

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

## Funds

from Fines

*Enforcement settlements offer new possibilities for financing alternative fuel and renewable energy projects*



**PLUS:**

**Clean Transport in Europe**  
**10 Questions for Boone Pickens**



Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable



Dear Readers:

Public funding is a key component of government-sponsored programs such as Clean Cities. Many of our stakeholders including coordinators spend a great deal of time researching, soliciting, applying for, and spending money that originates with taxpayers. Grants from government agencies are one obvious example. But another form of public support, rising in importance like the Shenandoah moon on our cover, are funds made available through settlement of environmental enforcement cases.

When companies violate environmental regulations, usually it is a government agency that must respond. Investigating violations can be tedious, difficult, data-intensive work. And once violations are found, bringing the cases to court happens only through the hard work of a sometimes-unappreciated brand of public servant—lawyers.

But increasingly their work has created significant sources of support, financing alternative fuel and renewable energy projects that might otherwise be impossible. This form of public funding has helped pay for new school buses, AFV fueling stations, fuels, and exhaust-treatment equipment for diesels. Outside of transportation, it has paid for wind and solar energy projects as well as public education about pollution and clean energy. "Funds from Fines" are the focus of our cover story, beginning on page 4.

If you were tempted to perceive public funding as the only kind, however, the notion would be dispelled upon flipping ahead to page 10. We profile Boone Pickens, an icon of the oil fields also known for high-profile corporate takeover activities in the 1980s. Turns out that in that very time period—years before the launch of Clean Cities—the visionary Pickens was investing in natural gas as a fuel for cars and trucks.

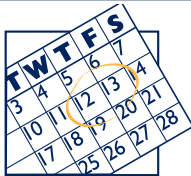
What, you many wonder, did this entrepreneur extraordinaire, flush with success on Wall Street and savvy from years in the oil patch, see in the business of fueling vehicles with methane? "It wasn't to do something environmentally good," he admits. "It was to get a better price for our natural gas."

Shocking in a way, refreshing in another, that statement by Pickens reinforces something we already know. Creating a market, whether it's fuel or feed corn, may require an initial boost from government. (Pickens himself supports incentives, mandates, and grants to jump-start natural gas.) But in the best cases, such devices will go away as the forces of capitalism take over. "When we really start doing good," Pickens says of his company, "we'll see people filling up at our stations and we won't know where they came from."

Turn to page 16 for another perspective on effective government-industry partnering. Private investors in San Diego have built a fantastic facility to dispense alternative fuels and sell and service AFVs. In the same building, an educational facility was put in by "investors" from the public sector including the U.S. Department of Housing and Urban Development. In an auditorium equipped with bucket seats, San Diego students will sit and learn about clean energy, alternative fuels, and AFVs.

The economic health of our industry is contingent upon all of us capitalizing on any available resources and sharing that information with others. Whether it's as concrete as Supplemental Environmental Projects or as inspiring as the entrepreneurial successes of Boone Pickens, these exemplify the momentum that will strengthen all of our efforts to foster greater infrastructure development and use of alternative fuels.

**Shelley Launey, Director**  
Clean Cities Program  
U.S. Department of Energy



### Upcoming Conferences and Events

#### 21st National NGV Conference and Exhibition

September 29-October 1, 2003  
Las Vegas, Nevada  
Natural Gas Vehicle Coalition  
202-824-7365  
[www.ngvc.org](http://www.ngvc.org)

#### National Conference of State Fleet Administrators

October 8-11, 2003  
Keystone, Colorado  
Contact: Joe O'Neill  
623-772-9096

#### CIVITAS Forum annual meeting

October 20-21, 2003  
Graz, Austria  
[infos@civitas-initiative.org](mailto:infos@civitas-initiative.org)  
[www.civitas-initiative.org](http://www.civitas-initiative.org)

For more conference and event information, visit [www.ccities.doe.gov/events\\_cgi.shtml](http://www.ccities.doe.gov/events_cgi.shtml)

# ALTERNATIVE FUEL NEWS

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## About the Office of Energy Efficiency and Renewable Energy

### **A Strong Energy Portfolio for a Strong America**

Energy efficiency and clean, renewable energy will mean a stronger economy, a cleaner environment, and greater energy independence for America. By investing in technology breakthroughs today, our nation can look forward to a more resilient economy and secure future.

Far-reaching technology changes will be essential to America's energy future. Working with a wide array of state, community, industry, and university partners, the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy invests in a portfolio of energy technologies that will:

- Conserve energy in the residential, commercial, industrial, government, and transportation sectors
- Increase and diversify energy supply, with a focus on renewable domestic sources
- Upgrade our national energy infrastructure
- Facilitate the emergence of hydrogen technologies as vital new "energy carrier's."

### **The Opportunities**

**Biomass Program**—Using domestic, plant-derived resources to meet our fuel, power, and chemical needs

**Building Technologies Program**—Homes, schools, and businesses that use less energy, cost less to operate, and ultimately, generate as much power as they use

**Distributed Energy & Electric Reliability Program**—A more reliable energy infrastructure and reduced need for new power plants

**Federal Energy Management Program**—Leading by example, saving energy and taxpayer dollars in federal facilities

**FreedomCAR & Vehicle Technologies Program**—Less dependence on foreign oil, and eventual transition to an emissions-free, petroleum-free vehicle

**Geothermal Technologies Program**—Tapping the Earth's energy to meet our heat and power needs

**Hydrogen, Fuel Cells & Infrastructure Technologies Program**—Paving the way toward a hydrogen economy and net-zero carbon energy future

**Industrial Technologies Program**—Boosting the productivity and competitiveness of U.S. industry through improvements in energy and environmental performance

**Solar Energy Technology Program**—Utilizing the sun's natural energy to generate electricity and provide water and space heating

**Weatherization & Intergovernmental Program**—Accelerating the use of today's best energy-efficient and renewable technologies in homes, communities, and businesses

**Wind & Hydropower Technologies Program**—Harnessing America's abundant natural resources for clean power generation

To learn more, visit [www.eere.energy.gov](http://www.eere.energy.gov)

## Cover Story • 4

### **Just Fine**

Enforcement settlements offer new ways to pay for renewable energy, AFVs, and alternative fuels.



Page 4

## Feature Stories

### **CIVITAS • 8**

Europe's clean transport initiative goes far beyond alternative fuels.

### **Boone Pickens • 10**

An icon from the oil fields is now a force in alternative fuels.

## Departments

### **At the Pump • 12**

LPG site planners break ground at Austin's international airport.

### **From the States • 13**

S&FP success stories

### **Clean Cities Roundup • 14**

Minnesota man runs on ethanol

Big bucks for biodiesel



Page 14

### **From the Automakers • 15**

Light-duty AFVs for '04



Page 15

### **Cover:**

Virginia's Shenandoah National Park will benefit from a recent enforcement settlement through funding to buy AFVs and fuel infrastructure. Such cases have also helped pay for renewable energy installations such as wind turbines and diesel exhaust after-treatment for school buses. See story, page 4.

Observant readers may notice the new green-blue color combination on our cover. It's a preview of an all-new look for Alternative Fuel News, to be complete in our next edition, Volume 7, No. 3, due in the fall.

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

Would you like to subscribe to AFN, or cancel a subscription? Would you like to receive an email message whenever a new issue is posted online, rather than receiving a print copy by mail? AFN is usually available on the Clean Cities Web site before it's mailed. To view or download our latest issue as well as past issues, please visit [www.afdc.doe.gov/documents/altfuelnews](http://www.afdc.doe.gov/documents/altfuelnews). You can email us at [ccities@nrel.gov](mailto:ccities@nrel.gov), or call 800-CCITIES. We welcome comments and suggestions about the content of AFN.

# Funds from Fines

*for new possibilities for financing alternative fuel and renewable energy projects.*

Last year in Indiana, \$65,000 became available unexpectedly to build a natural gas fueling station and buy AFVs. This year in Sacramento, \$120,000 was designated for the purchase of CNG school buses. By this fall, several rural school districts in central Texas will have secured \$750,000, with hopes of using it to buy biodiesel fuel for newly acquired school buses. (Story details on page 7.)

A common thread connects these activities and many more nationwide, both past and pending. All are products of funds secured by government enforcement agencies in settlements with companies that violated environmental regulations.

An enforcement settlement is a negotiated agreement between a government agency and an entity (usually a company) charged with environmental violations (usually civil, not criminal). It is “negotiated” in the sense that if the company chooses, it can contest the charges. But most settle out of court.

Such cases can originate at the local, state, or federal level. Local air quality management districts (AQMDs), for example, are often responsible for issuing permits to operators of emissions sources such as refineries, chemical plants, and power plants. They also monitor compliance and impose fines for permit and regulatory violations. At the state level, similarly, enforcement agencies can penalize companies for violating standards of air and water quality and waste disposal. State settlements may be the most common type. In Colorado alone, for example, the state Air Pollution Control Division has settled more than 200 cases in the past four years.

Federal agencies, in response to environmental violations, have imposed some of the largest civil penalties in U.S. history. In 1998, the U.S. Department of Justice and the U.S. Environmental Protection Agency (EPA) announced a total of \$83.4 million in penalties against seven major diesel engine manufacturers. The companies were also required to spend more than \$1 billion to resolve claims that they had installed illegal “defeat devices” in heavy-duty diesel engines, allowing them to pass emission tests but operate with higher levels of nitrogen oxide (NO<sub>x</sub>) emissions on the road.

Companies penalized by the action have developed new NO<sub>x</sub> control technologies. “This settlement will prevent 75 million tons of harmful nitrogen oxide (NO<sub>x</sub>) emissions nationwide by 2025,” said EPA in a 1998 press release. Some of the proceeds from the settlement have subsidized establishing natural gas transit bus fleets in Boston and metropolitan Atlanta.

## **Beyond Settlement: SEPs**

Aside from requiring compliance, enforcement settlements often entail little more than a civil penalty paid to the appropriate agency or government body. Once the check is written, the penalized company has no control over how the money is spent. But some settlements go farther, crafted with a legally binding agreement in which the company voluntarily promises to perform specific actions to benefit the environment. EPA calls them Supplemental Environmental Projects, or SEPs. Some state agencies use other terms such as Community Environmental Projects and “in-kind penalties.” (SEPs of this kind should not be mistaken for grants from DOE’s State Energy Program, which is sometimes referred to as SEP.)

Environmental organizations such as the Natural Resources Defense Council (NRDC) applaud the use of



A SEP resulting from a Colorado settlement last year bought a GEM electric utility vehicle for the city of Brush, on the state’s eastern plains. The Street and Parks Department uses the vehicle for light-duty work, such as towing a barbecue grill to community picnics. Shown is Doug Kelly, supervisor of Public Works. SEPs can finance all kinds of renewable energy strategies, says attorney Jill Cooper of the Colorado Department of Public Health and Environment. But those involving the purchase of vehicles are “relatively easy to negotiate,” she says, with no need to train the recipients in the use of unfamiliar technologies. Top: Virginia’s Shenandoah National Park will benefit from the proceeds of a settlement with a utility (see page 5).

SEPs as a means of creating environmental benefits for communities. “If they’re well designed, they can be an extremely effective way of getting results,” says attorney John Walke, Director of Clean Air Programs at the NRDC. Implementing AFVs is an excellent application of the SEP concept, he says. But some SEPs are merely “anyway projects,” designed to claim credit for work that would have happened even without the settlement, according to Walke.

Individual enforcement settlements and SEPs can result in millions of dollars in funding. But most are considerably smaller, particularly at the state and local levels. The AQMD serving Sacramento, for example, has reached nearly 100 settlements in the current fiscal year. Most have been between \$500 and \$5,000. In a \$70,000 SEP in Texas, a chemicals manufacturer agreed to help implement alternative fueling in the mass transit system of Odessa. In another Texas settlement valued at \$25,937, a company agreed to pay for AFV fueling equipment in Houston. Colorado was the first state to devise a clean energy-related SEP, in which a company agreed to purchase \$300,000 in wind energy over a five-year period. Other SEPs in that state resulted in the purchase of several CNG vehicles and a fueling station in Weld County.

### SEP Support

A collaborative team supported by DOE and the National Renewable Energy Laboratory (NREL) aims to expand awareness of enforcement settlements and promote SEPs involving renewable energy. “One problem we run into,” says team member Karin Sinclair, “is that SEPs are meant to be totally voluntary on the part of the company. So enforcement agency officials question whether they can even bring the subject to the table.” The DOE-NREL SEP Support Team is exploring ways to encourage renewable and alternative energy SEPs while adhering to all legal guidelines. Sinclair is a project leader in NREL’s Golden, Colorado office.

Recent state budget shortfalls represent another obstacle to the use of SEPs. Regulators and legislators may prefer civil penalties, which usually result in monies for the state’s general fund rather than specific projects. With that reasoning, at least one state—Pennsylvania—has announced its intention to discontinue SEPs.

EPA lists the more significant federal settlements of recent years on its own Web site (see “Resources,” page 7). But no central resource exists to track state and local cases. For that reason, it’s impossible to gauge the total amount of money that becomes available in the form of SEPs each year. But in one recent year (1999), a total of \$237 million went into SEPs at the federal level. “Almost none” included provisions for renewable energy or alternative fuels, says Sinclair. Securing even a small share of available SEP funding would be a big boost for renewable energy and alternative fuel projects.

A Colorado-based nonprofit organization has acted as a matchmaker, pairing funding opportunities with worthy

renewable energy projects. The StEPP Foundation (short for Strategic Environmental Project Pipeline) also aggregates settlement dollars and helps project backers apply for funds. (Visit [www.steppfoundation.org](http://www.steppfoundation.org).) Colorado’s state environmental department has gone through StEPP to allocate more than \$1.8 million in SEP funding, mostly for energy efficiency and renewable energy projects.

### More to Come

Enforcement settlements with EPA can result from violations of many different environmental regulations and standards. Most common are cases dealing with standards established by the Clean Air Act. Within that realm is a complex section called New Source Review (NSR). When emitters such as power plants are modified, by law they must disclose the modifications to a regulating authority and apply for an NSR permit. Many have failed to do so in the past decade, resulting in many enforcement settlements with EPA and with states, either signed or pending. At least 10 NSR settlements are in progress, and many more NSR cases are under investigation.



Weld County

Weld County, Colorado acquired a CNG fueling station with funding from a settlement with an energy company.

One notable NSR case was recently settled between EPA and the Virginia Electric Power Company (VEPCO). A SEP resulting from that settlement commits \$1 million for funding an AFV project in Virginia’s Shenandoah National Park. The project will involve securing vehicles for trial use in the park, plus the necessary fueling equipment. (Alternatively, the company may choose “another project also intended to reduce damage” caused by air pollution in the park.)

Like many SEPs approved by EPA, the VEPCO agreement emphasizes diesel-reducing emissions through the use of exhaust after-treatment and lower-sulfur fuel. Although such projects don’t serve the alternative fuels mission of Clean Cities, they may represent an unintentional bias at EPA, says Adam Chambers of the DOE-NREL

SEP Team and an NREL project leader. “EPA brings the enforcement cases, and when it’s time to develop a mitigation plan, they have a lot of input into how the money is spent. Buses have been targeted through the agency’s Clean School Bus USA initiative, but the potential benefits of alternative fuels are often overlooked,” he says.

But that bias is not insurmountable, says Chambers. The state of Connecticut recently secured \$1.1 million in funding from the VEPCO settlement to retrofit the exhaust systems of diesel school buses. The Clean Cities coalition based in Norwich responded with a letter to the state, urging it to expand availability of the funds for alternative fuels including natural gas. The letter was co-signed by coordinator Peter Polubiatko and a representative of INFORM, an environmental organization and clean transportation advocate, based in New York City.

SEP opportunities may result from several developing NSR cases between EPA and the operators of coal-fired power plants, including a particularly contentious case with the Tennessee Valley Authority. Another case (recently settled) with Archer Daniels Midland provides \$2.3 million to the Illinois Green School Bus Program, covering the purchase of new buses and “differential costs associated with the use of ultra-low sulfur diesel fuel, cleaner biodiesel fuel and other clean alternative fuels.”

In general, SEPs represent a great opportunity for sponsors of alternative fuel and renewable energy projects, says DOE’s Jerry Kotas, another member of the DOE-NREL SEP Team. “They’re a way to maximize the environmental results of enforcement actions,” Kotas says. “SEPs can be a great benefit for the community and for the environment.”

### **Finding Funds**

Pittsburgh attorney Harry Klodowski represents companies negotiating settlements resulting from environmental violations. To project planners hoping to secure funds from SEPs, he offers this advice:

Get involved in the process early—if possible, before the consent decree is signed. Often that’s not easy, he admits, because settlement negotiations happen behind closed



School bus exhaust is often targeted in settlement projects, which can pay for new vehicles as well as diesel retrofitting.

doors. But specific project ideas may help move the government to settle.

The “closed door” nature of negotiations is a good reason for maintaining regular contact with enforcement agency representatives. They can alert you to budding opportunities.

Enforcement actions are published in press releases and on agency Web sites. Agencies often have community relations and educational staffers who can explain the terms of SEPs when they’re final, and provide contacts.

Design projects with a clear connection to the community affected by the violation, and articulate that connection to the company. EPA says SEPs should reduce risk to public health and the environment, and lessen the likelihood of similar violations in the future.

Build in accountability on your part. Don’t make the company think of how to monitor progress; draw up a plan. The government agency won’t want to be involved at all in administering the project.

Consider the level of government involved, and size the project accordingly. “If you’re looking for a million dollars, that’s more likely to come from EPA. If you’re looking for 20 or 30 thousand, you might be better off at the state or local level,” he says.

If you collaborate in crafting a SEP, plan on “selling” the idea to a government agency. “In every agency, there are people who like SEPs and people who don’t,” says Klodowski. Companies too must sometimes be sold on incorporating your ideas into their project—or on the whole idea of a SEP. “But generally they’d rather do some good for the community than write a check to the government,” he says.

“I don’t think you need a lawyer,” say Klodowski. A pattern federal settlement agreement is available on the SEP page of EPA’s Web site. At the annual Clean Cities Conference in 2000, Klodowski spoke to program coordinators and stakeholders on securing SEP funds. A written report accompanying that presentation is available at [www.ccities.doe.gov/pdfs/hklodowskipaper.pdf](http://www.ccities.doe.gov/pdfs/hklodowskipaper.pdf).

*Following on page 7 are three specific enforcement settlement stories*

## Grassroots Cause and a Federal Case

A small citizens' group in rural Texas, near Austin, recently settled an NSR case arising from emissions violations by aluminum producer Alcoa. The case resulted in \$2.5 million in civil penalties, of which \$750,000 will fund a school bus emissions reduction program. The program will be modeled after the Adopt-A-Bus Program in Dallas, in which companies sponsor individual school buses. "Even here in Texas it is obvious that we need to get away from petroleum-based fuels," said Billie Woods, president of Neighbors for Neighbors, which brought the case.

Dan Deaton of DOE's regional duty station office in Texas was notified of the pending settlement last spring by a member of the DOE-NREL SEP Support Team. A meeting was held in Austin to discuss the settlement, with DOE and EPA representatives and Central Texas Clean Cities Coordinator Stacy Neef.

Much of the Alcoa settlement funding, they learned, may go toward fueling Austin-area school buses with low-sulfur diesel. "But we're hoping to secure at least some portion of the money for alternative fuels like biodiesel," said Deaton. In the future, AFV advocates in the area hope to see settlement funds paying for natural gas and propane vehicles along with the needed fueling infrastructure.

## Local Enforcement and a Lottery

Chevron was charged with violating fuel pump design standards at several California gasoline stations. The company agreed to a \$120,000 settlement (not a SEP) with the Sacramento AQMD, which deposited the proceeds in a fund to buy alternative fuel school buses. A lottery was held among more than a dozen local school districts. Each of the two winners received \$60,000 to help pay for a CNG bus, which typically costs in excess of \$100,000.

The bus lottery was covered in the media and well-received by the public, says Tim Taylor, manager of the district's Mobile Source Division. Enforcement settlement projects that reduce emissions from stationary (not mobile) sources, he observes, are equally important to public health but generally get less attention than those involving cars, trucks, and buses. "Mobile source emissions reduction projects make a big splash," he says. Backers of such projects should be aware of their potential public relations value, he suggests.

Beyond that, seekers of enforcement settlement funds should "think in SEP-like terms," says Taylor. Devise projects that are manageable and conducive to accountability, and those that might help an offending company mitigate damage to its public image. Getting into settlement negotiations as early as possible, Taylor agrees, is excellent advice.

## Settling with the State

BP Amoco's Whiting refinery settled with the Indiana Department of Environmental Management (IDEM), agreeing to pay \$500,000 for air quality violations. Its consent decree, signed in 2001, specified that the money would go toward reducing emissions of volatile organic compounds in several northern Indiana cities including Whiting.

An IDEM employee was a member the South Shore Clean Cities board of directors, and notified the coalition that funds would be available. Coordinator Deb McClelland-Parker drafted a three-page proposal soliciting funds for CNG police cruisers and a fueling station in East Chicago, and rebates for AFV buyers in certain other cities. In total she requested \$65,000.

The state agency responded favorably, but asked the coalition to take on one more task: administering \$42,000 worth of rebates for school districts retrofitting diesel buses with catalytic converters. McClelland-Parker "played hard nose," she says, agreeing to handle the retrofitting project but requesting another \$10,700 for administrative costs. IDEM agreed.

"No matter what kind of work you're taking on, you can't be expected to do it without being paid for it," she advises. The application process was simple and straightforward, involving a written request that was "very much free-form." Her written application was followed by three or four phone calls with IDEM officials seeking minor clarifications.

### Resources

*Beyond Compliance: Supplemental Environmental Projects:* A 37-page EPA brochure describing SEPs in general and listing specific projects: [www.epa.gov/Compliance/resources/publications/civil/programs/sebrochure.pdf](http://www.epa.gov/Compliance/resources/publications/civil/programs/sebrochure.pdf).

*Using Environmental Penalty Funds to Capitalize Clean Energy Projects:* An article for Conservation Update, published by DOE's Office of Energy Efficiency and Renewable Energy. By Carol Tombari of the DOE-NREL SEP Support Team. [www.eere.energy.gov/buildings/state\\_energy/connections/printer\\_friendly.cfm?volume=40](http://www.eere.energy.gov/buildings/state_energy/connections/printer_friendly.cfm?volume=40).

Characteristics and categories of SEPs at the federal level, as well as past settlements, are listed by EPA at [www.epa.gov/compliance/civil/programs/seps](http://www.epa.gov/compliance/civil/programs/seps).

EPA lists the more significant federal settlements of recent years at <http://cfpub.epa.gov/compliance/resources/cases/civil>.



**City VITALity Sustainability is the objective behind a sweeping clean transport initiative in Europe.**

When the European Union (EU) was born in 2000, official policy documents acknowledged unwelcome trends in urban transport. Rising energy consumption, greater dependence on petroleum, and increasing pollution called for “bold measures” to reduce the impact of transportation on European cities.

Cited in the EU’s Charter of Fundamental Rights, along with health care, social security, and consumer protection is protection of the environment. Environmental quality, it says, must be integrated into the policies of the Union and “ensured in accordance with the principles of sustainable development.”

The EU’s governing body, the European Commission, affirmed its desire to save the environment while sustaining development when it launched CIVITAS. Conceived as a way to “radically improve urban transport,” the Union-wide initiative drew 50 million euros (more than US\$50 million) in support for projects across the continent.

By early last year, 19 large European cities had joined CIVITAS. Most of the member cities lie in EU countries, but five of them are in eastern Europe, in what are commonly called “accession countries” that will join the Union in 2004. CIVITAS is an umbrella initiative over four individual projects, listed and described below.

CIVITAS shares at least one major objective of U.S. government-supported technology programs such as Clean Cities. It exists in large part to foster demonstration of technologies and strategies—in this case for clean urban transport. Public funding is matched with private investment. Typically the Union supplies 35 percent, with the balance coming from companies and local and national governments.

Demo projects within CIVITAS generally don’t involve testing of technology in its earliest stages, says Maria Alfayate, Directorate-General for Energy and Transport for the European Commission. “These are technologies that are mature, but in many cases haven’t been tried on such a large scale or in combination with policy measures.”

**Les oranges**

Comparing CIVITAS to Clean Cities is “apples and oranges” because of the vast difference in their scope, says Marcy Rood, deputy director of the DOE program and leader of its international effort. “But obviously we share many of the same objectives, such as promoting alternative fuels and reducing petroleum imports,” she says.

A strong motive for creating CIVITAS was an EU policy to cut petroleum consumption, put forth in 2000 in an official Green Paper on Energy Supply. The Union aims to displace 20 percent of gasoline and diesel use in Europe’s transportation sector by 2020. A subgroup of the European Commission identified biofuels, natural gas, and hydrogen as the most promising petroleum replacements—all alternative fuels promoted in the U.S. by the Clean Cities Program.

But the European initiative reaches far beyond alternative fuels. The four projects under CIVITAS follow an EU policy objective to reduce reliance on transport. Ways of doing so include “urban society planning, telecommuting, tele-shopping, tele-working, and providing facilities for cycling and walking.” Eight specific CIVITAS measures to influence transportation policy and technology are listed at [www.civitas-initiative.org](http://www.civitas-initiative.org) (click on “policy strategies”).

*CIVITAS is an umbrella initiative over four distinct projects, described below.*



**VIVALDI**

Cities: Aalborg, Bremen, Bristol, Kaunas, Nantes

Objective: Demonstrate an integrated package of transport strategies and measures; assess their contribution to improving four key urban policy goals: Vitality and economic success, social inclusion, sustainability, and the health and well being of citizens.

[www.vivaldiproject.org](http://www.vivaldiproject.org)



**TELLUS**

Cities: Rotterdam, Bucharest, Gdynia, Berlin, Göteborg

Objective: Increase public transport and bicycle use; reduce congestion and traffic-related air and noise pollution; reduce kilometers driven; improve cooperation between city organizations; increase political and public awareness; reduce road casualties; improve public-private cooperation.

[www.tellus-cities.net](http://www.tellus-cities.net)



Opposite page, left to right: vehicle traffic in Stockholm; electric tram in Graz; car-free strolling zone in Stockholm (photo by Lennart Johansson)

“Demand management based on access restrictions” is encouraged by CIVITAS. Sensitive areas such as inner city shopping districts are protected, often through permits or fees for use. Permits may be issued only to AFVs or energy-efficient vehicles. Use fees are integrated with other incentive strategies such as lower parking rates for cleaner vehicles and discounts for using public transit.

Access restrictions have been a tough sell in some European cities, admits Alfayate. Merchants have resisted the idea, fearing the absence of vehicles would hurt business. But in some cases, sales increased along with the area’s appeal to customers. The cities of Graz and Rome are enlarging their “strolling zones,” encouraged by early success.

### **Mass Transit**

“Collective passenger transport” and its quality of service should be stimulated, say CIVITAS leaders, through increased access to buses and better integration with walking and cycling. Also encouraged are intermodal transport systems (established in Bristol, Nantes, Rotterdam, and Winchester, among other cities) in which commuters may park their cars and bikes to board a bus or train. The city of Cork has recently increased bike storage capacity by 40 percent. Bremen conducted a marketing campaign encouraging the integration of cycling and walking. Rome promotes electric scooters, and provides on-street recharging facilities.

CIVITAS encourages new ways to distribute goods, through improved logistics and information systems. Stockholm reduced the impact of urban freight distribution by establishing a traffic logistics center. It was used to coordinate delivery of construction materials for a new apartment complex, and the number of trucks entering the residential districts was cut by 50 percent.

Also encouraged are new forms of vehicle use, such as car sharing. In Berlin, some companies make fleet cars available to individuals on weekends. Several cities work with companies to develop mobility plans serving employees at all times, not just on work days. “Car-free” residen-

## **Clean Cities and CIVITAS**

Clean Cities and CIVITAS established an informal partnership after discussions in Washington D.C. last fall. Each organization agreed to send a speaker to the other’s annual conference. CIVITAS delegates participated in a panel discussion at this year’s Clean Cities Conference in California. Representatives of the Clean Cities Program will appear at the next CIVITAS Forum, set for October in Graz, Austria. A trip to Graz will be awarded to Erin Russell-Story of the Vermont Clean Vehicles Coalition, recognizing her as the program’s Outstanding Coordinator for 2003.

With their common interest in alternative fuels, the two organizations have discussed other possible interactions. CIVITAS members will be informed of natural gas training opportunities in the U.S., and may attend events such as DOE’s Natural Gas Vehicle Technology Forum. European biogas users may share their expertise with American counterparts. And the two organizations are considering peer-exchange and sister-city programs.

tial housing has been considered or established in some urban areas.

Europe’s more expansive approach to clean transportation is due to many factors, says Alfayate. One may be a European attitude oriented less toward individual needs and more to the good of the community. Another factor is the different “morphology” of European cities, which are generally more densely populated than cities in the U.S. “Things don’t happen overnight,” she adds. “A long process of discussion and consensus building is the basis of any local transport plan.”

The broader scope of CIVITAS may provide valuable examples for the U.S. to follow, says Marcy Rood. “Building relationships in Europe will help us address problems that are common to all developed countries, such as traffic congestion, and even global ones such as the effects of emissions,” she said. “Ultimately we’re interested not just in developing new fuels but in improving the quality of life.”



### **TRENDSSETTER**

Cities: Graz, Lille, Pecs, Prague, Stockholm

Objective: Support exceptional mobility and improve urban air quality and the quality of life, while reducing congestion and noise. Advocates advanced mobility management schemes, increased use of public and shared transport, improved goods logistics, and efficiency.

[www.trendsetter-europe.org](http://www.trendsetter-europe.org)



### **MIRACLES**

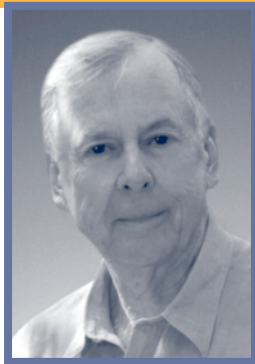
Cities: Rome, Barcelona, Winchester, Cork

Objective: Combine innovation, technology, and policies with the support of communication media to reduce traffic, energy consumption, noise, and air pollution.

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# 10 Questions for Boone Pickens



**The Texas energy tycoon once saw great promise in natural gas fueling.**

**How does it look today?**

*Boone Pickens of Dallas is a part owner of privately held Clean Energy, as well as a member of its Board of Directors and founder of its corporate predecessor, Pickens Fuel Corp. The California-based Clean Energy (known until recently as ENRG) has expanded its fueling network to include approximately 150 stations nationwide, both by building new ones and acquiring the properties of its competitors. Its fuel sales volume has increased by 40-50 percent annually in recent years, with similar growth expected in the foreseeable future, the company says.*

*Pickens has led a storied and successful career, first as an oil and gas developer and later leading unsolicited corporate takeover attempts while advocating for shareholder rights. One acquisition effort targeting Gulf Oil netted \$700 million for a small group of investors including Pickens. Mesa Petroleum, which he founded at 28, eventually became the nation's largest independent (not vertically integrated) producer of oil and gas. Pickens left Mesa in 1996, at the age of 68.*

*He established Pickens Fuel in 1997, first by buying natural gas fueling stations from Mesa Petroleum and from Southern California Gas Company. Since then, Pickens Fuel evolved and joined forces with various equity partners including Westport Innovations and BC Gas, both based in Canada, and venture capital firm Perseus LLC, based in Washington D.C. Pickens is involved in other business ventures including a far-sighted plan with other Texas Panhandle landowners to pipe groundwater to cities in Texas. Clean Energy, meanwhile, has become the nation's largest supplier of natural gas as a transportation fuel.*

*Pickens spoke with Alternative Fuel News in July.*

**What motivated you to get into the business of natural gas fueling?**

I got interested in it in 1987, when I was with Mesa Petroleum. Everyone in the natural gas business knows that natural gas is the superior hydrocarbon. We knew it would burn 90 percent cleaner than gasoline and diesel. Natural gas had been used in transportation, but to a very limited extent. Nearly all our sales were to the utilities, where we were getting \$1.50 per thousand cubic feet.

I thought if we could somehow move to the transportation industry, we could get six to eight times the price we were getting from the utilities, based on its energy content relative to gasoline. We were producing three or four hundred million cubic feet per day. If we could sell a portion of that at much higher prices, it would change the value of our entire reserve base. That was the motivating reason. It wasn't to do something environmentally good. It was to get a better price for our natural gas.

I always believed that using natural gas to generate power was taking a superior fuel and making something less out of it. Power can be generated from coal. So you're taking the superior hydrocarbon (natural gas) and reducing it to the level of coal.

**A lot of suppliers of natural gas for transportation—including many spin-offs from utilities—have come and gone. Has it been a tough business?**

No question about it. In 1988 or 1989, I thought we'd show a real impact within three years. Here we are 15 years later. Have we made an impact? I think we have. Has it been a tough business? Absolutely, and it still is. But we know we're on the right track. Nobody can argue with us that natural gas is a cleaner, domestic fuel. California has been very progressive on improving air quality. So has Arizona, and it's spreading across the country. Dallas is a non-attainment city, and Texas has passed the TERP Bill (establishing the Texas Emissions Reduction Plan), which allocates \$150 million per year in grant funds to do something about air quality. Things are moving in our direction, but it's been at a snail's pace.

**What accounts for the slow progress?**

One thing was the slow response to the Clean Air Act Amendments of 1991. We knew they were coming, but many of the mandates have been delayed. But now Texas, for instance, finally has to tow the mark on non-attainment or they'll have federal funding cut off. Another factor that jumps off the page is the economics. In the early stages, it was not cost effective to run natural gas vehicles. We were behind on conversion equipment technology. But that's pretty well cleared up now.

I can make a speech to 100 people and ask, 'How many in this room are environmentalists?' They'll all raise their hands. Then I say, 'OK, for a thousand dollars, how many

are environmentalists?' No hands go up. It's easy to say you're an environmentalist when there's no cost. But when it costs money, the equation changes. The fuel has to be made cost effective to whoever's going to use it. Also, it's not easy to change people's behavior—to ask them to stop using something they're familiar with. But once we have customers using natural gas, they like it, partly because they're seen as being environmentally conscientious.

***Nearly everyone using natural gas today is motivated by mandates and incentives from the government. You've always supported free markets. What's the appropriate role of government in this industry? How do you feel about the government forcing fleets to use natural gas?***

The natural gas industry is way behind the petroleum industry, which is heavily supported by the government in many ways. I don't think natural gas is any more costly to use than petroleum, and it's a clean domestic fuel. Whatever it may cost taxpayers and users in terms of mandates and incentives is very much in line with the benefits it offers.

***Is the business destined to be strictly about buses and heavy-duty trucks? Is there any future for passenger cars fueled by natural gas?***

One day at our station in Seal Beach, California, a lady drove in—a professional woman in her thirties—and started filling up her Honda Civic. I asked her why she had a natural gas car. She said, 'I'm a single mom and I have two children. I bought it so I can use the HOV lane. It allows me to have an hour more a day with my children. I work for an aerospace company with 6,500 employees. They don't believe me when I tell them what my car cost me, and that my fuel is 20 percent cheaper, and I have practically no repairs on my car because it burns so clean.' We thought of putting her in our ads. You don't get a commercial like that every day.

We ran two cars in from Palm Springs to Los Angeles, one in the HOV lane and one in the regular traffic. There was an hour time difference between the two. Does that draw people into using it as transportation fuel? I think it will. I've told our guys, when we really start doing good, we'll see people filling up at our stations and we won't know where they came from. That's when we're making real progress.

***Will home refueling be a significant development?***

What a commodity should do, I think, is go to its best and highest use. This commodity should be used as transportation fuel. If someone is driving a Crown Vic four miles to work, he shouldn't have to drive five miles to find a fueling station. Home refueling is a great idea. It's going to happen and it should happen, and I think it's for all the right reasons.

***Natural gas prices have doubled in a year and tripled in 10 years. How does the price of natural gas affect your business?***

Gasoline prices have moved up also, so there was a lot of room for us to move up. But we hedge our position in the energy futures markets for several years in front of us. We have to bid on supply contracts that are out three, four, and five years. We'll bid a fixed price. We can do that because we've hedged our purchase costs.

***Is there a way for big users such as transit agencies to effectively hedge their fuel costs?***

Sure. We've even talked to one of the big carriers—I don't know if we'll ever hear from them again. I said we would manage the hedging for them if they wanted us to, for a fee. They were very interested. They said they'd be switching over to LNG, and they weren't comfortable with what the costs would be. We explained to them how we'd do it.

***How big does a user have to be, to hedge effectively in the energy markets? How small would be too small to make it worthwhile?***

A trash truck uses 10,000 gallons per year. If you had 20 trash trucks, you'd be using 200,000 gallons per year. That's pretty small but you could do it. Any smaller, probably not. I have told users if they switch over to us, we will guarantee a price that will float 15 percent under diesel. Sometimes they say no, because they're already buying it for 35 percent under diesel, and that's true. But I tell them we can put them in a position where they will never pay more than their competitors pay (using diesel). We have also offered purchase prices, locked anywhere from \$1 to \$1.15 per gallon. If I were a purchaser of fuel where volatile prices were a big factor in my budget, I would lock in a price and put that to bed.

***Is there enough natural gas to go around for transportation, electricity, and home heating in this country?***

For those three items, yes, there's plenty of natural gas. When you get into industrial uses such as the aluminum industry, a lot of it's going to move offshore because of rising gas prices. It's becoming too expensive to run those industries domestically. By the end of this year, we should have a clearer picture of how much demand destruction there will be.

A best-selling 1987 autobiography by Pickens, titled "Boone," was recently updated and reprinted by BeardBooks as "Boone Pickens—The Luckiest Guy in the World."



## At the Pump

### State-of-the-art LPG station planned for Austin airport

Propane will expand its presence at the Austin-Bergstrom International Airport in Austin, Texas, with a new \$1.1 million fueling station expected to open in January 2004. A groundbreaking for the site was held in June.

The state-of-the-art station will be used both by airport fleet vehicles and individual motorists. A fence will divide two groundside fueling pumps from an airside pump. Fueling up on the airside will be forklifts, catering vehicles, and service trucks, while shuttles, taxis, and private vehicles use the groundside pumps. The station will dispense 1.3 million gallons of propane per year including 300,000 gallons in new sales.

An airport-contracted shuttle service, AMPCO System Parking, will be the site's biggest customer. AMPCO already operates 29 propane-powered buses. With the new site, drivers will no longer need to travel 12 miles round trip to fill up offsite.

The Austin airport opened just four years ago, and was designed with environmental efficiency in mind. "Designed in," according to airport planner Shane Harbin-

son, were watershed protection, recycling, and an efficient airfield layout to reduce travel distances by aircraft as they taxi on runways. "A propane fueling station for vehicles has been in the planning since opening day," he says.

Propane is produced both in oil refining and natural gas processing. Because of its abundant oil and gas reserves, Texas is also rich in propane. Yet the airport site will be "the very first publicly accessible propane station in the entire region," notes Central Texas Clean Cities Coordinator Stacy Neef. The public and private pumps will be unmanned, equipped with credit card-reading fuel dispensers, and open 24 hours every day.

Neef and members of the Austin-based coalition worked with the city aviation department in planning the site and securing its financing. The Propane Education and Research Council (PERC) provided a \$300,250 grant in response to an application by the coalition. Austin's aviation department contributed \$600,000, with \$200,000 coming from the city's fleets services department.

Also known as liquefied petroleum gas (LPG), propane is an alternative fuel approved for use by federal and state fleets subject to mandates under the Energy Policy Act of 1992. Such mandates were not a factor in this case, however, since the Austin airport is a city facility. Its construction is motivated in part by the threat of a "non-attainment" designation for ozone in central Texas region, by the U.S. Environmental Protection Agency. Ground-level ozone in the region has exceeded federal standards for the past several years.

Ozone is formed by a chemical reaction between nitrogen oxides and volatile organic compounds, emitted mostly by gasoline and diesel engines. It is the main component of smog, and it causes human respiratory problems. To mitigate the effects of high ozone levels, Austin has initiated "Ozone Action Days." People are warned to avoid strenuous activity outdoors, and encouraged to limit driving. Propane vehicles, which have much lower levels of ozone-forming emissions than petroleum-powered cars, are a welcome solution to Austin's ozone problem.

Austin is 28 miles from Georgetown, Texas, the home of Clean Fueling Technologies (CFT). That company is headed by Curtis Donaldson, who was honored by the Clean Cities Program as its AFV Hero for 2003. CFT recently received a \$250,000 grant from the Texas State Energy Conservation Office to build six LPG stations in Austin and San Antonio. All six stations will be placed along Interstate 35, adding new fueling opportunities to the 80-mile corridor that connects the two cities. The new stations are expected to encourage more fleets and individuals to switch over to propane fueling.



Aviation Department, Austin, Texas/PX 12691

Ground was broken for the Austin airport's new LPG station on June 25. From left: Katie Williams, superintendent, Jay-Reese Contractor, Inc.; Ron Albee, president, Jay-Reese; Jim Smith, executive director, Austin Aviation Department; Michael L. Williams, chairman, Railroad Commission of Texas; Curtis Donaldson, PERC council member and president of Clean Fueling Technologies; Stacy Neef, coordinator, Central Texas Clean Cities; Fred Blood, Austin Fleet Services; Hannah Riddering, president, Airport Advisory Commission; Phil Williams, Airport Advisory Commission



## From the States

### State & Alternative Fuel Provider fleets celebrate success

*The Energy Policy Act of 1992 (EPAAct) was passed by Congress to reduce the nation's dependence on imported petroleum. It does so by requiring certain fleets to acquire vehicles capable of operating on alternative fuels. Acquisition mandates apply both to federal fleets and to fleets specified in a State & Alternative Fuel Provider (S&FP) Program, as defined in EPAAct. Following are two outstanding S&FP success stories.*

#### Propane on the Pike

As the operator of a state fleet, the Pennsylvania Turnpike Commission (PTC) has exceeded its annual AFV requirements every year since 1999. Its fleet includes 147 propane-powered vehicles, of which 20 are heavy-duty trucks. It holds 59 banked credits, and plans to sell 30 of them in the near future. The PTC has helped six other fleets maintain EPAAct compliance by selling its credits to them, according to PTC equipment data analyst John Haines.

The PTC fleet also includes 86 flexible fuel vehicles (FFVs) that could run on E85 but presently don't. Haines says the PTC is currently pushing to construct an E85 fueling station, which he hopes to have completed in 2004.

Under the terms of a rule that took effect in 2001, regulated fleets may satisfy a portion of their AFV acquisition requirements under EPAAct by purchasing biodiesel fuel. That's been a big part of the PTC's compliance strategy. In 2001 and 2002, it satisfied approximately half of its AFV mandate with biodiesel, used mainly in the more than 200 heavy-duty trucks in the PTC fleet.

As reasons for choosing biodiesel, Haines cites its well-known advantages. "There are no infrastructure costs, it's American made, and it offers high lubricity, which helps prolong engine life," he said.

EPAAct was the original motivation for the PTC's move to alternative fuels. But now it's more than that, he says. "We are very concerned and conscious of air quality, and we want to exercise good stewardship of our environment and that of our neighbors and customers."



Propane-powered pickups abound on the Pennsylvania Turnpike.

#### S&FP and PG&E

Electricity is one of several alternative fuels specified in EPAAct. That's why electric utilities are considered "fuel providers." Pacific Gas and Electric Company (PG&E), based in San Francisco, is among approximately 170 utilities nationwide that are subject to the AFV acquisition requirements of EPAAct.

PG&E has satisfied EPAAct's requirements every year since 1997. The company operates a total of 681 AFVs. Nearly all are fueled by CNG, including 29 heavy-duty crew trucks. PG&E operates 38 CNG fueling stations in northern and central California, of which 23 are open to the public.

The company began experimenting with AFVs in the 1970s, converting some of its own fleet vehicles to CNG. In 1988, it established its Clean Air Transportation Program, helping customers switch over to natural gas as a vehicle fuel. Over the past 25 years, the company maintains that its clean transportation and energy efficiency programs have kept approximately 53 million tons of carbon monoxide out of the atmosphere.

In 1999, the company developed a crew truck using a natural gas engine with a heavy-duty chassis—a combination that had never been used in utility applications. Developers removed the diesel engine and the diesel-powered air compressor from a Freightliner FL-70 chassis cab and refitted it with a John Deere 8.1 liter natural gas engine.

The company placed the first CNG crew truck into service in 2000, after 10 months of engineering and development. Since then, 28 more vehicles have been added to the PG&E fleet. Compared with diesel-fueled equivalents, emissions from the CNG crew trucks are approximately 50 percent lower in oxides of nitrogen, 80 percent lower in particulate matter, and 90 percent lower in carbon monoxide. The trucks are certified as ultra-low emission vehicles by the Environmental Protection Agency.

PG&E Senior Program Manager Brian Pepper says it took a lot of work to develop the CNG crew trucks. "They wouldn't exist if PG&E had not taken the time and money to work through all the issues and to get all of the parties to work together," he said. "Our customers and other utilities can now benefit from our groundbreaking experience."

## Marathon man runs on E85

Ultra-marathoner Tom Andrews will carry the message of E85 and clean air across Minnesota in September, as he covers 500 miles on foot in a two-week period. It's all part of the "E85 Run for Clean Air," a promotional event sponsored by partners of the Minnesota E85 Team including the American Lung Association of Minnesota.

Starting in Fargo, North Dakota, Andrews will cross the state line into Minnesota on September 13 and wend his way eastward toward the Twin Cities. Along the way he will stop for publicity events at E85 stations, ethanol plants, and car dealerships that sell flexible fuel vehicles. Media coverage is expected at many of the stops, with

street banners trumpeting the event and fuel stations selling "85-cent E85." His journey will end on the steps of the State Capitol on September 27 in a ceremony involving dignitaries, automakers, Twin Cities Clean Cities, and the National Ethanol Vehicle Coalition.



Andrews is a member of the American Lung Association Running Club and a world-class ultra-marathoner. He holds U.S. Track & Field age group records for the six-day run (a best of 388 miles) and two records for 48-hour races (each more than 200 miles). Riding and running along much of the route with Andrews will be his wife, Eva, with their toddler son, Kevin, in tow. Follow their progress in mid-September by visiting [www.CleanAirChoice.org](http://www.CleanAirChoice.org).



TJCOG

## Big bucks

North Carolina's Triangle J Council of Governments (TJCOG) awarded a total of \$183,000 to seven organizations to expand their use of B20 biodiesel fuel. The funds were provided from the North Carolina Department of Transportation through a federal Congestion and Mitigation Air Quality grant with additional assistance provided by the State Energy Office. Grant recipients included the town of Cary, Duke University, Durham Public Schools, the city of Raleigh, North Carolina State University, the Raleigh-Durham International Airport, and Wake County. Many projects are planned including the purchase of B20 for transit fleets and public education on alternative fuels. Recipients are expected to displace almost 200,000 gallons of diesel fuel as a result of the grants, according to TJCOG, which is home to the Triangle Clean Cities Coalition.

## Called the Hotline lately?

*Alternative Fuel News* is the reading of choice for Allegra Schafer (left) and Mary Fischer, information specialists at the National Alternative Fuels and Clean Cities Hotline. Schafer and Fischer answer questions about Clean Cities, AFVs, fuels, funding opportunities, regulatory requirements, fueling locations, emissions, and much more. They are wired into the Alternative Fuels Data Center (AFDC), and can direct callers to a vast array of information resources within the AFDC's online database and elsewhere. Callers can order free publications to be sent by mail. Calls come from an international audience of fleet managers, government officials, trade associations, automakers, teachers, students, and the general public. Operating hours are 9 a.m. to 6 p.m. EST Monday through Friday. Call 800-423-1363 or 800-CCITIES. Also welcome are inquiries sent by email to [hotline@afdc.nrel.gov](mailto:hotline@afdc.nrel.gov) or via the AFDC Web site at [www.afdc.doe.gov/hotline.html](http://www.afdc.doe.gov/hotline.html).



Clean Cities/PX 12693



# From the Automakers

## AFVs for '04

*Asia, Europe, and the United States all have some “alternative fuel news” in the coming year, both in terms of what’s new and what’s going away. Here are some highlights:*

DaimlerChrysler adds to and subtracts from the AFV universe. The Mercedes-Benz C320 sedan comes standard as a flexible fuel vehicle (FFV) able to run on E85. (It started with the '03 model year.) Newly available as an FFV is a Dodge Ram pickup with the 4.7 liter V8 engine. No longer offered with E85 capability, however, are some of the most popular FFVs in history—Chrysler minivans such as the Dodge Caravan. Their 3.3 liter V6 has been overhauled and E85 electronics aren't ready yet, the company says. Continuing with flexible fueling as a no-cost option are the Dodge Stratus and Chrysler Sebring, including a convertible.



Mercedes C320

DaimlerChrysler

Diesel-powered pickup trucks from General Motors haven't changed, but their warranties have. The Silverado and Sierra (2500 Series and bigger) can now be fueled with biodiesel blends up to 5 percent. The same two models (1500 Series only), when equipped with GM's 5.3 liter engine, remain available as FFVs capable of E85 fueling. A hybrid-electric drivetrain will be offered in the 1500 Series later in the '04 model year, with horsepower similar to gasoline but 15 percent better fuel economy.



Ford F-150

Ford

From Ford, the best news is what hasn't changed. The F-150 pickup is redesigned with a new exterior and a more spacious interior. But alternative fueling will continue in the same configurations as in the past: dedicated CNG, bifuel gasoline/CNG, and bifuel gasoline/LPG. Separately (and sadly), Ford has announced it will discontinue the CNG-fueled Crown Victoria in 2005.



Chevy Silverado

General Motors

Toyota unveils a new generation of its popular Prius—technically not an AFV but a highly efficient hybrid with expected overall fuel economy (city and highway) of 55 mpg. A new drive system nearly doubles the operating voltage of its predecessor, resulting in a more efficient motor, a smaller battery pack, and a roomier interior.



Toyota Prius

Toyota

Honda will make AFV history late in this calendar year with the introduction of “Phill,” a residential natural gas fueling device developed jointly with FuelMaker. Phill's favorite ride will be the Civic GX, but he'll be compatible with all light-duty CNG vehicles. Home refueling may help expand the market for natural gas among individual motorists, while giving them a taste of the “hydrogen economy” concept of pressurized, gaseous fuels.

*For a complete list of light- and heavy-duty AFVs, see the Clean Cities Vehicle Buyer's Guide at [www.ccities.doe.gov/vbg](http://www.ccities.doe.gov/vbg)*

## AFV-centric transportation center unveiled to San Diego motorists

Opened recently in San Diego was an expansive, first-of-its-kind Regional Transportation Center (RTC) designed around alternative fuels. Created for use both by private motorists and fleets, the \$18 million facility includes sales of multiple fuels, an AFV showroom, a full service department staffed by AFV-trained technicians, and resources for education and technical training.

The new Regional Transportation Center (RTC) is owned by an investment group led by Pearson Ford, a San Diego dealership. Most of the facility will operate as a for-profit business, says Mike Lewis, general manager of operations. But the site also includes a nonprofit education center, complete with an auditorium, financed in part by Ford Motor Company. Grant funding came from government agencies including the U.S. Department of Housing and Urban Development.

Located at the busy intersection of Interstate 15 and El Cajon Boulevard, the RTC will sell biodiesel, propane, compressed natural gas, and E85 fuel, along with gasoline and low-sulfur diesel. All fuel dispensers will be nearly alike in appearance, with fuel brands identified only by inconspicuous signage. The intent is to appeal to consumers by “packaging alternative fuels as mainstream products,” says Greg Newhouse, chair of the San Diego Regional Clean Fuels Coalition.

Another objective behind the facility is to bring alternative fuels to government fleets that operate many bifuel and flexible fuel AFVs, says Newhouse. Such vehicles have the ability to run on alternative fuels—earning them credit under regulatory AFV acquisition mandates—but often they’re operated on gasoline. The site’s location is easily accessible to many state and federal agencies.

On display in the vehicle showroom are AFVs from Ford, including CNG- and LPG-fueled F-150 pickup trucks, flexible fuel Explorers and Taurus sedans, and CNG vans. The showroom may add other vehicle makes in the future, says Lewis. Like any auto dealership, the facility will offer prospective buyers the opportunity to test-drive vehicles. Also offered will be short-term AFV rentals.

Education on alternative fuels and air quality will be offered to middle and high school students, bused to the site on a newly acquired CNG bus. In the service department, San Diego’s Miramar College will offer automotive technology education for vehicle technicians. “Training new technicians is a critical part of San Diego’s overall development and use of alternative fuels,” says Newhouse.



Artist's rendering of the RTC in San Diego, which opened on August 8.

City of San Diego/PIX 12694

