface. The page title is 'FreedomCAR & Vehicle Technologies Program Energy Policy Act (EPAct)'. The main heading is 'Alternative Compliance Planning Tool' with a sub-heading 'Step 2: Create Your Petroleum Reduction Plan'. The page includes instructions on how to calculate petroleum reduction potential and a table for inputting data for Hybrid Electric Vehicles (HEVs). The table has columns for Fuel Type, Number of Vehicles, Average VMT, Fuel Economy of New HEVs, and Fuel Economy of Old Vehicles. The current input shows 800 Gasoline vehicles with an average VMT of 123 and a fuel economy of 35 mpg for new HEVs and 15 mpg for old vehicles. The results section shows a bar chart of petroleum reduction in GGE, with a required amount of 50,000 GGE and a current reduction of 3,749 GGE.

**FreedomCAR & Vehicle Technologies Program**  
**Energy Policy Act (EPAct)**

Alternative Compliance Planning Tool  
Step 2: Create Your Petroleum Reduction Plan

To calculate the petroleum reduction potential of Hybrid Electric Vehicles, fill in the boxes below using your actual historical fleet data. Default values based on nationwide statistics are provided; however, since your own fleet operations can vary considerably from these averages, we strongly recommend you use fleet-specific data.

When developing a plan, remember it is just that, a plan. Actual fleet experience may differ. Therefore, to ensure your fleet meets its requirement, make conservative projections. There are two ways to do this: Estimate lower and plan higher. For example, if you think your fleet will use E85 75% of the time, lower your estimate to 70%. If your petroleum requirement is 10,000 GGE, plan for 11,000 GGE. That way, you'll be covered if you run into a problem.

Alternative Fuels	HEVs	Fuel Blends	Fuel Economy	VMT Reduction	Truck Stop Electrification	Idling Time Reduction	Onboard IR
<b>Hybrid Electric Vehicles (HEVs)</b>							
Fuel Type*	Number of Vehicles*	Average VMT*	Fuel Economy of New HEVs*	Fuel Economy of Old Vehicles*			
Pick from list							
Save Inputs							
Fuel Type*	Number of Vehicles*	Average VMT*	Fuel Economy of New HEVs*	Fuel Economy of Old Vehicles*			
Gasoline	800	123	35	15			
Delete: <input type="checkbox"/>							
GGE Reduced: 3,749							
Save Edits							
* Required							
Generate Plan							

**Results**

Mark's Test Fleet (NC)  
EPAct Fleet ID: 1255

Annual Petroleum Reduction Requirement: 50,000 GGE

Required = 50,000 GGE

Category	Value (GGE)
Required	50,000
Current Reduction	3,749

# Fleet Infrastructure Analysis

- Helps federal fleets match vehicle locations to fuel stations
- In pilot process with federal fleets, Colorado

Fleet Name	City	State	Zipcode	Number of Vehicles	Stations within 5 miles	Stations within 10 miles
Fleet A	Santa Fe	NM		100	X	X
Fleet B	Sioux Falls	SD		5		X
Fleet C	Wichita	KS		23		
	Washington	DC	20585	76	X	X

# WIP: Technical Assistance Project (TAP)

- Provides state and local officials with quick access to technical and policy experts at DOE National Laboratories.
- Direct, short-term assistance with crosscutting energy efficiency & renewable energy issues that are not covered by other DOE programs.
- A cooperative effort by DOE Headquarters, DOE Project Management Centers & 3 National Laboratories

[http://www.eere.energy.gov/wip/technical\\_assistance.html](http://www.eere.energy.gov/wip/technical_assistance.html)



# EERE State Website

- General renewable energy, energy efficiency information



The screenshot shows the EERE State Website interface. At the top, the address bar displays <http://www.eere.energy.gov/states/>. The header includes the U.S. Department of Energy logo and the text "Energy Efficiency and Renewable Energy" with the tagline "Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable." A navigation menu below the header lists "State Information", "State Policy", "Technical Assistance", "Financial Opportunities", and "Information Resources". The main content area features a large banner image of a modern building and a wind turbine. To the left, a "Quick Links to States" section lists all 50 states and DC. The central text explains that the website links to DOE's Office of Energy Efficiency and Renewable Energy (EERE) partnerships and projects in the states, listing several key features: EERE-sponsored projects, cooperative projects and grants, breaking news, state energy statistics, state maps of renewable energy resources, and case studies. Below this, a "Featured News" section highlights a July 11, 2007 article titled "New Jersey Commits to Greatly Reducing its Greenhouse Gas Emissions". On the right side, there are sections for "NEWS" (including "Oregon Requires Biofuel Blends in Both Gasoline and Diesel Fuels" and "DOE Provides \$88 Million for Weatherizing Homes in 20 States"), "EVENTS" (including "GovEnergy" on August 5-6, 2007), and "FEATURES" (including "State News Feeds via RSS" and "state Energy Alternatives"). A "States With" dropdown menu is also visible at the bottom right.

# Biomass Program Site

- Info on DOE research programs and solicitations
- Links for policymakers
- Publications

The screenshot shows the DOE Biomass Program website. The browser window title is "EERE: Biomass Program Home Page - Microsoft Internet Explorer". The address bar shows "http://www1.eere.energy.gov/biomass/index.html". The website header includes the U.S. Department of Energy logo and the text "Energy Efficiency and Renewable Energy" with the tagline "Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable". The main heading is "Biomass Program". Below this is a navigation menu with links: "About the Program", "Program Areas", "Information Resources", "Financial Opportunities", "Technologies", and "Deployment". A search bar is located on the right side of the page. The main content area is divided into several sections: "Biomass Benefits", "Biomass Today", "Feedstocks", "Conversion Technologies" (with sub-links for "Thermochemical Platform" and "Sugar Platform"), "Products R&D", "Integrated Biorefineries", and "Biomass Document Database". A "Quick Links for" section lists "Industry", "Researchers", "Policymakers", "Consumers", and "Students". A central text block describes the DOE Biomass Program's mission to develop technology for biomass conversion. To the right, a "NEWS" section lists recent announcements, including "DOE Selects Five Cellulosic Ethanol Conversion Projects for \$23 Million in Federal Funding" and "DOE Announces up to \$200 Million in Funding for Cellulosic Biorefineries". Below the news is a "Subscribe to EERE News Updates" button. At the bottom of the page, there is a diagram showing the conversion of biomass to sugar and lignin, and a footer for the National Renewable Energy Laboratory.



# Coming soon...

## (to a URL near you)

- Infrastructure planning tool
  - Based on current Colorado, Fed Fleet analysis
- Fleet petroleum reduction options tool
  - Based on State Alternative Compliance Tool
- State biofuels planning tool
  - Will combine state resources, production & distribution infrastructure, vehicles, population, emissions, etc.
- Biofuels Data Center
  - Will extend AFDC to cover biofuels resources, production, distribution

# Other Federal Resources

- **Department of Energy's Solicitation e-Center**  
<http://e-center.doe.gov/doebiz.nsf?opendatabase>
- **DOE/EERE: Financial Opportunities for States**  
<http://www1.eere.energy.gov/financing/states.html>
- **DOT: It All Adds Up to Cleaner Air -**  
<http://knowledge.fhwa.dot.gov/cops/italladdsup.nsf/home>
- **EPA: State and Local Transportation Resources --**  
<http://www.epa.gov/otaq/stateresources/index.htm>
- **EPA's State and Local Clean Energy Programs -**  
<http://www.epa.gov/cleanenergy/stateandlocal/>
- **EPA Funding Opportunities**  
[http://www.epa.gov/ogd/grants/funding\\_opportunities.htm](http://www.epa.gov/ogd/grants/funding_opportunities.htm)
- **EPA: *Funding Opportunities: A Directory of Energy Efficiency, Renewable Energy, and Environmental Protection Assistance Programs*** - [http://www.epa.gov/cleanrgy/pdf/eere\\_fun.pdf](http://www.epa.gov/cleanrgy/pdf/eere_fun.pdf)
- **USDA Rural Development**  
<http://www.rurdev.usda.gov/>

# Other Organizations

- *U.S. Conference of Mayors Best Practices Guide* -  
[http://usmayors.org/uscm/best\\_practices/EandEBP07.pdf](http://usmayors.org/uscm/best_practices/EandEBP07.pdf)
- National Biodiesel Boards' State Fuel Quality Index -  
<http://www.biodiesel.org/resources/fuelqualityguide/states.aspx>
- Renewable Fuels Association's State Legislative Action  
<http://www.ethanolrfa.org/policy/actions/state/>
- National Ethanol Vehicle Coalition  
<http://www.e85fuel.com/>
- Ethanol Promotion and Information Council  
<http://www.epicinfo.org/>
- Governor's Ethanol Coalition  
<http://www.ethanol-gec.org/>

# What Have We Missed?

- Suggestions from you?
- Contact:  
Ann Brennan  
303/275-3609  
[ann\\_brennan@nrel.gov](mailto:ann_brennan@nrel.gov)