

U.S. DEPARTMENT of ENERGY

ALTERNATIVE FUEL NEWS

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



Remembering the Oil Embargo... and Preparing for the Next Storm

Spotlight on Niche Markets – Taxis

NGVC – Past, Present, and Future

AFN Focus On...The Louisville Clean Cities Program

Inside:
USPS
Delivers
...with AFVs



I felt pretty relaxed (for a change) as we drove home from our summer vacation in North Carolina a few months ago—until we pulled off the exit ramp to fill up the gas tank. I looked at the gas station's sign to see that unleaded gasoline was a mere 94 cents per gallon. I rolled my eyes at my husband and said, "It's time to get back to work." As the waves of reality crashed about my shoulders, I wondered, "How can Clean Cities make an impact when the price of gasoline is less than a quart of milk?"

As you may be aware, this October marked the 25th anniversary of the oil embargo. Frankly, in terms of displacing imported oil, we're not doing much better as a nation than we were 25 years ago—we import nearly 20% more oil now than we did in 1973, and demand continues to rise in the United States and elsewhere. Only one in 122 residents of developing countries, such as China, owns an automobile today. But as China and other developing nations acquire more Western luxuries—such as the automobile—the demand for oil will skyrocket. So just when demand is increasing, the world's supply of oil is beginning to level off. Many experts say oil production will soon peak. Sure, there may be more oil fields yet to be discovered, but production costs will be high. This issue of AFN is intended to remind us that oil dependency is still a national issue, and we in Clean Cities must do our part to avoid another energy crisis.

I realize that most Clean Cities coalitions formed to combat poor urban air quality, and I am thankful that you have joined the cause for this important reason. But reducing the need for imported oil is also important. Our nation's transportation sector is almost entirely dependent on oil, and a change in the world's oil situation will have a major impact on our personal mobility and commercial activities.

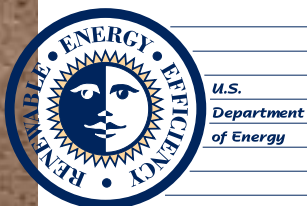
We do have a way out—through the expanded use of alternative fuel vehicles (AFVs). Clean Cities can pave the way by raising awareness and increasing AFV use. Tell your neighbors about our increasing demand for imported oil. Alert the press at your coalition's next news conference. Remind your Clean Cities stakeholders that we still need to educate the public about our nation's oil dependency. This issue also highlights some successes in the Clean Cities Program and the alternative fuels industry, including the El Paso Postal Service fleet, which is 100% alternatively fueled; taxi cab fleets operating on alternative fuel in many U.S. cities; Louisville's dynamite Clean Cities Program; and Mark Looper's drive across America and back in a natural gas van. Thanks to El Paso Clean Cities and Carlon Bennett; El Paso Postmaster Ben Torres; Louisville's Clean Cities Coordinator Melissa Howell; Mark Looper; and many others, for reminding me that we *do* have solutions to our oil dependency quagmire, and by working together, *we can do something about it.*

Marcy A. Rood

Marcy A. Rood
Deputy Director
National Clean Cities Program

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Remembering the Oil Embargo... and Preparing for the Next Storm

In this issue of the *Alternative Fuel News*, we remember what happened just 25 years ago—the energy crisis of 1973. People waited in long gasoline lines, and gas prices surged above \$2 per gallon. Despite today's low gasoline prices and seemingly stable oil supply, the United States still faces many challenges in meeting our increasing transportation needs. Highway transportation accounts for more than two-thirds of U.S. petroleum consumption, and the number of vehicles on our roads continues to increase, which results in more demand for imported oil. Most worldwide oil resources are concentrated in fewer countries, many of which are politically unstable. We must develop a strategy to reduce our nation's dependence on petroleum, while meeting our growing transportation needs. An important component of this strategy will be to make advanced technology vehicles and alternative fuels commercially viable.

It took half a billion years to create the world's oil, and according to Richard Kerr of *Science* magazine, we "will consume it all in a 2-century binge of profligate energy use." In 1973, 1979, and again in 1990, big price increases in oil surprised the world, exposing the serious consequences of U.S. dependence on inexpensive oil supplies. Our reliance on foreign suppliers leaves the United States increasingly vulnerable to adverse economic impacts of disruptions in oil supply, and causes major transfer of wealth from United States to the oil-exporting countries.


How have these events affected our energy consumption? The Energy Information Administration (EIA) recently completed a report entitled "Energy Trends Since the First Major U.S. Energy Crisis," which tracks U.S. consumption of energy throughout the past quarter century. According to the report, total U.S. petroleum consumption has increased from 16.4 to 18.6 million barrels per day, and total U.S. petroleum (net) imports, as a share of overall petroleum consumption, have reached a record high of 48%! In the past, vehicle fuel efficiencies reduced petroleum consumption; however, increases in population and per capita miles driven have more than offset these gains. Moreover, the number of U.S. (light-duty) vehicles is expected to increase from 183 million today to 230 million in 2020. In our nation today, we already consume more oil just for our transportation needs than we produce in the United States; these needs are expected to grow over the next 30 years.

Beyond the United States, worldwide use of petroleum has significantly increased and will affect the supply and cost of petroleum over time. Newspapers and scientific journals alike point to our current vulnerability, and to the similarities of our

Predicted Peak in World Oil Production

Source	Peak Date
F. Bernabe, ENI SpA (1998)	2000 - 2005
C. Campbell and J. Laherrere, Petroconsultants (1998)	2000 - 2010
J. MacKenzie, World Resources Institute (1996)	2007 - 2014
OECD's International Energy Agency (1998)	2010 - 2020
J. Edwards, University of Colorado, Boulder (1997)	2020
DOE's Energy Information Administration (1998)	< 2020

Science magazine, August 21, 1998, Vol. 281



current state with the situation that prevailed 25 years ago. In the March 1998 *Scientific American* article, "The End of Cheap Oil," scientists predict that world oil production may peak and gradually decline during the 2010–2020 time period (see other peak predictions in the chart below). And the *Los Angeles Times* reports that China's import demand for oil will increase over the next 25 years from 800,000 barrels of oil per day to more than 16 million barrels of oil per day—about twice what the United States imports today.

Have we learned from past experiences, or does history always repeat itself? Tom Gross, the U.S. Department of Energy's (DOE's) Deputy Assistant Secretary for the Office of Transportation Technologies (OTT), said "In the midst of a booming economy and plenty of oil, I sense the storm clouds are gathering." Although our economy has recently prospered, and gasoline prices have hit an all-time low, there is convincing evidence that clouds loom on the horizon.

Unfortunately, we cannot determine the specific date or magnitude of the storm. As OTT's Strategic Plan outlines, the United States certainly can—and will—take steps to research and "develop advanced propulsion systems and components (e.g., fuel cells, electric batteries, and alternative fuel engines) that efficiently and cleanly use alternative fuels." Many of these advanced technologies, such as those employed in electric, natural gas, propane, methanol, and ethanol vehicles, are used right now in our nation's Clean Cities.

In 1992, Congress passed and the President signed the Energy Policy Act (EPAct), which committed the government to address these problems. The ambitious goals in EPAct will be tough to meet—unless we all do more. (The EPAct goal of 30% oil displacement by the year 2010 will equate to about 3.5 million barrels per day). The government can act as a catalyst by providing tools such as financial incentives, fuel taxes, and regulations to overcome barriers to the development and commercialization of AFV technologies. The government already supports technology research and development, and requires fleet purchases of AFVs for federal and state government agencies. Many have said all of these programs need to be expanded. Another key to rapid advancement of these technologies is cooperation with the private sector. A large part of OTT's implementation strategy includes government/industry partnerships. These partnerships (see box) focus on developing key technologies for various vehicle applications. As Gross wrote in the introduction to the Strategic Plan, "we (DOE) are currently engaged in the coordination and integration of transportation technology activities involving the combined efforts of industry, national laboratories, universities, and fuel suppliers. Effective and productive partnerships will be vital to success in

establishing advanced vehicles and alternative fuels in the marketplace."

Even if the storm doesn't come for another 20–25 years, it may take that long for serious market penetration of new and different vehicle technologies and fuels to occur. The key is to work together now, before the storm hits!

For a copy of the EIA report, "Energy Trends Since the First Major U.S. Energy Crisis," visit EIA's Web site at www.eia.doe.gov/emeu/25opec/anniversary.html.

A few of DOE's partnering efforts include

Clean Cities Program—More than 65 communities are working through partnerships among fuel suppliers, fleet operators, state and local governments, and private-sector organizations to foster the development of AFV markets in communities across the nation. More than 400,000 AFVs are on the road nationwide, with over half of those operating in Clean Cities communities.

BCI—In Jennings, Louisiana, BC International is constructing the first commercial facility designed to convert waste biomass to ethanol. The October 1998 plant groundbreaking demonstrates the commercialization of ethanol produced from sugarcane waste that was previously used as landfill.

PNGV—After an initial assessment of technological options, the Partnership for a New Generation of Vehicles (PNGV) chose a direct injection hybrid with advanced aerodynamic design and lightweight materials. At this point, halfway through the PNGV project, concept cars from Chrysler Corporation, Ford Motor Company, and General Motors are demonstrating considerable progress. PNGV's goal is to produce vehicles that get up to 80 miles per gallon. Additional research and investment will continue in fuel cell technology.

Clean Cities

97% of all transportation fuel used in the United States is petroleum.

The United States imports more than 50% of its crude oil today and is expected to import more than 60% by 2010.

For transportation purposes alone, Americans use 4 million more barrels of oil than we produce domestically every day.

The gap between the oil we use for transportation and the oil we produce is projected to rise to 9 million barrels per day by 2010.

U.S. consumers pay foreign countries more than \$1 billion a week to satisfy the American demand for imported oil—by 2010 the United States will be spending more than \$100 billion per year.

(Source: U.S. Department of Energy)

Quick Facts

Spotlight on Niche Markets

Taxis Are Changing to AFVs



The use of alternative fuel taxis in the United States continues to rise. Throughout the country, several projects are demonstrating the benefits of alternative fuel use in the taxi market. With its intense fleet usage and urban locations, the taxi market is an excellent match for alternative fuel vehicle (AFV) technology. Demonstrations of AFV technology in New York City, New York; Atlanta, Georgia; Long Beach, California; and Washington, D.C., taxi fleets provide important lessons.

Long Beach, California, once again shines as an AFV leader! The Los Angeles (L.A.) Checker Cab Company, which operates in Long Beach and West Hollywood, is meeting their deployment goal of 140 natural gas taxicabs. A large partnership is making this work; partners include the city of Long Beach, the city of West Hollywood, the South Coast Air Quality Management District (SCAQMD), L.A. Checker Cab Company, Southern California Gas Company (SoCalGas), Ford Motor Company, and Pickens Fuel Corporation. These organizations are supplying \$3,940,000 for the project, with additional project support from the U.S. Department of Energy (DOE) through a State Energy Program grant. Combined funding from Ford (a minimum rebate of \$1,500 per vehicle), SCAQMD (\$3,000 per vehicle), and DOE (\$1,500 per vehicle), Checker Cab can reduce the cost of purchasing an AFV from \$27,000 to \$21,000, which makes it a realistic alternative.

More than 4,000 taxis operate in the Los Angeles metropolitan area. Most operate for 3 or 4 years, drive more than 100,000 miles per year, and consume 7,000 to 10,000 gallons of gasoline annually. The conventional fuel displacement of this project is estimated at between 980,000 and 1.4 million gallons per year. The emission reductions will be impressive as well. Pickens estimates the 140 dedicated natural gas Ford Crown Victorias can reduce non-methane organic gas (NMOG) emissions by an estimated 6,352 lbs/year, carbon monoxide (CO) emissions by an estimated 92,511 lbs/year, and oxides of nitrogen (NOx) emissions by an estimated 11,101 lbs/year.

The project benefits go beyond reducing emissions. Pickens, which now operates a network of 37 natural gas fueling stations, will construct a new \$750,000 public-access station in West Hollywood to serve taxis, as well as other public and private fleets. Building this station will fill a large void in the community's natural gas infrastructure. SoCalGas will provide the land on which the station will be built.

Checker Cab in **Atlanta, Georgia**, currently operates 70 natural gas vehicles, and plans to add 20 more. The company first used AFVs in the early 1980s when it converted several vehicles to operate on propane. Over the years, Checker has added more propane vehicles. As the program matured, the company switched to dedicated original equipment manufactured (OEM) vehicles running on natural gas. The Checker fleet consists almost entirely of Ford Crown Victoria sedans. Funding for the alternative fuel program has been generated from the Gas Research Institute (GRI), Ford Motor Company, Atlanta Gas Light Company, and the National Clean Cities Program. However, Checker Cab has also made significant investments to make their fleet alternative fueled. According to Rick Hewatt, Checkers general manager, "By next year we will accomplish our goal - 50% of our fleet will run on alternative fuels." Plans include adding one or two natural gas Expeditions. Checker's General Manager, reports that the 1996 Crown Victoria CNG models with 150,000 to 170,000 miles have had no major problems. Hewatt says, "I plan to continue to buy these vehicles over the next 2 years at least."

Barwood Cab Company in **Montgomery County, Maryland**, is evaluating the costs and emission benefits associated with using 10 1996 Ford Crown Victoria CNG cabs. Barwood operates a fleet of more than 400 vehicles serving the Washington metropolitan area. This DOE study is being conducted with support from Mardi John of George Mason University, and a Maryland-based emissions testing laboratory, Environmental Research and Development. The study involves comparing data from 10 AFVs and 10 gasoline taxis.

Through 1997, the Barwood CNG cabs accumulated anywhere from 45,000 to 100,000 miles, whereas the gasoline vehicles accumulated 74,000 to 98,000 miles. Initial test results are encouraging and indicate that using CNG vehicles reduces operating costs by approximately 25%. Maintenance costs also appear to be lower for the CNG vehicles in Barwood's fleet. Gasoline vehicles require more brake, tire, and unexpected repairs. Over the short test span, CNG cabs had two unscheduled repairs per vehicle, compared with four or more for gasoline vehicles. Furthermore, the average regulated emissions (CO, non-methane hydrocarbons

[NMHCs], and NO_x) were all lower for CNG vehicles than for gasoline vehicles tested on reformulated gasoline (RFG). Overall, from performance, economic, and environmental standpoints, the introduction of CNG cabs has been a positive experience for Barwood Cab Company.

The **New York City, New York**, taxi program, which received the National Partner Award at the Clean Cities Conference, currently has 185 CNG taxis. The New York City Department of Transportation has been working with Ford to design a practical vehicle for the taxi industry that meets the special requirements of taxi fleets, including generous trunk space and extended vehicle range. New designs for the Crown Victoria have been made to accommodate additional fuel tanks

so the driver can travel 160 city miles without refueling. A typical 12-hour shift averages 130 miles. Other changes may include partitions around the driver to ensure passenger and luggage space is not lost. According to Mark Simon, Director, Alternative Fuels Program, New York City Department of Transportation, "the taxi industry is a valuable niche market by acting as a bridge to the private sector. As the program expands, demands for more fueling stations are made, which will potentially cause fuel to be available for private use. Also, the savings from high fuel usage of lower cost fuel can help offset the higher incremental vehicle cost. Taxi drivers could use alternative fuel vehicles to save money on fuel." The average taxi travels 60,000-80,000 miles per year, so the 20-25 cent savings per gasoline gallon equivalent really adds up!



From the Automakers

Model Year 1999 Vehicle Offerings

Both Ford Motor Company and Solectria Corporation will be offering new models for the 1999 model year—the Ford Ranger flexible-fuel vehicle and the Solectria Flash.

The new Ford Ranger will be equipped with a 3.0-liter V6 engine and a flexible-fuel system, which is capable of using gasoline and 85% ethanol, or any combination of the two fuels. The decision to bring the Ranger flexible-fuel vehicle (FFV) to market is part of Ford's overall strategy to build and sell approximately 250,000 FFVs over the next 4 years. According to Ross Roberts, Vice President and General Manager of the Ford Division at the Ford Motor Company, "now we're bringing them (FFVs) into the mainstream market because they make

sense for America." Ford also plans a 4-year program to encourage the development and expansion of the ethanol infrastructure.

The truck is offered with lead-acid batteries in all states except California; those in California will only carry the advanced nickel metal

hydride (NiMH) battery packs. The 1999 Ranger electric vehicle (EV) with lead-acid batteries operates the same as the 1998 model. The 312-volt system will carry a 700-lb payload at speeds of as much

as 75 mph, with a real-world range of 50 miles a charge in city/highway driving.

Solectria Corporation, based in Wilmington, Massachusetts, has announced a new electric pickup truck called the Solectria Flash. The micro pickup truck was designed for use anywhere a small truck with mobility and high payload capacity is needed, such as off-street use at airports, environmentally sensitive parks and recreation areas, and college campuses. It has a top speed of 45 miles per hour, a payload of 1,100 lbs, and lists for \$16,995. The Flash combines

electric vehicle technology from Solectria with a micro pickup truck chassis produced in Asia. The standard model, used off-road and powered by sealed lead-acid batteries, has a range of 45 miles per charge. Solectria also offers the Flash in a neighborhood electric vehicle (NEV) model, which is street-legal, for on-road use in selected areas. The NEV has a reduced top speed of 25 mph and a range of 60 miles per charge. Solectria has been developing electric vehicles and EV components since 1986, and produces electric sedans and delivery trucks. According to Mark Kopec, Executive Vice President of Solectria Corporation, "Because of its clean and quiet operation, the Flash is particularly



Solectria Corporation

The 1999 line of Ford's electric Ranger pickups, which has been offered in prior years, is available for lease with substantial price breaks. A 36-month lease for the electric pickup truck is now \$349/month—a significant reduction from 1998's lease of \$633/month. Ford also offers a one-time payment of \$11,208.

ideal for use at historic and recreational sites, and at other high-visibility areas where noise and emissions are a growing concern. Also, it's an extremely durable, low-maintenance vehicle."

For more information on Ford's FFV Ranger, call the Ford Alternative Fuel Program at 800-ALT-FUEL. For ques-

tions regarding the Ford EV Ranger, call Walt Jacques for northeast and central states at 313-417-0643; Jim Peterson for southeast and southwest States at 248-737-8215; and Ken Stwertnik for western states at 714-572-8856. The Solectria Corporation can be contacted at 978-658-3224, or visit their Web site at www.solectria.com.

Model Year 1999 Offerings		
OEM	Vehicle Type	Fuel Type
Chrysler	Ram Van/Wagon	CNG
	Dodge Caravan/Plymouth Voyager EPIC Minivan	Electric (NiMH-CA, NY only)
	Chrysler Town & Country/Dodge Caravan/Plymouth Voyager FFV (6-cylinder only)	Ethanol E85
Ford	Dedicated Crown Victoria	CNG
	Bi-fuel Contour	CNG/Gasoline
	Dedicated or Bi-fuel F250 Pickup	CNG/Gasoline
	Dedicated Econoline (Super Club E350)	CNG
	Ranger	Electric (Lead-Acid or NiMH-CA, AZ only)
	Ranger FFV	Ethanol (E85)
	Taurus FFV	Ethanol (E85)
	Dedicated or Bi-fuel Econoline	LPG/Gasoline
	Bi-fuel F Series	LPG/Gasoline
	Bi-fuel GMC Sierra F2500	CNG/Gasoline
	Bi-fuel Chevrolet Cavalier	CNG/Gasoline
GM	Chevrolet S10	Electric (Lead-Acid)
	EV1	Electric (Lead-Acid or NiMH-CA, AZ only)
Mazda	B3000 FFV	Ethanol (E85)
Honda	Dedicated Civic GX	CNG
	EV Plus	Electric (NiMH)
Solectria	Force	Electric (Lead-Acid or NiMH)
	Citivan	Electric (Lead-Acid)
	Flash	Electric (Lead-Acid)
Toyota	Dedicated Camry	CNG (Fleet only for MY 99)
	RAV4	Electric (Lead-Acid/NiMH)

Vehicle availability subject to change. Model year 1999 vehicle offerings have not been finalized by OEMs. Dark blue indicates new offering for 1999.

What's on the Horizon from the Automakers?

Automakers around the globe have been working to develop market-ready fuel cell-powered vehicles.

Here is a summary of their plans:

- Ford Motor Company is preparing for delivery of a Ballard Power Systems fuel cell engine to test a prototype fuel cell version of its advanced P2000 vehicle by 2000, which would operate on compressed hydrogen and achieve zero emissions. Mazda, Ford, Daimler-Benz AG, and Ballard Power Systems have formed an alliance with the goal of becoming the world's leading commercial producer of fuel cell-powered drivetrains and components for cars, trucks, and buses.
- Chrysler Corporation hopes to bring fuel cell-powered vehicles to market by 2015. Chrysler's merger partner Daimler-Benz has more ambitious plans, which include producing a commercially viable fuel cell by the end of 1999. Daimler-Benz also plans to produce 100,000 fuel cell-powered engines a year in 2003 and 2004.
- General Motors has unveiled its first fuel cell-powered vehicle, the Opel Zafira compact van, manufactured by the company's Opel subsidiary in Europe. The concept car was premiered at the Paris Motor Show in October.
- Volvo and Volkswagen have teamed up to produce a fuel cell version of the "Golf" model, to be road tested by 1999.
- Nissan plans to begin selling fuel cell-powered vehicles by 2003–2005.
- Honda plans to develop a fuel cell vehicle by 2003.
- Toyota is working to develop and incorporate its new fuel cell technology into a fuel cell electric vehicle.



USPS Delivers... with AFVs

The United States Postal Service (USPS) runs the largest federal fleet, with approximately 208,000 vehicles. Of those vehicles, USPS operates approximately 7,400 alternative fuel vehicles (AFVs). The majority of these AFVs are converted "long life vehicles" (LLVs), designed with a 1,000-lb capacity and a 24-year life span. By converting a large portion of these vehicles to compressed natural gas (CNG), the USPS has created the nation's largest fleet of CNG delivery vehicles. The USPS also has other medium- and heavy-duty trucks that operate on alternative fuels.

Early in 1998, the USPS purchased 601 light-duty CNG or E85 (85% ethanol, 15% gasoline) AFVs for purposes other than to deliver mail. These original equipment manufacturer (OEM) vehicles include Ford Motor Company models of the ethanol flex-fuel Taurus, the CNG bi-fuel Contour, the CNG bi-fuel 1/2-ton and 3/4-ton pickups, the CNG bi-fuel 1-ton van, and the CNG dedicated 3/4-ton van.

Then USPS made another bold move in September of this year, purchasing 10,000 E85 Ford Explorers that will deliver mail. The Ford vehicles will be custom built with right-hand drive and fitted with the USPS delivery body.

In 1999, USPS plans to purchase a number of electric vehicles (EVs), and will seek cost-sharing from local governments, utilities, and various other sources (the majority of these EVs will be located in Clean Cities communities). They also have long-term plans to convert all 128 trucks operating from the Dallas, Texas, bulk-mail center to run on liquefied natural gas (LNG).

The large fleets of AFVs within USPS also provide an impetus for infrastructure development: the more AFVs there are in a city, the more interest industry and suppliers have in building the infrastructure to fuel these vehicles. In Tucson, Arizona; Dallas, and El Paso, Texas; New York; Connecticut; and Washington, D.C., USPS fleets have made great strides toward meeting the goals of the Clean Cities programs by implementing alternative fuel programs that not only help displace oil, but also create a workable solution for the industry. The automakers have produced the vehicles, now we need the infrastructure. USPS is working with fuel suppliers and other government agencies to make this happen.

Warren Gretz - NREL/PIX 02490

Tucson, Arizona

In Tucson, Arizona, the USPS operates a fleet of 42 bi-fuel CNG LLVs. According to Bud O'Shell, Tucson's USPS Fleet Manager, "USPS-Tucson's goal is to triple the number of AFVs in their fleet by 2003." The bi-fuel LLVs in Tucson have been in operation for 18 months. Through an interagency agreement with the city of Tucson, USPS uses the city's CNG fueling station, which is located 1/2 mile from the USPS station where 37 of the LLVs are based. O'Shell says that if another station was built, he could add an additional 30 to 40 AFVs to his fleet.

New York City, New York

This year's 10th annual Ecofest Parade in New York City featured alternative fuel vehicles powered by natural gas and electricity. USPS has sponsored this parade for 2 years, and this year they displayed 10 CNG vehicles, as well as a new electric vehicle. "The postal service has the largest fleet of CNG vehicles in the nation, with nearly 600 in the New York area," said USPS New York Metro Area Vice President David Solomon. In addition, USPS is involved in a partnership with the New York City Department of Transportation and the New York Power Authority to test electric vehicles.

USPS also tries to maximize the use of currently existing ethanol refueling stations throughout the country, while strategically planning for more. To efficiently use both the

USPS E85 vehicles and existing ethanol refueling infrastructure, USPS has met with the National Corn Growers Association, the Maryland Green Producer Utilization Board, Ford Motor Company, and the Illinois Corn Growers Association. The meetings aim toward moving the USPS E85 vehicles to locations where refueling stations are built to accommodate hundreds of vehicles, rather than just 10 to 20. According to Han Dinh, USPS Program Manager for Vehicles, "we are concentrating on placing ethanol vehicles in certain areas so it is economical to build E85 refueling stations."

Dallas, Texas

According to Dan Deaton of DOE's Clean Cities Dallas region, the Dallas USPS operates more than 900 bi-fuel CNG vehicles, fueling them at 23 public/private fueling stations throughout the Dallas metropolitan area. These fueling stations were built on land leased to Lone Star Energy; four stations are on USPS property.

Dallas also operates liquefied natural gas (LNG) heavy-duty trucks. With the help of a \$50,000 State Energy Program grant from DOE, five 9-ton USPS transport trucks were converted to LNG. These vehicles deliver mail from the bulk mail center in Dallas to suburban post offices throughout the region. Future plans include purchasing additional dedicated 9-ton trucks. Each truck reduces emissions by two-thirds compared to identical diesel trucks. The

USPS commitment in Dallas marks the first step toward converting the largest nonmilitary federal fleet in America to LNG. According to Bill Hayen, USPS Environmental Compliance Coordinator in the southwest area, "The experiment has been great. We are doing our part to clean the air and the trucks run like champs on LNG."

USPS officials plan to convert all 128 trucks operating from the Dallas bulk-mail center to LNG by mid-1999; the converted fleet would use approximately 2 million gallons of LNG annually. Long-term plans include making Dallas-Fort Worth the hub for LNG fleets. Looking to the future, USPS is working with Lone Star Energy to build two additional public/private LNG fueling stations in the Dallas area. Lone Star Energy also hopes to build LNG operations for the USPS in the Houston area and surrounding states.

Connecticut

Connecticut USPS stations began using AFV technology in 1994 and 1995, when 210 bi-fuel vehicles were purchased. In 1996 and 1997, an additional 76 vehicles were added to the fleet. The vehicles in the Connecticut fleet (used in Norwalk, Greenwich, New Britain, East Haven, and West Hartford) have the highest utilization rate of any LLVs in the USPS, as measured by gallons of CNG consumed.

The regional gas suppliers—Yankee Gas, Connecticut Natural Gas, and Southern Connecticut Gas—have worked together in a proactive manner to supply infrastructure where needed. They have built five CNG fueling facilities—four on-site and one off-site. The USPS stations signed 10-year leases on portions of their land to establish fueling stations for both USPS and public use. These leases provide the gas companies with guaranteed demand for fuel, allow the postal service to conveniently fill its vehicles on-site, and place maintenance responsibilities for the fueling stations with the gas suppliers.

The Connecticut District received the Connecticut Department of Environmental Protection's Green Circle environmental award on September 25, 1998, for the district's efforts to improve the air quality in Connecticut.

Washington, D.C.

USPS has been working with the ethanol industry to expand the ethanol infrastructure in the D.C. area where E85 vehicles will be located. "With the addition of Ford E85 vehicles, more ethanol infrastructure will be established by the ethanol industry, which will be used by the USPS as well as other government agencies, such as GSA," said Marguerite Downey, AFV Program Manager, Environmental Management Policy, USPS. "The smartest deployment program (for ethanol vehicles) is to work with other federal fleets."

El Paso, Texas

The USPS in El Paso recently celebrated becoming the first city in the nation to meet the U.S. Department of Energy's (DOE's) 100% alternative fuel vehicle challenge. Dan Reicher, DOE's Assistant Secretary, issued the challenge at the National Clean Cities Conference in June. The El Paso postal fleet is the first in the nation to commit to operating all of its 397 delivery vehicles on environmentally friendly, domestically produced, compressed natural gas.

To celebrate, the El Paso Sunrise Postal Station held the International Clean Cities Respirando (breathe) Clean Air Celebration on September 9, 1998. Local, state, national and international dignitaries, including Dennis Baca, Postal Service Manager of Environmental Management Policy, attended the ceremony. The event was part of DOE's Clean Cities Program to promote alternatives to gasoline and diesel, and demonstrate how the USPS's commitment to 100% natural gas vehicles will help improve air quality in the El Paso area.

Bruce Berman /PIX 06832



David Rodgers presents an award to Ben Torres, El Paso Postmaster.



PIX 06547

Connecticut branch of USPS receiving the Green Circle Environmental Award. From the USPS left to right are: Mark Couillard, Supervisor, Hartford, CT VMF; Angelo Dispensa, CT District Environmental Compliance Coordinator; Ronald Robbins, Northeast Area Environmental Compliance Coordinator; Jo E. Saunders, CT District Manager; and Arthur J. Rocque, Jr., Commissioner, from the CT Dept. of Environmental Protection.

Bill Hanna - Texas Utilities /PIX 06568



One of five LNG-powered Postal Service trucks at the Dallas-Fort Worth Airport refueling station.

Approximately 650 natural gas enthusiasts descended on Providence for the 16th National NGV Conference, September 13-15. Rhode Island Governor Lincoln C. Almond proclaimed "Alternative Fuels Week in Rhode Island," and announced the new landmark AFV Act of 1997, which provides a 50% tax credit to Rhode Island companies for the incremental cost of AFVs and conversions. For more information on the AFV Act of 1997, see "From the States."

Other distinguished guest speakers included U.S. Senator John Chafee (R-RI) and James Dodge, Chairman, President, and CEO, Providence Energy Corporation, and conference host. NGVC President Richard Kolodziej's presentation on the coalition's accomplishments and plans was followed by breakout sessions and the designation of the city of Providence as the 65th Clean Cities program. Providence Mayor Vincent A. Cianci, Jr. accepted the official plaque from DOE's Brian Castelli, Chief of Staff for Energy Efficiency and Renewable Energy. Breakout sessions included topics such as NGV incentives and legislation, refueling infrastructure, successful niche market applications, and vehicle and engine offerings.

A ride and drive kicked off day two, and one lucky participant found the magic key to a Honda Civic and won 2 months' free use of the vehicle. The whole audience was then treated to automakers' "sneak peak" of Model Year 1999 vehicles. Finally, participants bid on prizes donated by conference sponsors, exhibitors, and NGVC members, using NGV "money" obtained while visiting one of the many booths that decorated the enormous exhibit hall. A professional auctioneer called out the winning bids to people in the audience clutching big yellow dollars.

Next year's conference will be held in Minneapolis, October 3-5, 1999. Stay tuned to future issues of *AFN* for more information.

AFN Fuel Association Focus...

The Natural Gas Vehicle Coalition—Now 10 Years Strong!

In 1987, after an extensive study and evaluation of emerging markets for natural gas, the American Gas Association concluded that natural gas use in vehicles was one of the markets that offered substantial opportunities for growth. They also concluded that if the industry were ever to take advantage of the potential of the natural gas vehicle (NGV) market, all the industry's stakeholders had to unite and work together with a common purpose and vision. In 1988, the Natural Gas Vehicle Coalition (NGVC) was born.

In 1988, there were no original equipment manufacturer (OEM) NGVs available, only after-market conversions. For model year 1999, five OEMs will be building light-duty NGVs for sale in the United States: Chrysler Corporation, Ford Motor Company, General Motors, Honda, and Toyota, in addition to more than 20 truck and bus manufacturers that now offer natural gas options. In 1988, there were less than 5,000 NGVs on the road in the United States. Now there are almost 70,000—an increase of approximately 30% each year. These vehicles are all far cleaner than comparable gasoline and diesel vehicles, with most of them easily meeting the U.S. Environmental Protection Agency's (EPA's) emission standards, as well as California's ultra-low-emission vehicle (ULEV) and super-ultra-low-emission vehicle (SULEV) requirements. Currently, there are also about 1,300 natural gas refueling stations across the country, and coast-to-coast road trips by NGV enthusiasts have demonstrated that these vehicles are ready for both public- and private-sector drivers (see related article, p. 12). That's a lot of progress in 10 years, and the NGVC has been a key player in all of it.

The NGVC now represents more than 180 natural gas companies, engine and vehicle manufacturers, and service providers, as well as environmental groups and government organizations seeking to develop a sustainable NGV market. It provides technical information and works to develop marketing programs for NGVs on a national level by serving as a voice for NGV interests. The NGVC is also an advocate for NGV interests in Congress, seeking to remove barriers to, and provide incentives for, NGV use. The NGVC encourages state

and federal fleet operators to acquire and use NGVs, and actively assists states with accessing federal funds to support NGV acquisitions. "As an industry, we've made significant progress in raising the awareness of government decision-makers about the benefits of NGVs, and the role that NGVs must play if the United States is going to meet its oil dependency goals, its clean air goals, and even its greenhouse gas goals," said NGVC President Richard Kolodziej.

Despite the progress of the last 10 years, much still needs to be done. According to Kolodziej, the NGVC's number one priority is to increase demand for light-, medium-, and heavy-duty NGVs. "But in trying to get demand up, we face a circular problem," he said. "The best way to get demand up is to get prices down; the best way to get prices down is to get demand up." One of the ways the NGVC and its partners are tackling this problem is by encouraging more support from legislators on Capitol Hill. Former Representative John Ensign (R-NV) has introduced a bill that would provide a 50 cent per gallon tax credit for each gasoline gallon equivalent of natural gas used as a transportation fuel, an incentive that Kolodziej believes is the catalyst the market needs to really take off. "Right now, the market is working, but slowly. We need an external event, a catalyst, to make NGVs much more economically attractive and to get a large number of customers quickly," he said. "If we get the 50 cent tax credit, our market growth chart will look like a 'hockey stick'... the slow, steady growth we've been experiencing will be followed by a huge jump in sales, especially in the medium- and heavy-duty markets."

To help focus the activities of the industry's stakeholders, NGVC has also partnered with the Gas Research Institute to develop the *Natural Gas Vehicle Industry Strategy*, a market development plan that outlines specific action steps to achieve a profitable market by the year 2004. The plan was unveiled at the 16th National Natural Gas Vehicle Conference and Exhibition held in September in Providence, Rhode Island (see box). The plan basically calls for a focus on high-fuel-use fleet vehicles, increased public-access infrastructure, promotion of policies that encourage NGV use, and increased public awareness of the benefits

of NGVs. According to the plan, adhering to its strategies will result in the deployment of approximately 1.6 million NGVs by the year 2010. Vehicle economics will be the key, with a tax credit for natural gas as the overriding goal, according to Kolodziej. "The bottom line is we have to alter the economics quickly...once the tax credit goes

through, the economics will change...so that the more fuel you use, the more money you save." Looks like hockey season could be right around the corner. For more information about the NGVC, check out their Web site at www.ngvc.org.



Focus On

The Louisville Clean Cities Program

Just about every household in Louisville, Kentucky, has an alternative fuel vehicle (AFV)...in the mail, that is. This phenomenon is due largely to the efforts of the Louisville Clean Cities Program and the Kentucky Clean Fuels Coalition, the nonprofit organization that houses the Clean Cities Program. Through a partnership with the United States Postal Service (USPS) and Louisville Gas



& Electric Company, the Louisville Clean Cities Program sponsored a logo contest for children in 88 area elementary schools. The challenge was to design an AFV stamp for the post office's cancellation

machine. Now, more than one-third of all the mail routed through Louisville's main post office is franked with an alternative fuel school bus stamp, bringing AFVs into thousands of households in the Louisville area.

Louisville Clean Cities stakeholders are putting actual vehicles on the road, too. The USPS has 80 compressed natural gas (CNG) and four E85 (85% ethanol, 15% gasoline) vehicles operating in the Louisville area, and the Louisville Water Company will soon have 40 CNG vehicles in its fleet. Louisville's Metropolitan Sewer District recently partnered with IMW Atlas Industries Incorporated to install on-site refueling. "This is a real step forward," according to Clean Cities Coordinator Melissa Howell, in its plans to convert two-thirds of its fleet to natural gas.

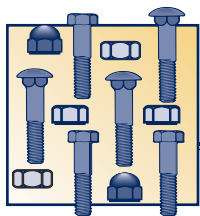
Howell has coordinated the Louisville Clean Cities effort since the program's inception. The coalition was officially designated in October 1994. Since then, Kentucky's fleet has grown to include 389 flexible-fuel vehicles (FFVs). Although these vehicles can operate on both E85 and

gasoline, Howell and other Louisville Clean Cities stakeholders have taken steps to encourage and ensure that drivers take full advantage of the E85 option. First, to visually differentiate the vehicles from regular gasoline vehicles, they've placed an E85 sticker on the driver's side window near the door lock. Next, they've supplied fluorescent keychains for each FFV to emphasize the contrast with other conventional vehicle keys. And lastly, to eliminate any reservations about refueling availability, the coalition has provided a map, conveniently stored in each vehicle, of all area public refueling stations. As an added incentive for the drivers, the coalition has partnered with local refueling stations to offer a free cup of coffee with each fill-up. "It's a small incentive, but it only takes a little, and it's worked well so far," said Howell. "It's important for the state to set an example and to show other fleets that AFVs are a viable transportation option in Kentucky." And it will. The state plans to buy more than 200 additional E85 vehicles, which would make it one of the largest state AFV fleets in the country.

In addition to the state fleet, Louisville Clean Cities has helped to coordinate AFV efforts in other fleets, and even in several area niche markets, including one of Kentucky's national parks, the Louisville International Airport, and even a military installation. With the construction of an on-site E-85 station, Mammoth Cave National Park has made one more giant step toward its goal of being 100% alternatively fueled. The Louisville International Airport is moving ahead with plans for installing CNG infrastructure on-site to refuel its current fleet of 25 CNG pickups. Future plans include an additional 15 CNG vehicles. Delta and Northwest Airlines have established their own AFV initiatives, and plan to convert their luggage tugs and other service vehicles to natural gas by next summer. Louisville stakeholders have also taken advantage of a "golden" opportunity for AFV use at the Fort Knox Reservation just south of Louisville—one of the largest military training facilities in the country. Approximately 35 E85 and 26 CNG vehicles are already operating at Fort Knox, and plans call for a total of 250 CNG vehicles.

What's the key to Louisville Clean Cities' success? According to Howell, it's the power of partnership. "I don't see how any Clean Cities organization is created, can sustain itself, or can flourish without partnerships," she said. "Literally every project we have works because of the partnerships."

They say Kentucky is known for three things: fast horses, beautiful women, and great whiskey. It's about time they added a fourth...a very successful Clean Cities program...to the list.



Nuts and Bolts

Clean Across America and Back

One of the common misconceptions about alternative fuel vehicles (AFVs) is the lack of infrastructure to support their use. Those who fear being stranded on the side of the road with an empty fuel tank need worry no longer. Several recent "Clean Across America" trips have proven that interstate AFV travel is not only possible, but it's fairly easy and convenient, too. In fact, Bill Fairbairn, who drove a CNG-powered Honda Civic GX from California to Washington, D.C., in "Cleanest Across America," even said during his trip, "I forgot I was driving an AFV." (See related story in *AFN*, Vol. 2, No. 3).

Mark Looper, an independent AFV enthusiast from California, has taken "Clean Across America" one step further. He went back! In his "Clean Across America and Back" tour, Looper drove his 1993 Dodge B250 Ram wagon, a dedicated compressed natural gas (CNG) vehicle affectionately named "Penelope II," from Los Angeles, California, to Portland, Maine, and back. The trip, which lasted approximately 3 weeks, included stops in many Clean Cities along the way.

Perhaps the most important part of the story is that Mark Looper did all this on his own. He drove on his own time—his vacation—in his personal, dedicated CNG-powered van that he has used as his "main vehicle" since 1995. Why did he do it? To show people that AFVs are ready for the public; that they are a viable, personal transportation option for the "everyday consumer;" and that the network of publicly accessible refueling infrastructure is more than sufficient, not only for trips across town, but for trips across the country. "I have become convinced this country needs to overcome its dependence on petroleum fuels," said Looper. "Since I'm not professionally involved in alternative fuels, I thought that a demonstration like this would be a way that I could do something to advance the cause more than I had done just by buying my one AFV."

Looper shares his experience on his Web site at: home.earthlink.net/~mrgasser/index.html. Not only can you catch a glimpse of the road trip through his daily

travel journal and photos with Clean Cities stakeholders at his many "pit stops," but you can learn a little about his own personal history of AFV use. Just about anything and everything you'd want to know about alternative fuels is included: information about different fuel properties and chemistries, alternative drivetrains, the benefits of AFV use, and links to other informative AFV sites.

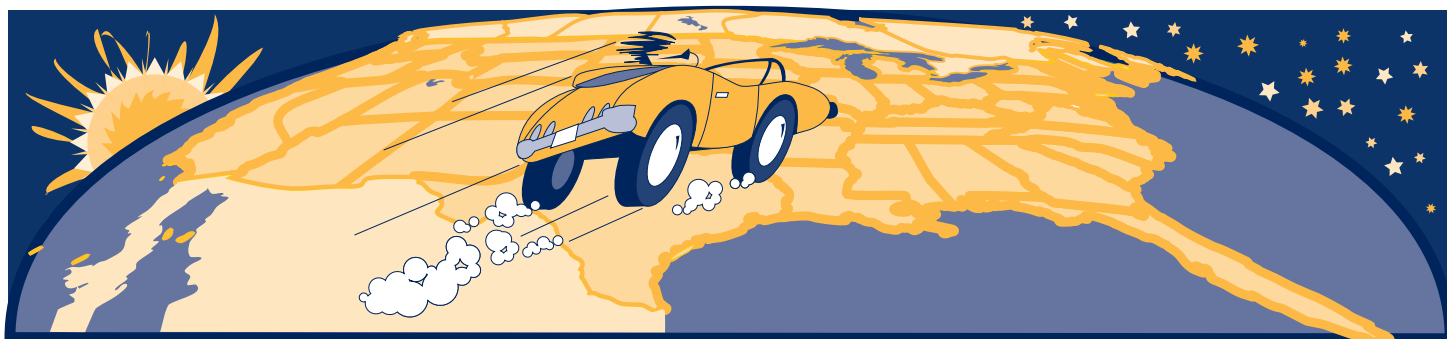
Special thanks to Mark Looper for "walking the talk," but more importantly, for taking the time to share that experience and help get the message out. "Clean Across America and Back" has demonstrated that there really is a choice when it comes to transportation.

Criminals Beware! ZAP Power Systems Help Recharge Bike Patrols

Anyone who watches cable TV has probably seen one of those beach police shows on Saturday afternoon. The usual scenario is one of the "bad guy" running down the sidewalk or riding a motorcycle into an alley to escape the handsome patrol officer in hot pursuit on a mountain bike. The officer chases the wrongdoer and apprehends the suspect with ease, without much exertion, or even an extra breath.

It's great for TV, but in "real life," the police officer is likely to be a little more out of breath by the time the suspect is nabbed, especially after a long chase on a bicycle. Patrol bikes bring officers closer to the public, which is good for community relations, and they're great for weaving in and out of alleys or other places not accessible by police cars, especially high-traffic areas. But patrol bikes require human energy to move, and a lot of that energy to move quickly.

ZAP to the rescue! ZAP Power Systems has developed a patrol bike that supplements the officer's own pedal power with electric power, thus providing an extra boost for speed or hill climbing when needed. On patrol for 8 hours and burdened with extra police equipment, even the most physically fit officers appreciate the supplemental



power. This boost can help decrease response time on emergency calls and allow officers to arrive at a scene better prepared for the situation.

The ZAP Patrol Bikes come equipped with two small, rechargeable battery-powered motors that turn a gear placed against the rear wheel. Riders can reach speeds of as much as 20 mph for 10-20 miles on a single charge. Battery changes are quick and easy, and regenerative braking also helps maintain power, providing as much as a 15% return on the battery in use.

ZAP Patrol Bikes have been featured in several different law enforcement publications. They're already at work in 125 law enforcement agencies in 22 states, and are also used in a growing number of Clean Cities across the country (see side box for complete list). To learn more about ZAP Patrol Bikes, check out www.zapbikes.com.

But you don't have to have wear a badge to ride an electric bike—they have a wide variety of applications, and they're fun! In addition to Zap, companies such as Charger Electric Bicycles, U.S. Pro Drive, and Elite manufacture electric power systems for bicycles. For more information on electric bikes and product availability, check out the Electric Transit Authority Web site at www.etaasap.com.

Clean Cities Using ZAP Bikes

Boston, Massachusetts—Parking and Traffic

Dallas, Texas—Police Department

Evansville, Indiana—Police Department

Los Angeles, California—UCLA Police, Department of Transportation, Park Police, Cal State-Los Angeles Police, Los Angeles Zoo Police, Los Angeles Harbor College Police

Red River Valley—Grand Forks, North Dakota, Police Department

Salt Lake City, Utah—Police Department, Salt Lake County Sheriff

San Jose, California—Police Department

Oklahoma—Tulsa, Lawton, Okmulgee, and Bartlesville Police Departments

Waterbury, Connecticut—Police Department



ZAP Patrol Bike, Grand Forks, ND

PIX 06979



From the States

The Smallest State Offers Big Alternative Fuel Vehicle Incentives

On September 9, 1998, at the 16th National Natural Gas Vehicle (NGV) Conference and Exposition, the state of Rhode Island celebrated the implementation of its *AFV Incentive Act of 1997*. Governor Lincoln C. Almond was on hand to make the announcement and herald the benefits the legislation provides to alternative fuel vehicle (AFV) interests, including:

- A 50% tax credit for companies for the incremental cost of AFVs, and a similar tax credit for the capital, labor, and equipment costs associated with conversions
- Business tax credit on the cost of building or making improvements to alternative refueling or recharging stations

- Exemption from the gasoline tax for any alternative fuels used by companies operating fleets of 10 or more vehicles
- Exemption from the state sales tax for the incremental cost of purchasing a new AFV and the cost of conversions
- Deductions from the gross earnings tax for the total gross earnings realized through the sale of alternative fuels used to power motor vehicles
- Exemptions from the state sales and use tax on alternative fuel sold, stored, or consumed in the state.

Governor Almond also declared the week of September 9-15 "Alternative Fuel Week in Rhode Island," in recognition of the new legislation, and in celebration of the NGV Conference and Providence Clean Cities designation on September 14, 1998.



From the Hill

President Signs Biodiesel Fuel Credit Into Law

After much debate, biodiesel legislation passed both the House and Senate, and was signed into law by the President, on November 13, 1998. This law will provide

The new law amends EPA's Act to allocate one EPA AFV acquisition credit to a fleet or covered person for every 450 gallons of biodiesel contained in biodiesel blends of at least 20% biodiesel by volume. The fuel must be purchased for use by the fleet or covered person in vehicles owned or operated by the entity that weigh more than 8,500 lbs gross vehicle weight rating.

Energy Policy Act of 1992 (EPA's) alternative fuel acquisition credits to fleet owners and covered fleet persons for the use of biodiesel fuel in biodiesel blends containing at least 20% biodiesel by volume. The most commonly used biodiesel blend today is B20, which contains 20% biodiesel and 80% petroleum diesel. Prior to approval by the House Commerce Committee, biodiesel legislation traveled through

Congress on two separate tracks. The House bill was cosponsored by Representatives John Shimkus (R-IL), Karen McCarthy (D-MO), and Joe Barton (R-TX). Meanwhile, the Senate endorsed similar legislation cosponsored by Senators Tim Johnson (D-SD) and Larry Craig (R-ID).

Biodiesel, made from renewable sources such as soybeans, is a cleaner burning fuel than petroleum-based diesel (petrodiesel). The product is nontoxic and biodegradable. Although pure biodiesel is considered an alternative fuel, B20 is not. Tests have shown that biodiesel blends can significantly reduce diesel engine emissions while maintaining performance characteristics similar to those of petrodiesel. Fleet owners who wish to use biodiesel may do so with minimal changes to their vehicle fleets.

Initially, both bills set out to declare B20 an "alternative fuel" under EPA's Act. This designation would have created a loophole that would allow all conventional petroleum-fueled vehicles that used B20 to be considered alternative fuel vehicles (AFVs), severely weakening the EPA's definition of an AFV. To gain wider support, the House bill was altered to allow fleet owners to receive one AFV credit under EPA's Act for every 450 gallons of biodiesel used by medium- or heavy-duty vehicles, rather than designate B20 as an "alternative fuel." Because Senator Johnson's bill designated B20 as an "alternative fuel" under EPA's Act, a compromise was needed. On October 15, 1998, the House agreed to the Senate amendments—passing the Energy Conservation Reauthorization Act of 1998.



On the Web

Twenty-five Years of Energy Trends

www.eia.doe.gov/emeu/25opec/anniversary.html

DOE's Energy Information Administration (EIA) released a report covering the major energy trends over the past 25 years since the 1973 oil embargo disrupted U.S. and world energy markets. The report, entitled *25th Anniversary of the 1973 Oil Embargo: Energy Trends Since the First Major U.S. Energy Crisis*, provides graphs depicting world oil supply, U.S. petroleum consumption, U.S. crude oil and gas reserves, world oil production, U.S. gasoline and oil prices, and more.

EIA 4th Quarter Projections

www.eia.doe.gov/emeu/steo/pub/contents.html

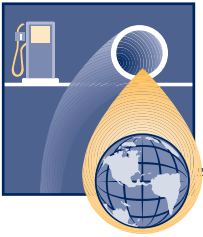
EIA also recently published the *Short-Term Energy Outlook for 1998 4th Quarter Projections*. The forecast period for this

issue extends from October 1998 through December 1999, and covers various issues including: domestic crude oil production figures, coal production, imports, exports, nuclear electricity generation, hydroelectric generation, electricity imports, and nonutility generation. The report can be downloaded from the Web site above.

All About Methanol Fuel Cell Vehicles

www.methanol.org

The American Methanol Institute released a special report entitled *Looking Beyond the Internal Combustion Engine: The Promise of Methanol Fuel Cell Vehicles*. The report provides information on fuel cell technology, reviews the environmental benefits of methanol fuel cell vehicles, and examines the potential pathways for expanding the methanol fuel market to serve these vehicles. The report is available at the Web site above.



At the Pump

Dallas: The 11th EV-Ready City

Earlier this year, more than 65 key stakeholders from around the country attended the Fourth National EV-Ready Market Launch Stakeholder meeting and witnessed the designation of Dallas-Fort Worth (DFW), Texas, as the 11th EV-Ready Market Launch Community.

Central and South West (CSW) Corporation, a public utility holding company headquartered in Dallas, and the DFW Clean Cities Coalition have been instrumental in bringing electric modes of transportation to the local area along with CSW Total EV. CSW is the host utility and facilitator for the DFW area EV Market Launch project, drawing on its long history of promoting and supporting electric transportation.

Although CSW Total EV, a subsidiary of Central and South West Corporation, was created to establish a presence in the transportation sector, they are focusing first on the distribution and sales of ZAP electric bikes (see ZAP article in "Nuts and Bolts") and U.S. Pro Drive electric



Nan Miller, Dallas-Fort Worth Clean Cities Coordinator, is pictured with Tonya Shadduck, of CSW Total EV, and Dr. Fenton Carey, from the Department of Transportation's Research and Special Programs Administration, at the designation ceremony.

Electric Transportation Council / PIX 06549

bikes. Long-term company goals include distribution and installation of chargers for electric automobiles, mass transit buses, trucks, and off-road EVs, such as forklifts. CSW Total EV is currently assisting General Motors and Ford Motor Company with charger installations in an eight-state (Texas, Louisiana, Oklahoma, Arkansas, New Mexico, Colorado, Missouri, and Kansas) area.

Area EV projects include:

- An electric pickup was featured at the State of AFVs Exposition, as well as natural gas and propane vehicles.
- DFW Clean Cities hosted a demonstration of the neighborhood electric vehicles (NEVs) produced by Global Electric MotorCars. This vehicle meets the new low-speed vehicle regulations recently developed by the National Highway Safety Administration.
- Sal Termini of CSW Total EV spoke at the DFW Clean Cities meeting about CSW's experiences with light-duty electric vehicles, electric buses, photovoltaic generation, and the upcoming DFW Market Launch.
- DFW Clean Cities Stakeholders will visit DFW International Airport to view firsthand American Airlines' extensive commitment to electric ground transportation equipment.
- CSW will be working with key stakeholders in the DFW area to build community awareness and infrastructure for electric vehicles. A community workshop is tentatively planned for the first quarter of 1999.

For more information on efforts made by CSW Total EV, visit their Web site at www.totalev.com/totalev.

Getting the Future Drivers of America Involved

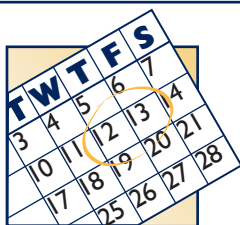
You don't need to be old enough to drive an AFV to play an active role in New York's Capital District Clean Communities coalition! Students from Schenectady area schools demonstrated their creativity in a contest to design the official logo of the Capital District Clean Communities coalition. Stakeholders including the Schenectady County Association of Highway Officials, Aurora Technologies, Cummins Engine Company, Inc., Matthew's Buses, and Niagara Mohawk Corporation donated a total of \$850 in savings bonds for student awards. First prize, a \$500 savings bond, went to Laura Wentworth, a middle school student from Shenendehowa, New York's Acadia School. The Capital District Clean Communities Coalition is located in the Albany, New York, area, and is working toward official designation.



**National Alternative Fuels and
Clean Cities Hotline**

NREL

1617 Cole Blvd., MS/1633
Golden, CO 80401-3393



Upcoming Conferences and Events

Propane Vehicle Conference

January 25-27, 1999
Las Vegas, Nevada
Contact: Frank Rowe 303-863-0521

Sun Day Challenge

January 16-17, 1999
Cocoa-Orlando, Florida
Contact: Penny Hall 407-638-1458

3rd Annual Propane Vehicle Conference and Exposition

January 25-27, 1999
Las Vegas, Nevada
Contact: RP Publishing 303-863-0521

World Renewable Energy Congress

February 10-13, 1999
Perth, Western Australia
Contact: Dr. Kuruvilla Mathew +61 08 9 360 2896
E-mail: mathew@essun1.murdoch.edu.au

1999 Commodity Classic

February 18-20, 1999
Albuquerque, New Mexico
Contact: Kristi Bumeister 417-232-4999

National Conference on Ethanol Policy and Marketing

February 22-24, 1999
Las Vegas, Nevada
Contact: Bryan and Bryan 719-942-4353

SAE International Congress and Exposition

March 1-4, 1999
Detroit, Michigan
Contact: Stephanie Yhelka 724-772-7131

And ... They're Off!



Get ready for the Fifth National Clean Cities Conference and Expo!

Where: Louisville, Kentucky

When: May 23-26, 1999

Your postcard with conference
details is on the way!

For more information on these events, visit the Alternative Fuels Data Center Web site at www.afdc.doe.gov.

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. Since 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!