

U.S. DEPARTMENT of ENERGY

ALTERNATIVE FUEL NEWS

An Official Publication of the Clean Cities Network and the Alternative Fuels Data Center

From the Office of Energy Efficiency and Renewable Energy



School Buses



Heavy-Duty Trucks

Airports

Transit



The Niche Market Principle

Parks

Shuttle Buses



Delivery Fleets

Taxis



Dear Clean Cities Stakeholders:

By the time you read this issue of *Alternative Fuel News (AFN)*, we will be well into the new year. But I think it is still appropriate to wish the proverbial "Happy New Year" to each of you, so I will. May 1999 be a healthy and prosperous year for you and your family.

I also hope 1999 is a healthy and prosperous year for the alternative fuels industry. I'd like to take a moment to share the good tidings this new year brings to the Clean Cities Program.

At long last, the much-anticipated support to Clean Cities coalitions—from training to new public outreach strategies—will be available through a number of innovative contracts to be let in the first quarter. We also look forward to awarding more than \$2.7 million in State Energy Program (SEP) grants to the best and brightest projects in our nation's Clean Cities. The announcement of awards should take place around the Clean Cities National Conference. You can learn more about this year's SEP on page 9 and more about the 1999 Clean Cities budget on page 5.

We expect this year's SEP funding to be the springboard we need for the development of niche projects. Find out more about niche markets in this issue of AFN. "Partying like it's 1999" will only take place in the Clean Cities Program if we each fully embrace the niche market concept and start to make an impact on those high-mileage, high-use fleets.

Speaking of impacts, I am also looking forward to hearing more about the successes heralded in each of the Clean Cities coalitions through our revised survey for coordinators. One of our Clean Cities resolutions for 1999 is to more effectively spread the word about our program's successes. *The Report to Congress on the Clean Cities Program*, due later this fall, is one way we'll do that. And I'd also like to encourage you to make a similar goal for your coalition in 1999. Let your local leaders know what's going on in their Clean City. Take some time to inform them of the progress your coalition has made, as well as your goals for the future.

I am also looking forward to some great "Advancing the AFV Choice" events, such as the one held in Riverside, California. See page 13 for more details. Each Clean Cities coalition now has its Preferred Fleets Database. Let's make 1999 the "Year of the Private Fleet Manager" and reach out to those who have not yet heard our message.

Yes, 1999 should be full of challenges, but may it also be full of many blessings.

Sincerely,

Marcy A. Rood
Deputy Director
National Clean Cities Program

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The Niche Market Principle

Alternative fuels can sometimes be a tough sell. The "usual suspects" — limited refueling infrastructure, cost, and range — generally surface as reasons why fleets stick with conventional fuels. Putting aside the obvious benefits of alternative fuel vehicle (AFV) use, such as cleaner air and energy security, when it comes down to fleet purchase decisions, the bottom line is almost always economics. If AFVs are to penetrate the market sooner rather than later, Clean Cities must concentrate their efforts on the applications in which AFVs make sense, and cents.

The places in which AFVs would best fit must in some way overcome those "usual suspect" barriers, and make the vehicles economically appealing to the fleet owner. There

are numerous niche markets—high-mileage, centrally fueled fleets are a good example. High-mileage fleets consume large quantities of fuel, so over time, fleet managers can enjoy the cost savings associated with less expensive alternative fuels, such as compressed natural gas (CNG) and propane. Predictable routes and centralized refueling facilitate scheduling and allow for overnight or off-hour refueling, leaving more time for scheduled stops during the workday. Considering these factors, taxis, city shuttles, transit bus fleets using CNG, and rural propane pickup truck service fleets can most often make both sense and cents.

Low-mileage, high-use vehicles are another niche market—vehicles that must wait in traffic, idling, or that must often start and stop, such as U.S. Postal Service vehicles, or airline ground support vehicles, such as tugs or baggage carts. As zero-emission vehicles, electric vehicles are ideal for these applications, and electricity is a relatively inexpensive alternative fuel. This niche market also includes delivery fleets with limited routes in dense, urban

areas—vehicles that must stop frequently along their routes, which are often in nonattainment areas. In fact, using vehicles powered by alternative fuels, such as electricity, may be one way to circumvent possible usage regulations being considered in many of the nation's larger cities. Several cities are debating whether to enact traffic control measures, such as restricting vehicle access to core portions of the city to nighttime use only. Functioning similarly to single-occupancy AFVs that use high-occupancy vehicle lanes, alternative fuel delivery vehicles may be one way these fleets can escape the daytime delivery restrictions, should they be imposed.

Heavy-duty, long-haul trucks are another example of a niche market for alternative fuels, particularly in western regions of the country where liquefied natural gas (LNG) is a cost-effective alternative fuel.

Considering all of the different niche markets in different communities across the country— e.g., taxis, delivery fleets, shuttle service and transit provider fleets, airport ground fleets, school bus fleets, long-haul trucks—market penetration for alternative fuels and vehicles can have a huge impact.

Why target niche markets?

By targeting certain niche markets, Clean Cities coalitions are able to make the best "pitch" for each type of alternative fuel. Niche market penetration will help build a stronger local market base. Other area fleets can then draw on this base to make their purchase decisions and jump on the AFV bandwagon with greater confidence. "One size fits all does not apply to fleet requirements or alternative fuel vehicle attributes," said David Rodgers, Director of the U.S. Department of Energy's (DOE's) Office of Technology Utilization. "By matching those needs and attributes in 'niches,' Clean Cities can dramatically increase the attractiveness of AFVs."

Niche market fleets that consume large amounts of fuel can also generate the refueling station throughput to justify maintaining what's already open, and encourage additional infrastructure development. Clean Cities coalitions can play a key role in bringing niche market fleets together with local fuel providers and facilitating cooperative infrastructure

Niche.
\'nich\ n.
A place or activity
for which some-
thing is best fitted.

Warren Gretz - NREL / PIX 02203



development planning. Strategically building refueling stations along niche market routes will also help ensure substantial throughput and generate greater investment confidence in the alternative fuel market. Moreover, the convenience and availability of refueling infrastructure will hopefully entice other area fleets to make the AFV choice. As more and more passengers hop on the AFV bandwagon, the local market will continue to grow.

A challenge to all

To help jumpstart the Clean Cities niche market movement, DOE's Assistant Secretary for Energy Efficiency and Renewable Energy, Dan Reicher, issued a "niche market challenge" to all attendees of 1998 National Clean Cities Conference last June. He challenged Clean Cities stakeholders to select a particular niche market in their areas that could reasonably be targeted for 100% alternative fuel use during the next 5 years. Surveys were distributed to all conference attendees to help the national program staff determine the feasible target markets in different Clean Cities regions. The feedback has been excellent; all of the respondents suggested specific niche markets in their communities that could be targeted for 100% alternative fuel use, and many coalitions are already working with local niche market fleets.

Setting the trend in AFV niche markets

You may recall our "focus on niche markets" feature stories in past issues of the *Alternative Fuel News (AFN)*. So far, we've covered school buses and taxicab fleets. In this issue, we turn our attention to transit buses. We hope that by highlighting niche market success stories from stakeholder fleets throughout the Clean Cities network and by providing helpful hints from project leaders, others can duplicate the successful efforts in their own Clean Cities.

Organizations such as the U.S. Postal Service, whose El Paso, Texas, fleet of 397 delivery vehicles is 100% alternatively fueled, are setting the trend. Taxicab companies such as L.A. Checker Cab in Long Beach (140 CNG vehicles) and Checker Cab in Atlanta (70 CNG vehicles) are well on their way to similar success. Clean Cities coalitions all over the country already focus on niche markets in their communities; some of these are listed below.

- Tulsa Public Schools in Oklahoma—179 bi-fuel school buses
- Orange County Transit Authority, California—75 LNG buses, 240 on order
- H.E. Butt Grocery Company, Houston, Texas—61 dual-fuel heavy-duty delivery trucks
- Philadelphia International Airport—18 dedicated CNG shuttle buses
- Portland, Maine, and the Northeast Alternative Vehicle Consortium Electric Bus Project—6 electric transit buses

And there are many more! Stay tuned to upcoming issues of the *AFN* for niche market successes in delivery fleets, airport ground fleets, and national parks (for this month's *AFN*'s focus on transit buses, see page 8).

Need help?

To emphasize the importance of niche market penetration during the next several years, the National Clean Cities Program is doing what it can to help. A special niche market category will be featured in the 1999 DOE State Energy Program (SEP) Special Projects solicitation, which gives high priority to projects placing AFVs in niches that have the strong potential to achieve 100% alternative fuel use (for more information on the 1999 SEP Special Projects, see p. 9).

The Clean Cities network can also provide helpful information. The Clean Cities Hotline and Alternative Fuels Data Center have numerous case studies on file, detailing the steps that different school bus, delivery, and transit fleets have taken to successfully maintain an alternative fuel program. Other Clean Cities coalitions are another reference. Talk to your DOE Regional Support Office Clean Cities contact and other Clean Cities coordinators. They can put you in touch with coalition stakeholders who have already been through the decision-making process and have successfully introduced alternative fuels into their fleets.

"Niche marketing works," said Rodgers. "Remember when only doctors and emergency personnel used pagers? By saturating that niche market and others, paging companies built consumer confidence and economies of scale. Now everybody needs a pager and there's a pager for every need. "Someday, the same will be said for AFVs. By answering the challenge and planting the "niche market seeds" in Clean Cities communities across the country, local AFV markets will grow into regional markets, which can result in our ultimate goal: a sustainable nationwide market for alternative fuels.



Warren Gretz - NREL / PIX 02203

Niches that achieve 100% AFV use do two things. One, they cement the role of alternative fuels in the community, leading to predictable fuel and vehicle sales; and two, they dispel the erroneous perception that AFVs can't compete."

— DOE's David Rodgers



From the Hill

Investing in Our Future: Funding for Technologies and Deployment

People around the world are bracing themselves for the year 2000. Much anticipation and excitement surround the coming of the next millennium. What changes are on the horizon for the next century? What will the hot issues be in the coming years? With growing concerns over greenhouse gas emissions, global warming, and ongoing events in the Persian Gulf, alternative energy technologies should be at the top of the agenda.

The federal government plays an important role by investing in critical research, development, and deployment of these alternative technologies. The Omnibus Appropriations Bill (H.R. 4328), which passed on October 19, 1998, sent a clear message from the U.S. Congress that energy efficiency, renewable energy, and alternative technologies will play a major role in our energy future. The bill allocates funding in support of DOE's Energy Efficiency and Renewable Energy technologies for fiscal year (FY) 1999, which includes funding for programs and projects for DOE's Office of Transportation Technologies (OTT).

We are already entering another budget cycle. The President's request for FY 2000 has been submitted to Congress and will be the subject of numerous hearings in March, April, and May of 1999, yet we are less than halfway through our current fiscal year.

A review of our FY 1999 plans shows that OTT supports the development and commercialization of technologies that have the potential to radically alter current projections of the rising U.S. and world demand for energy, particularly oil. As such, the overall goal of the OTT program is to provide consumers with vehicle options that reduce oil use and decrease emissions of criteria pollutants and greenhouse gas emissions. Specific strategic objectives are improving the fuel economy of transportation vehicles and increasing the production and use of cost-effective alternative fuels. Activities funded by the FY 1999 budget for the transportation sector will continue to build the foundation for substantial changes in transportation vehicle fuel economy and the use of alternative fuels—technologies critical to our nation's future.

The adjusted appropriation for all of the OTT programs for FY 1999 is \$243.8 million. Of that, \$41.75 million comes from the Energy and Water

Development Subcommittee, and is used for OTT's Office of Fuels Development, which is responsible for ethanol, biodiesel and feedstock production, and regional biomass energy programs. The remaining portion of the OTT budget, \$202.07 million, is appropriated by the Interior and Related Agencies Subcommittee, and supports OTT's Office of Advanced Automotive Technologies, Office of Heavy Vehicle Technologies, and Office of Technology Utilization (OTU). Although the majority of this funding is used for research and development—programs including the Partnership for a New Generation of Vehicles—a significant portion is also devoted to technology utilization, which includes the Clean Cities Program.

The goal for technology utilization (also called deployment) programs is to provide the required stimulus to achieve significant penetration of alternative fuels and advanced vehicle technologies in the U.S. transportation sector during the next two decades. OTU seeks to deploy readily available technologies and fuels, and set the stage for the mass introduction and commercialization of advanced vehicle technologies currently under development, while at the same time chipping away

1999 FY Budget – Transportation Technologies, Technology Deployment

Clean Cities Voluntary Deployment Programs2.96 M
<i>Objective:</i> forge partnerships with fleet owners, fuel providers, vehicle manufacturers, and state and local governments to expand the use of AFVs and the development of refueling infrastructure	
Infrastructure, Systems, and Safety2.47 M
<i>Objective:</i> work with industry and state partners to demonstrate and evaluate alternative fuel infrastructure, primarily through the State Energy Program	
Energy Policy Act Replacement Fuels Program1.28 M
<i>Objective:</i> implement the requirements of the Energy Policy Act	
Vehicle Field Test/Evaluation2.92 M
<i>Objective:</i> perform rigorous, structured programs to test and evaluate cars and trucks that use alternative fuels and advanced technologies	
Technical Information Development2.47 M
<i>Objective:</i> provide current, accurate, reliable information on all types of alternative fuels and vehicles	

Total 12.11 M

at our nation's foreign oil dependency and environmental problems. Technology deployment initiatives include Clean Cities; Infrastructure, Systems, and Safety; the Energy Policy Act Replacement Fuels Program; Vehicle Testing and Evaluation; and Technical Information Development. As illustrated in the chart on the previous page, the \$12.11 million appropriated for technology deployment activities is divided among each of these programs with various objectives.

The appropriated funds include a \$500,000 increase of the FY 1998 budget allocations for technology deployment, and will expand upon progress made during the last 4 years. 'In 1999, Clean Cities funding will help implement the Clean Cities Game Plan 1999,' said Clean Cities Deputy Director Marcy Rood. "Specifically, \$1.4 million will pay for the "Advancing the AFV Choice" events and rebates for the incremental cost of AFVs for private and municipal fleets. The Clean Cities Program will also provide \$2 million to support AFV projects in Clean Cities through the State Energy Program. Clean Cities also plans to partner with the Department of Interior and National Park Service to offer grants to AFV projects in national parks." She continued, "We are very encouraged about this year's budget and the possibilities for implementing sound, effective AFV projects." Among other tasks, the Clean Cities budget supports the National Renewable

Energy Laboratory, which manages the Clean Cities Hotline, Alternative Fuels Data Center, the *Alternative Fuel News* publication, and the National Clean Cities Conference.

The FY 2000 budget request for Energy Efficiency and Renewable Energy includes significant increases for clean, energy efficient technologies. You can obtain a copy of either the FY 1999 or the FY 2000 budget at the DOE Web site: www.ott.doe.gov/budget.html.

OTU Goals for FY 1999 include:

Expanding the Clean Cities Program to include emphasis on greenhouse gas reductions, and significantly increasing grants to states and Clean Cities to demonstrate greenhouse-gas-reducing technologies

Linking and solidifying Clean Cities infrastructure and corridor investments launched in 1996 through 1998, creating continuous corridors of alternative fuel infrastructure and linking 10 major urban centers

Working closely with other federal agencies and industry to encourage greater use of electric vehicles

Determining, through public comment and rulemaking, how to modify Energy Policy Act of 1992 replacement fuel goals and design a program to promote the maximum practicable use of alternative fuels

Continuing EPA fleet programs, adding 8,000 AFVs to the federal fleet and completing the rulemaking on private and local fleets

Improving the value of the *Fuel Economy Guide* and other information products as a means to encourage the use of fuel-efficient vehicles.



Federal News

Buenos Aires Update— 163 Nations Agree to Emission Reduction Steps

The climate change talks of the Fourth Meeting of the Conference of Parties (COP-4) concluded in the early hours of November 14, 1998, in Buenos Aires, Argentina, with the drafting of the

Buenos Aires Plan of Action. U.S. representatives were generally pleased with the plan, which outlines a schedule for global emission reductions by the end of the year 2000.

DOE's Assistant Secretary for Energy Efficiency and Renewable Energy, Dan Reicher, was a member of the U.S. delegation to COP-4 in Buenos Aires. Reicher participated in a roundtable discussion concerning the role that clean energy technologies can play in cost-effectively reducing greenhouse gas emissions. Although worldwide energy demand is projected to continue rising, the cost of clean energy is projected to decrease, and technology performance and reliability are projected to increase. So a strong market is projected for advanced energy technologies such as biomass, fuel cells, and fuel-efficient vehicles. To help this happen, the Plan of Action includes time lines for introducing market-based mechanisms; funding the transfer of energy-efficient and environmentally friendly technologies; providing assistance for countries adversely affected by climate change; and establishing a legal system

"The agreement reached early today in Buenos Aires ensures that the nations of the world will continue moving forward against the threat of global warming."

- Vice President Al Gore, November 14, 1998

to ensure that parties meet agreed-on emissions goals. The participants also agreed to supplement their annual meetings with more frequent meetings of high-level ministers to ensure that progress will continue before the May 1999 conference in Bonn, Germany.

U.S. representatives were quick to acknowledge that there is still a long way to go. "Buenos Aires has not only sustained, but advanced the momentum of Kyoto," remarked Stuart Eizenstat, Head of Delegation and Under Secretary of State. "It's going to be a long process. It's a marathon; it's not a sprint."

COP-4 marked a significant change of thinking on climate change issues, as many nations expressed a renewed interest in the problem and in greenhouse gas policy development around the world. Many large corporations in the United States, such as British Petroleum, DuPont, IBM, and United Technologies, made independent strides during the year toward reducing emissions. On Thursday, November 12, 1998, the United States became the 60th and last industrial nation to sign the Kyoto Protocol; however, the treaty must be ratified by the U.S. Senate before it becomes law.



From the Automakers

Ford and DOE Find Similar Solutions to Bridge Gap Between Welfare and Work

For some people in Detroit, Michigan, and Schenectady County, New York, getting to work is getting easier. Ford Motor Company and the U.S. Department of Energy (DOE) are launching separate but similar efforts to transport former welfare recipients to work. Both initiatives are using natural-gas-powered vans to augment current mass transportation systems already in place.

In Detroit, Ford Motor Company is partnering with a community-based organization, EZ-Ride, to provide a flexible transportation solution to former welfare recipients. In December, EZ-Ride's "Green Rides" initiative began using 13 natural gas-powered Ford Econoline vans to shuttle an estimated 35,000 people a year from their homes to work and back. The initiative is designed to provide a more flexible transportation solution than those offered by the current mass transit system. "Let's say you have a mother with two children who needs to get to work," remarked John Slater, Executive Director of EZ-Ride. "It may take two hours front-time to drop the kids off at school and daycare, then get to work. With Green Rides, we can pick the family up, drop the kids off, then take the mother to her bus line or workplace."

Wick Photo DataBase



Ford Econoline Van

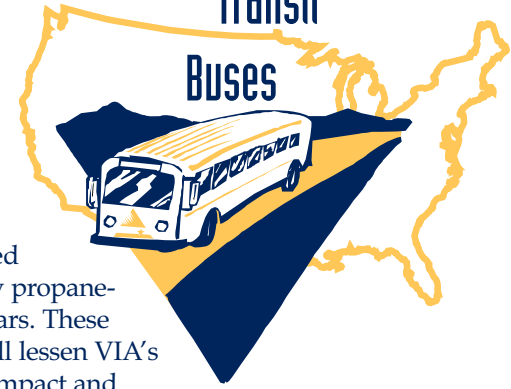
Ford is also working with local and state governments to develop a sustainable business plan to expand this program within the state and nationwide. "We at Ford find this program to be a great way to marry welfare-to-work and an environmentally responsible mode of transportation," said Charlie Pryde of Ford Motor Company.

In Schenectady County of eastern New York, DOE and the U.S. Environmental Protection Agency are funding a similar initiative. Last year the county received a DOE/EPA sponsored grant for \$28,000 from the International Council for Local Environmental Initiatives for a dedicated natural gas-powered van to shuttle former welfare recipients to and from work. "There is not a lot of public transit [in this area]," comments Ron Santag of the Schenectady County Job

Training Agency, "If you're low income, your chances of getting a car right away aren't very good." The Schenectady County Job Training Agency coordinates this service, which ensures that people are able to get to job interviews, provides transportation to crews that travel as a group to work, and transports individuals during their first year of employment.

Are you getting what you need in the *Alternative Fuel News*?

Did you know the *AFN* is posted online—in both pdf and text-only formats—before the hard copies are distributed? Check out "What's New" at www.ccities.doe.gov or www.afdc.doe.gov. Because public funds are used to print and distribute the newsletter, this is your chance to reduce those costs by going paperless! If you'd like to receive the *Alternative Fuel News* by e-mail notification, or change anything about your subscription, please e-mail the Clean Cities Hotline at ccities@nrel.gov, or call them at 800-CCITIES. We also welcome your comments and suggestions!



Spotlight on Niche Markets

Across the Nation AFV Transit Buses Multiply

Past issues of the *Alternative Fuel News* have demonstrated how niche markets (e.g., school buses and taxis) complement the alternative fuel vehicle (AFV) industry. As we continue our coverage of niche markets, it's time for transit buses to pave the way! Quickly growing alternative fueled bus fleets and success stories prove the viability of the AFV transit bus industry. What is required for alternative fuel transit bus programs to succeed? As you'll learn from the examples below, it's a combination of innovative thinking, technological advancements, and funding.

In the East

As part of New Jersey's "Cleaner Fuels Initiative," proposed by Governor Christine Todd Whitman, the state has ordered 50 compressed natural gas (CNG) buses. New Jersey Transit was awarded a \$24.5 million contract for the custom-made, long-range cruiser CNG buses to be delivered by March 1999. In addition, the governor announced that the state will install a \$4 million CNG refueling and maintenance facility to service these buses. "The growth of public transportation is critical to our transportation vision for the next century," stated Todd Whitman. "Public transportation moves more than 300,000 people each day, takes pressure off our highway infrastructure, and is essential to enhancing air quality." The New Jersey Natural Gas Company, a stakeholder in the North Jersey Clean Cities Program, will be a major partner in this project.

In State College, Pennsylvania, the Centre Area Transportation Authority (CATA) operates 34 CNG transit coaches, and will be the only transit fleet on the East Coast operating entirely on CNG by the end of 2000. Hugh Mose, CATA General Manager, stated, "CATA made the decision in 1994 to replace its buses with natural gas-powered vehicles. The decision was based on the desire to use domestically produced fuels to enhance air quality in the community and the potential for cost savings." Mose went on to say, "The community response has been phenomenal. In my 22 years in the transit industry, I have never received more positive comments from bus riders and non-riders alike."

Down South

In San Antonio, Texas, VIA Metropolitan Transit, a stakeholder in the Alamo Area Clean Cities Coalition,

purchased 66 new 30-foot propane-powered buses and 5 new propane-powered streetcars. These new vehicles will lessen VIA's environmental impact and demonstrate the agency's commitment to alternative fuels, specifically propane. VIA's bus fleet was powered by propane in the 1950s and 1960s and started using propane again 4 years ago in its service and paratransit fleets. The new buses are equipped with the Cummins B5.9 liquefied petroleum gas (LPG) low emissions vehicle (LEV) engines. By 1999, VIA plans to convert all 20 downtown streetcars to run on the Cummins B5.9 LPG engine. The new LPG buses will compliment the 209 propane powered vehicles already in the VIA fleet. According to Douglas Peck, the VIA Metropolitan Transit's Director of Vehicle Maintenance, "We have had a very favorable experience and have learned how to maintain and refuel the current propane fleet. We are currently pumping about 4,500 gallons of propane a night, and will be pumping more than 9,000 gallons a night when the propane buses and streetcars are placed into service this coming year." The Alamo Area Clean Cities Coalition is currently working toward an official Clean Cities designation.

Out West

West Coast transit bus programs have also been successful. The Los Angeles Metropolitan Transportation Authority (MTA) operates the largest clean air fleet in the nation. The MTA has been awarded \$4.3 million in funding from the Mobile Source Emission Reduction Review Committee (MSRC) to cover the incremental costs associated with MTA's purchase of 223 CNG transit buses. Julian Burke, MTA chief executive officer (CEO), stated, "These funds will help implement the MTA Board's policy of purchasing clean fuel and clean air buses." The CNG buses will be manufactured at a cost of \$319,789 each and delivery began in February 1999. This brings the MTA CNG bus fleet to 560, and MTA plans to add more than 2,000 buses, mostly CNG, to its fleet between now and 2004. According to Deputy CEO Sharon Landers, "There are more and more opportunities for clean fuel grants at the state and regional levels... we'll continue to be aggressive in seeking opportunities like this for the MTA."



Funding Opportunities

1999 State Energy Program Grants Can Help Get Your Project Off the Ground

Say the words, "funding," or "grant money" in a room full of stakeholders in any industry and you're guaranteed to get attention. Everyone needs funding, and Clean Cities coalitions are no exception.

In terms of direct funding, Clean Cities offers State Energy Program (SEP) Special Projects Grants. So far, the Clean Cities Program has provided more than \$7 million in funds to State Energy Offices for alternative fuel vehicle (AFV) projects, which have not only helped coalitions foster local market development, but have strengthened the relationships between the federal, state, and local government partners and private sector Clean Cities stakeholders.

Designated Clean Cities and petitioning coalitions with a program plan on file at the National Clean Cities Program office are eligible for funding, and are highly encouraged to work with their DOE Regional Support Office Clean Cities Contacts to develop a project proposal. Dorothy Wormley, DOE energy technology specialist and "resident grant expert" for the National Clean Cities Program, strongly urges newly designated programs, as well as eligible coalitions seeking designation, to apply for SEP money.

"Funding through SEP is a great way to get a start on program initiatives and projects, and this year's project categories provide multiple opportunities to start a successful alternative fuels program."
*-Dorothy Wormley
DOE Energy Technology Specialist*

SEP is also a good way to help coalitions focus their efforts to reflect the national program priorities. For example, "100% niche market penetration" (a recent catch phrase in and around the Clean Cities network) is a primary focus of the Clean Cities Game Plan 1998/1999. Therefore, in the 1999 SEP grant solicitation, projects that build 100% niche market penetration will be of particular interest. See the chart at on the next page for more detailed information on the project requests for FY 1999.

The 1999 SEP solicitation hit the streets on December 28, 1998. Project proposals must be submitted to DOE through State Energy Offices by April 1, 1999. Due dates to Energy Offices may vary by state, so please contact your State Energy Office or your DOE Regional Support Office Clean Cities contact for more information specific to your coalition.

Projects Requested in FY 1999

- Projects that promote the acquisition of AFVs in fleets that enable 100% niche market penetration.

Eligible "niche" market fleets include: shuttle applications, taxi fleets, law enforcement fleets, delivery fleets, health care services, welfare-to-work services, and other types of fleets. Funding is available for the incremental cost of AFVs, with specific emphasis on dedicated vehicles that will maximize alternative fuel usage.

- Projects that promote the development of refueling infrastructure for AFVs.

Projects that reduce greenhouse gas emissions, such as infrastructure for renewable fuels, will be of particular interest.

- Projects that deploy alternative fuels technologies for school buses.

The focus of these projects is technology deployment, rather than technology development. Alternative fuel school buses deployed as part of this project must use emissions-certified engines from the original equipment manufacturers, and preference will be given to projects using technology that has proven reliable in applications similar to the proposed project. A plan for collecting and reporting reliability and performance data must be included in the proposal.

- Projects that implement electric vehicle advanced battery technologies in existing electric transit buses.
- Projects that develop Clean Cities coalitions, including funding full-time coordinator positions or interns. Eligible organization activities and projects include, but are not limited to: workshops for stakeholders and fleet operators,



From the Field— The San Diego Regional Clean Cities Coalition

"The State Energy Program (SEP) Special Projects funding has helped our coalition in a number of ways. The cooperative process has strengthened our coalition's relationship with the California Energy Commission and has helped establish a better working relationship with other coalitions in the state in an ongoing effort to improve and streamline the SEP grant process. On a more internal level, the SEP process has helped the coalition leadership better identify our stakeholders' needs. We held a proposal-writing seminar for our members that covered how to make the right contacts, how to identify and conceptualize projects suitable for funding, and how to organize and write a successful proposal. SEP has also helped us recruit more dues-paying members. Our project in 1997 was an incentives/buy-down program for alternative fuel vehicle and infrastructure purchases. It was open only to San Diego Clean Cities stakeholders, which helped us draw new membership. We brought on five new members who wanted access to the incentives to assist with their vehicle purchases. In a way, SEP has been a 'carrot' for our coalition. It's helped us draw in other companies who are not only interested in the incentives program [supported by SEP funds], but who also want to submit proposals for projects that can help build our local AFV market."

*-Kim Cresencia, San Diego
Regional Clean Cities Coordinator*

public education and outreach, development of legislative strategies, development of plans for specific capital investments, and training programs on AFV maintenance.

- Projects that promote the introduction of energy-efficient technologies and energy saving approaches in heavy-duty vehicles. Technologies that provide cab heating and cooling, thereby reducing the need for idling of heavy trucks, are of special interest. A plan for collecting and reporting reliability and performance data must be included in the proposal.
- Projects that promote the use of advanced transportation technologies, such as hybrid or fuel cell vehicles, that can provide reductions in oil use and reductions in environmental emissions. Technologies that have the potential to reduce greenhouse gas emissions are of particular interest, as are technologies that integrate advanced propulsion system and vehicle concepts with alternative fuels (e.g., ethanol fuel cells, and natural gas hybrids). Projects that have a substantial R&D element are included in this category, but extra consideration will be given to proposals that include a strategic deployment plan for the subject technology

After Stakeholder Input, Final CMAQ Guidance on the Way...

The Congestion Mitigation and Air Quality Improvement (CMAQ) Program was reauthorized by the enactment of the Transportation Equity Act for the 21st Century (TEA-21). Although the primary purpose of the CMAQ Program remains intact—to reduce transportation-related emissions in nonattainment and maintenance areas—the alternative fuel sections of the program

SEP Helpful Hints

What are the energy related benefits? Will your project greatly increase the number of AFVs on the road or the number of alternative refueling stations?

- What are the environmental benefits of your project? Does your project result in the reduction of criteria pollutants or greenhouse gases?
- How does your project strengthen and stimulate your Clean Cities Coalition?
- Does your project enhance awareness or increase the visibility of the Clean Cities effort in your community?
- Does your project involve cost sharing from any nonfederal partners?
- Are there any other Clean Cities coalitions working as partners in this effort?

For more information, check out the Clean Cities Web site: www.ccities.doe.gov

Among these issues are special provisions for alternative fuel projects that are included as part of a public/private partnership.

The interim guidance stakeholder process included the publication of a federal register notice requesting written comments on the (interim) guidance to be submitted to the U.S. Department of Transportation (DOT) by November 30, 1998. Additionally, several workshops were held in San Francisco, California; Washington, D.C.; St. Louis, Missouri; and Chicago, Illinois, to encourage stakeholder comments and suggestions. Attendees of the workshops represented various organizations, including state DOTs, state metropolitan planning organizations (MPOs), state air agencies, Clean Cities, environmental groups, industry representatives, and transportation groups. To characterize the workshops, Mike Savonis, CMAQ Program Manager for DOT's Federal Highway Administration, said, "people felt excited about the public/private partnerships. However, they are aware of the need for the program to be implemented

carefully in order to protect public interest." After all written comments and workshop input have been reviewed, the final CMAQ guidance will be issued.

The interim guidance covers issues related to the reauthorized CMAQ program, new provisions regarding eligible geographic areas under TEA-21, and guidance related to projects now eligible for CMAQ funds.

Among these issues are special provisions for alternative fuel projects that are included as part of a public/private partnership.

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carefully in order to protect public interest." After all written comments and workshop input have been reviewed, the final CMAQ guidance will be issued.

In another effort to educate state MPOs about the use of CMAQ funds, Clean Cities Program

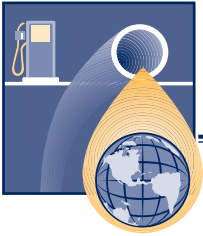
Some Additional Changes to CMAQ

- CMAQ funds for purchasing privately owned vehicles or fleets using alternative fuels limited to the incremental cost of an AFV compared to a conventionally fueled vehicle.
- If both governmental (federal) and CMAQ funds are used for vehicle purchases, CMAQ funds must be applied after government funding has been applied to the incremental cost.
- AFV purchases no longer need to be specifically identified or included in the State Implementation Plan or maintenance plan in order to be eligible for CMAQ funding.

Consultant Cliff Gladstein gave a presentation to U.S. DOT's Region 9 (California, Nevada, Hawaii, and Arizona) transportation planners. Gladstein's objective was "to provide Clean Cities support by reaching out to MPOs to help them think more creatively about using CMAQ funds for AFV deployment projects." Gladstein pointed out to the group that with CMAQ funding alone,

they could deploy 82,000 clean, alternative-fueled heavy-duty vehicles, thereby reducing emissions by 100/tons per day. "I tried to show how to use CMAQ funding to give the gift of clean air," stated Gladstein.

Stay tuned for additional information on the final guidance, or visit the Web site located at www.fhwa.dot.gov/environment/interim.htm.



At the Pump

Raising Awareness and Use of E85

The auto manufacturers have produced hundreds of thousands of E85 (85% ethanol/15% gasoline blend) flexible-fuel vehicles (FFVs). Ethanol producers are ready to supply substantial quantities of ethanol for E85 use. If these huge numbers of FFVs were running on E85, the increase in demand for fuel would spur retail marketers to supply it at their stations. So why aren't we using the fuel? DOE has worked with various stakeholders to produce the "E85 Action Plan" to generate support for E85 infrastructure development and increase national public awareness of E85.

The E85 Action Plan's "Model Cities Program" has identified new opportunities to provide education and money for E85 stations. The goal is to establish "model cities" by saturating specific markets with E85. Planning is underway for placement, within the next 12 months, of 30 E85 fueling stations in each of the three model cities (Chicago, Denver, and Minneapolis) for use by public and private fleets, as well as the general public, to demonstrate E85's profitability. To spur the use of E85 in Minneapolis, Larry Johnson at the Minnesota Department of Public Service mailed E85 fuel coupons to approximately 5,000 FFV owners, giving them four coupons each worth \$5 off any E85 fuel purchase of 8 gallons or more. Now that's an incentive!

The National Ethanol Vehicle Coalition (NEVC), a partnership of the 22 member states of the Governors' Ethanol Coalition and the National Corn Growers Association, is an active player in implementing the action plan. The NEVC is currently developing a marketing effort to promote E85 and has established 46 E85 public refueling stations to date. In addition, NEVC is working with the U.S. Postal Service (USPS) to strategically place 10,000 E85 FFVs purchased from Ford Motor Company. According to Phil Lampert,

NEVC Project Coordinator, "NEVC, corn growers, and the ethanol industry have been working closely with USPS to place Ford E85 FFVs in areas that have E85 fueling facilities, adequate E85 demand, and/or exist in one of the three model cities. It is my opinion that the willingness for USPS to order more E85 FFVs in the future will be based on the experiences with this E85 program."

Both Ford Motor Company and DaimlerChrysler have made efforts to educate E85 FFV dealers and consumers. As E85 vehicles are being sold at dealerships across the country, automobile salespeople are in a unique position to educate

their customers about the benefits of using E85 versus conventional gasoline. Ford has created a mirror, printed with E85 benefits and availability, which is put in every vehicle. According to Gerry Roussel, Ford's alternative fuels regulatory planner, "Our goal is for the customer to take advantage of the capability to use ethanol where it is available, and as demand increases, more infrastructure will be built." Ford has increased its involvement in the Clean Cities Program as a way to learn about alternative fuels and to reach potential customers. DaimlerChrysler has also placed E85 brochures and advertisements at dealerships. They

have been instrumental in the sale of E85 FFVs, having sold over 138,000 E85 vehicles in the 1998 model year. Mike Clement, DaimlerChrysler's director of alternative fuel vehicles, stated, "We have the vehicles out there. Our next step is for fuel providers to get more stations in place so the vehicles can run on the fuel." General Motors has announced it will produce E85 vehicles in the next model year.

For a list of E85 stations, call the National Alternative Fuels Hotline at 800-423-1DOE and request a copy of the *E85 Public Refueling Guide*. You can also find a list of stations in the Clean Cities Fleet Buyer's Guide Web site at www.fleets.doe.gov, or at the American Coalition for Ethanol Web site at www.ethanol.org.

Why use E85?

- It's clean burning.
- It's produced domestically.
- It's a renewable fuel.
- It reduces greenhouse gas emissions.
- It strengthens local economies.
- It reduces dependence on foreign oil.
- It provides energy security.

Warren Greiz - NREL/PIX 07133



E-85 station



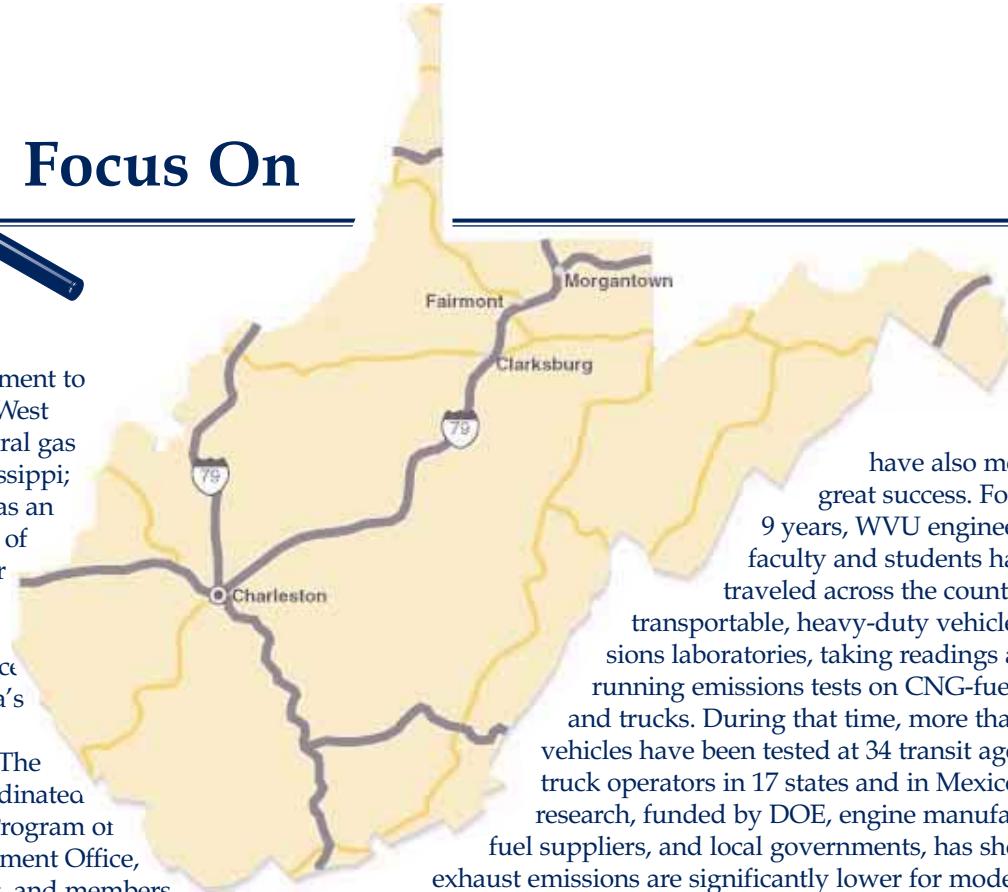
Focus On

West Virginia

West Virginia's commitment to Clean Cities is statewide! West Virginia is the largest natural gas producer east of the Mississippi; therefore, natural gas use as an alternative fuel is a means of economic development for the state. In 1994, the state was designated the 21st Clean Cities Coalition. Since its inception, West Virginia's alternative fuel programs have grown dramatically. The Clean State Program, coordinated by the Energy Efficiency Program or the West Virginia Development Office, is now 50 members strong, and members range from local government and utilities to oil and gas industries.

One of the largest projects under way in West Virginia is the Interstate 79 Clean Corridor, known as I-79. The Clean State Program has received funding from the U.S. Department of Energy's (DOE's) State Energy Program (SEP) and the Gas Research Institute (GRI) for two new compressed natural gas (CNG) stations along the Clean Corridor, which includes four major West Virginia cities— Charleston, Clarksburg, Fairmont, and Morgantown. These stations will be equipped with the new "O-Green" hydraulic compressor technology, which is quieter and allows for a more complete fill-up because it prevents the fuel from heating and expanding. In addition, GRI has funded research at West Virginia University (WVU) to conduct analyses of the compressors, and has contributed to the Federal Energy Technology Center for marketing CNG fuel to fleet operators from Pittsburgh to Charleston. The corridor, with the support of Pittsburgh Clean Cities, links Charleston, West Virginia, with Pittsburgh, Pennsylvania. According to Jeff Herholdt, Manager of the West Virginia Development Office's Energy Efficiency Program, "There were many parties involved. James Ferguson of the Philadelphia Clean Cities Regional Support Office was a vital link to these projects happening in West Virginia."

The state's efforts don't end there! West Virginia also provides credit against state income taxes to help defer the cost of vehicles bought, converted, or retrofitted to operate on alternative fuels. Credit is available for vehicles bought or converted beginning with the 1998 tax year. However, this credit is available only to those who are not required by federal or state law to purchase AFVs. AFV efforts at WVU



have also met with great success. For the past 9 years, WVU engineering faculty and students have traveled across the country in two transportable, heavy-duty vehicle emissions laboratories, taking readings and running emissions tests on CNG-fueled buses and trucks. During that time, more than 1,000 vehicles have been tested at 34 transit agencies and truck operators in 17 states and in Mexico City. The research, funded by DOE, engine manufacturers, fuel suppliers, and local governments, has shown that exhaust emissions are significantly lower for modern CNG city buses than diesel-fueled buses. In fact, CNG-fueled buses typically emit 92% less particulate matter and 33% fewer nitrogen oxides than their diesel counterparts. Donald Lyons, Chairman of Mechanical and Aerospace Engineering and Director of the National Center for Alternative Fuels at WVU, points out, "...this information will demonstrate to fleet owners the benefits of lower emissions that can be achieved by using natural gas and other alternative fuels." The WVU researchers are also engaged in advanced research into the use of natural-gas-derived Fischer Tropsch fuels in heavy-duty diesel engines, and have shown that these new fuels offer substantial advantages over petroleum diesel.

For more information on the West Virginia Clean State Program, call Jeff Herholdt at the West Virginia Development Office, at 304-558-0350, or visit the Web site: www.wvdo.org/community/energycsp.htm. For more information on West Virginia University, visit their Web site at www.cemr.wvu.edu/~wwwatf/.

West Virginia State Income Tax Credit for AFVs

	Maximum Credit (If Not Electric)	Maximum Credit (If Electric)
10,000 lbs.* or less	\$3,750.00	\$4,125.00
10,001 lbs. To 26,000 lbs.*	\$9,250.00	\$10,175.00
Truck or Van of 26,001 lbs.* or more	\$50,000.00	\$55,000.00
Bus seating at least 20 adults	\$50,000.00	\$55,000.00

*GVW – Gross Vehicle Weight



Clean Cities Roundup

- **Kansas City, Missouri.** Clean Cities Reaches #67. The Kansas City Regional Clean Cities Coalition was designated the 67th member of the program on November 18, 1998, in a blowout ceremony at the downtown airport in Kansas City. Brian Castelli, Chief of Staff for Energy Efficiency and Renewable Energy, served as the presiding U.S. Department of Energy official and joined Kansas and Missouri representatives to sign the Clean Cities Memorandum of Understanding. The coalition raised almost \$20,000 from local and national sponsors for the event, which was attended by several hundred people. Vendor booths featured stakeholder products, technologies, and vehicles, and the Mid-America Regional Council showcased its mobile emissions testing unit, highlighting the air quality benefits of alternative fuel vehicles (AFVs). The affair was received well by the media, who featured the event as headlines in local print and television news. The Kansas City Regional Coalition serves the area along the border of northeastern Missouri and northwestern Kansas. Stakeholders currently operate approximately 250 AFVs, most of which run on compressed natural gas, propane, and ethanol. The coalition plans to eclipse the 900-vehicle mark by the year 2002.



Robert Jeffers/PIX 07008

Benjamin Watson, Clean Cities Coordinator; Michael Boothe, Co-chair, Johnson County, Kansas Environmental Department; Jennifer Logan, Co-chair, Kansas City, Missouri Air Quality

- **Riverside, California.** Heavy-Duty Vehicle Summit/Riverside Clean Cities Anniversary. Heavy-duty fleet vehicle operators, fuel suppliers, and state and local government officials from California gathered in Riverside on November 19, 1998, to share success stories, learn about funding opportunities, and celebrate the first anniversary of the Northwest Riverside County Clean Cities Coalition. Riverside Mayor Ron Loveridge, a longtime Clean Cities and alternative fuels supporter, kicked off the event and welcomed more than 225 guests to his "quality city." Cliff Gladstein, President of Gladstein & Associates and Director of the Interstate Clean Transportation Corridor Project, followed Mayor Loveridge, providing an overview of the day's events and facilitating speaker panels. Spokespersons from the Air Resources Board and the South Coast Air Quality Management District then provided important information on funding and incentive programs for

California AFV projects. A luncheon ceremony for Northwest Riverside County Clean Cities featured the recognition of new stakeholders (all but one of which are private fleets), and several elementary school children presented their award-winning essays about clean air and alternative fuels. The Heavy-Vehicle Summit continued as managers and operators of heavy-duty truck and bus fleets participated in panel discussions to describe their efforts to convert their vehicles to alternative fuels, and offered advice to those beginning the process. Opportunities for guests to participate in one-on-one conversations with the experienced AFV users in table-talk discussions concluded the day's activities.

- **Detroit, Michigan.** A *Sccaaaary* Night for AFVs. Ford Motor Company teamed with the Detroit Police Department to hold the first ever "green" Halloween. This "green," however, does not refer to the color of goblins or the swamp thing, but to the environmentally friendly vans used to transport 75 Detroit-area children participating in the city's Halloween Kid Crawl. The kids were shuttled in natural-gas-powered Econoline vans to various police precincts in the Detroit area, where they were greeted by police officers with candy and other treats—all in an effort to help local kids have a safe and fun Halloween. Ford also donated Mattel Hot Wheels toy trucks modeled after the natural gas F-Series pickup, as well as boxes of "car cookies" and recycled plastic trick-or-treat bags.
- **Houston, Texas.** Cooking with CNG. The Greater Houston Clean Cities Coalition recently celebrated the opening of a CNG refueling station serving the Texas Department of Transportation, as well as local public and private area fleets. Entex Fuels, Inc., will maintain and operate the new refueling station, which is the company's 14th facility in the Houston area. In an effort to draw attention to the benefits and safety of alternative fuels and garner community support, the event's menu featured hamburgers cooked on a grill using CNG from the new station's mobile fuel unit, while a local high school band provided entertainment. Entex's mobile refueling unit both delivers fuel and fills vehicle tanks on site, allowing area fleets to run on CNG without a substantial infrastructure investment.





Hot off the Press

Looking for CNG or LPG in the Mid-Atlantic Region?

The U.S. Department of Energy's (DOE's) Philadelphia Regional Support Office, together with the Clean Air Council, has compiled two new refueling and maintenance directories that cover Delaware, Maryland, New Jersey, New York, Ohio, Pennsylvania, Virginia, and West Virginia. The Mid-Atlantic compressed natural gas (CNG) directory (# 3769) and Mid-Atlantic liquefied petroleum gas Directory (#3770) offer a comprehensive list of refueling sites and include maps, directions, station contacts, access, and payment type accepted, as well as pressure and connection type for the CNG stations. For copies, call the Clean Cities Hotline at 800-CCITIES.

Dual-Fuel Truck Fleet in California

The National Renewable Energy Laboratory has released a new report entitled, *Dual-Fuel Truck Fleet: Start-Up Experience*. The report describes the start-up experience of the Orange County Sanitation District and Pima Gro Systems. The operation is using White/GMC Class 8 tractors with Caterpillar electronically controlled dual-fuel 3176B engines, with each truck putting on 2,800 miles a week. The dual-fuel trucks have two separate fuel systems; CNG is the primary fuel source and the diesel is used for a pilot charge to ignite the CNG and for emergency situations. The start-up report is available as document #3767 from the National Alternative Fuels Hotline at 800-423-1DOE.

Energy "Yellow Pages"

DOE's Energy Information Administration (EIA) has published its *Energy Information Directory 1998*. This directory reads like the "yellow pages" for the energy industry with more than 400 contacts for federal agencies, state offices, and trade associations. Most contacts are accompanied by an informational paragraph about the agency and its role in the energy industry. The directory is distributed by the National Energy Information Center at the EIA. For information, call 202-586-8800.

Help for Hopeful Clean Cities!

The document outlining the Clean Cities application and designation process has been revised. The new *Roadmap to Clean Cities* simplifies and better describes program plan criteria, and further clarifies the designation approval process. Any questions you may have about becoming an official member of the Clean Cities

Network are answered in this guide! The *Roadmap* also includes descriptions of the two new coalition requirements regarding EPA compliance and private-fleet recruitment strategies. To obtain a copy, call your DOE Regional Support Office Clean Cities contact, the Clean Cities Hotline at 800-CCITIES, or check it out on the Web at: www.ccities.doe.gov.

Energy Outlook 1999 with Projections to 2020

The Annual Energy Outlook provides forecasts of energy supply, demand, and prices through 2020. The midterm forecasts are prepared by the EIA, and are based on results from EIA's

National Energy Modeling System. A copy of the report is available at www.eia.doe.gov/oiaf/aeo99/homepage.html.

3rd Edition of *Guide to Incentives and Laws* Now Available

To view the most up-to-date information on AFV incentives and laws, check out the Clean Cities AFV Fleet Buyer's Guide Web site: www.fleets.doe.gov. At this site, in the Incentives and Laws section, you can select your state and run a query to view the incentives and laws available to support alternative fuels in your state. If you select "All States," you can view and print out all the information for 50 states.

If you do not have Web access, call the Clean Cities Hotline at 800-CCITIES, and a copy of the information you need can be sent to you. A few hard copies of *The Guide to Alternative Fuel Vehicle Incentives and Laws* may also be available.





On the Web

West Virginia University's National Alternative Fuels Training Program

naftp.nrcce.wvu.edu

If you are looking for information about training in the technology of alternative fuel vehicles, this is the place to start. The site contains a program overview, a listing of classes held at the National Alternative Fuels Training Program's Sabraton Training Facility in West Virginia, a comprehensive list of National Training Centers, and helpful links.

New Vehicle Evaluation Project

afdc3.nrel.gov/demoproj/ldv/nve/

The National Renewable Energy Laboratory is evaluating the performance of light-duty AFVs compared to similar gasoline vehicles in the areas of acceleration, braking, fuel economy, driveability and handling, emissions, and cold-start tests. The data for the E85 Dodge Caravan are available in a two-page, easy-to-read fact sheet. Future testing will be conducted on the Ford F250 dedicated compressed natural gas (CNG) pickup, Ford Motor Company F250 propane bi-fuel pickup, General Motors Corporation CNG pickup, and the Honda dedicated CNG Civic.

EPA's Clean Fuel Fleet Program

www.epa.gov/orcdizux/cff.htm

Do you have questions about the Clean Air Act and the Clean Fuel Fleet Program (CFFP)? Are you in Atlanta, Georgia; Chicago-Gary-Lake County Illinois/Indiana; Denver-Boulder, Colorado; or Milwaukee-Racine, Wisconsin? Do you want to know what vehicles you can use to comply with the mandate? If you answered yes to any of these questions, visit this Web site for CFFP regulations and guidance and a list of all light, heavy, and alternative fuel vehicles that are low-emission-vehicle certified.

Fuel Economy Guide

www.doe.gov/ or www.epa.gov/OMSWWW/cert/feguide

DOE and EPA have made the 1999 *Fuel Economy Guide* available on-line with a new section that highlights alternative fuel vehicles in addition to conventional gasoline and diesel vehicles. The site allows you to sort the data by manufacturer or car class. The guide lists estimates of miles per gallon for each vehicle available for the new model year and is intended to help consumers compare the fuel economy of similarly sized vehicles.

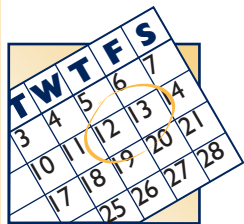


**National Alternative Fuels and
Clean Cities Hotline**

NREL

1617 Cole Blvd., MS/1633

Golden, CO 80401-3393



Upcoming Conferences and Events

2nd Clean Airport Summit

April 12–14, 1999

Chicago, Illinois

Contact: Clean Airport Partnership at 303-499-2299

National Association of Fleet Administrators Fleet Workshop and Conference

May 2–5, 1999

New Orleans, Louisiana

Contact: Ruth Noviello at 732-494-8100

Windsor Workshop on Transportation Fuels

June 7-9, 1999

Toronto, Ontario, Canada

Contact: Susan Metcalf, 905-822-4111, ext.515

7th Annual Environmental Vehicles and Alternative Fuels Conference and Exposition (EnV99)

June 13-16, 1999

Ypsilanti, Michigan

Contact: Geraldine Robak, 248-355-2910, ext.117

Air and Waste Management Association 92nd Annual Meeting and Exhibition

June 20-24, 1999

St. Louis, Missouri

Contact: Denise Loberto, 412-232-3444

Sunrayce 99

June 20-29, 1999

From Washington, D.C., to Ocala, Florida, ending at
the EPCOT Center in Orlando, Florida

Contact: Bryan Arnold, 800-606-8881



DON'T MISS OUT! The Fifth National Clean Cities Conference and Exposition is Right Around the Corner!

May 23-26, 1999

Louisville, Kentucky

The National Clean Cities Program has planned another action-packed week! This fifth annual conference brings together Clean Cities and alternative fuel industry stakeholders from across the country to discuss the latest technological advances, share their success stories, and develop future market strategies. Don't miss out on the nation's premier alternative fuels event!

This year you can network with colleagues at the Gardens of Louisville Exposition Hall, and experience first-hand what it is like to drive the most advanced alternative fuel vehicles on the roads today. Other conference topics include EPA's Act and EPA air quality regulation updates, and a full day dedicated to "Racing to New Markets."

Louisville will be perfect in spring, offering big-city convenience and small-town hospitality.

We hope to see you there!

15th Annual International Fuel Ethanol Workshop and Exposition

June 22-25, 1999

Cedar Rapids, Iowa

Contact: Bryan and Bryan, Inc., 719-942-4353