Formerly Clean Cities News

Clean Cities Now

Official Publication of Clean Cities and the Alternative Fuels Data Center

Vol. 11, No. 1 - January 2007

Clean Cities Now (www.eere.energy.gov/cleancities/ccn) is the official publication of Clean Cities, an initiative of the U.S. Department of Energy designed to reduce petroleum consumption in the transportation sector by advancing the use of alternative fuel vehicles, idle reduction technologies, hybrid electric vehicles, fuel blends, and fuel economy.

Tax Credit Turns Alternative Fuels into Cash for Government and Nonprofit Fleets

A new federal alternative fuel tax credit went into effect October 1, 2006, as part of the 2005 Transportation Act. That's good news for alternative fuel providers. It's even better news for tax-exempt organizations like government fleets, which in some cases can receive cash payments for their alternative fuel use.

The tax credit is $0.50 per gallon of liquid alternative fuel or gasoline gallon equivalent (GGE) of compressed natural gas (CNG). The credit can be claimed by the entity that would be responsible for paying excise tax on the fuel. The fuel seller is responsible for paying excise tax when the fuel sale involves delivery of the fuel into a motor vehicle. For example, a retail fueling station that dispenses fuel from its equipment directly into customers' vehicles pays the excise tax and claims the credit.

If the fuel sale does not involve direct delivery of fuel into a motor vehicle, the operator of the motor vehicle that eventually uses the fuel is responsible for the excise tax. For example, a fleet that buys alternative fuel in bulk and dispenses it into their vehicles using their own (or a third party's) equipment pays the excise tax and claims the credit.

The benefit for taxable organizations equals the $0.50 per gallon credit minus the excise tax, which varies based on fuel type from $0.183 per gallon of propane or GGE of CNG to $0.243 per gallon of liquefied natural gas (LNG). Government and certain nonprofit organizations that qualify for the credit but do not have excise tax liability can receive cash payment from the federal government for the full $0.50 per gallon. This amounts to a considerable sum for tax-exempt organizations with large AFV fleets.

"We are very excited about the tax credit," says Heloise Froelich, Environmental Supervisor with the Los Angeles Environmental Affairs Department, Air Quality Division, and coordinator of the Los Angeles Clean Cities Coalition. "One of our coalition members, the City of Los Angeles Bureau of Sanitation, has estimated the city could receive more than $1 million in payments every year from the use of LNG in its clean fuel refuse collection fleet of 260 vehicles." Credits will accrue from other parts of LA's nation-leading AFV fleet as well. A fueling contract negotiated with an alternative fuel provider at Los Angeles International Airport is already passing savings from the credit along to the city.

This credit applies to CNG, LNG, propane, and several other less frequently used fuels: P-Series fuels, liquefied hydrogen, liquid fuel derived from coal, and liquid hydrocarbons derived from biomass. The credit does not apply to ethanol or biodiesel. These fuels receive different incentives—see the Incentives and Laws section of the Clean Fleet Guide for information.

To claim the credit, alternative fuel users must register with the Internal Revenue Service and file a request for payment. For details, see NGVAmerica's summary of the alternative fuel credit and IRS Notice 2006-92. The credit expires in September 2009.

New Haven, Palmetto State Awarded Hybrid Fuel Cell Bus Demo Funding

The Greater New Haven Clean Cities Coalition in Connecticut and the Palmetto State Clean Fuels Coalition in South Carolina are two of 16 organizations recently awarded funding to demonstrate hybrid electric hydrogen fuel cell buses in their regions.

This three-foot model represents the full-size, composite-bodied, hybrid fuel cell bus MES designed for the demonstration project.

Photo contributed by MES

The coalitions, led by Lee Grannis and Wendy Bell, respectively, are part of an integrated project development team led by Innovation Drive, which organized the four-year program. The mission of the Innovation Drive project, estimated to cost $13.1 million, is to demonstrate the viability of hybrid electric fuel cell technology in real-world revenue service and to provide baseline cost data to transit operators for budget planning purposes.

The Federal Transit Administration awarded $5.67 million to the project as part of its 2015 Goals for the National Fuel Cell Bus Program. Innovation Drive's integrated product development team will provide more than 50% in matching funds to complete the project, which includes the design and manufacture of a bus by Mobile Energy Solutions (MES) of Golden, Colorado.

New Haven Clean Cities will help with collecting data on and validating the bus; its stakeholder, Connecticut Transit, will operate the buses. Palmetto State will promote and market the demonstration project in its area, while its stakeholders, University of South Carolina and Central Midlands Regional Transit Authority, will operate the buses.

Triangle Coordinator Attends Conference in Trinidad

Tobin Freid, coordinator of Triangle Clean Cities in Raleigh-Durham, North Carolina, represented Clean Cities International at Energy and the Competitiveness of the Caribbean, a trade and investment forum held in Port of Spain, Trinidad, September 6-8, 2006.

The Caribbean countries of Trinidad and Tobago and St. Vincent and the Grenadines are expressing interest in CNG and biodiesel.

With an educational background in international environmental policy in Latin America and the Caribbean, Freid was the perfect fit for the two-day event. Her mission was to increase awareness of Clean Cities and identify potential project partners. "We were looking for groups that have started alternative fuel related projects but needed more help," Freid says. "We wanted to let them know that we have resources available."

Freid returned to the United States with two potential partners and projects. One initiative focuses on helping St. Vincent and the Grenadines develop micro biodiesel refineries on several of its islands. The area's coconut industry has its sights set on biodiesel because coconut oil can be used as a feedstock. These islands also produce jatropha, a native plant that is also a good feedstock candidate for biodiesel. The use of biodiesel on

St. Vincent and the Grenadines will not only create jobs, it will decrease the emissions of carbon dioxide, a greenhouse gas that contributes to global warming.

Another potential project comes from Trinidad and Tobago, which would like to institute a compressed natural gas (CNG) transit bus service on Tobago after a CNG pipeline is built. Because Trinidad and Tobago are producers of natural gas, CNG is a good fit for the countries. Tobago in particular is known for its eco-tourism; clean CNG buses will reinforce that image.

The U.S. Department of Energy's Office of Policy and International Affairs is currently considering the projects.

Detroit Clean Cities Teams with BP, DaimlerChrysler on Hydrogen Fueling Site

On October 23, 2006, BP, DaimlerChrysler, and NextEnergy dedicated a new hydrogen fueling station at NextEnergy Center in Detroit—home to the city's local Clean Cities coalition. The station is part of a U.S. Department of Energy (DOE) project designed to facilitate the field-testing of fuel cell vehicles and hydrogen fueling infrastructure in the United States.

A Mercedes FCell fuels up at NextEnergy's new hydrogen station in Detroit.

Photo contributed by NextEnergy

The BP hydrogen station will supply fuel to DaimlerChrysler fuel cell vehicles; it is supported by DOE's five-year fuel cell vehicle and infrastructure validation effort. Currently, DaimlerChrysler has more than 30 fuel cell vehicles with U.S. customers and more than 100 around the world.

NextEnergy is proud to participate in the project. "It allows us to provide a platform for alternative fuel innovators like BP and DaimlerChrysler to test and validate their technologies," says Dan Radomski, coordinator for Detroit Clean Cities.

35,000 Attend 2006 Odyssey Day Events

Held October 12, 2006, this year's National Alternative Fuel Vehicle (AFV) Odyssey Day was the largest one to date. According to the National Alternative Fuels Training Consortium (NAFTC), more than 35,000 individuals attended local events hosted across the country and an additional 30 million were reached through media coverage. In total, 33 states and provinces and three international sites participated. Of those, 23 events were hosted by Clean Cities coalitions.

In 2006, Clean Cities coalitions hosted 23 Odyssey Day events nationwide.

Photo contributed by NAFTC

The national kickoff was hosted by the Arlington County Government and NAFTC in partnership with Clean Cities Virginia and the U.S. General Services Administration on the Arlington, Virginia, Courthouse Plaza. The kickoff showcased 23 alternative fuel and advanced technology vehicles, including a Toyota hydrogen fuel cell vehicle prototype, a GEM neighborhood electric vehicle, and a Honda Civic GX. Among the visitors were several area school groups.

The 2006 event sponsors included DaimlerChrysler, GEM, Honda, Toyota, and John Deere. Additionally, Electric Drive Transportation Association, Fuel Advantage magazine, National Biodiesel Board, National Ethanol Vehicle Coalition, New West Technologies, U.S. Department of Energy Clean Cities, and West Virginia University were all contributing partners.

Ann Arbor Selected in Clean-Energy Assistance Program

The Responsible Purchasing Network (RPN) and Think Energy, Inc., recently awarded renewable energy purchasing assistance to the City of Ann Arbor, Michigan—home to the Ann Arbor Area Clean Cities Coalition. The State of Wisconsin and the City of Cambridge, Massachusetts, also received the award.

The purchasing assistance, which does not include funding, is part of the Center for a New American Dream and Think Energy's Clean-Energy Assistance Program, whose goal is to provide a model for how state and local governments can reduce their dependence on fossil fuels through the purchase of electricity from renewable sources. Consultants from the assistance program will guide the recipients on their purchasing plans.

The timing for the assistance couldn't be better, says Dave Konkle, coordinator for the Ann Arbor Area Clean Cities Coalition, which has electric vehicles in its district. In May 2006, the city council passed a resolution stating that the city obtain 30% of its energy needed for city operations from renewable sources such as wind, biomass, solar, and small hydro by 2010. "The purchase of green electricity is a critical component of this plan," says Konkle. "This purchasing assistance program will help ensure that we have good information available to make the best decisions for the Ann Arbor community."

The year-long purchasing program was launched in October 2006 and will end October 2007. For more information, visit RPN's Web site.

Program News

Clean Cities Announces Grant Awardees

In October the U.S. Department of Energy announced 16 recipients of $8.6 million in Clean Cities grants. Final details of the grants are currently being negotiated. Thirteen of the 16 grants are for refueling infrastructure for E85 and other alternative fuels, two are for idle reduction training and awareness for school districts, and one is for the incremental cost of alternative fuel vehicles.

When combined with the awardees' cost share, the grants contributed to a total project value of more than $25 million. For a table of detailed information on the grant recipients' projects, visit the Financial Opportunities section of the Clean Cities Web site.

Industry News

E85 Conversion Kits: Setting the Record Straight

Due to growing interest in E85, more and more consumers are asking coordinators whether they can convert conventional vehicles to run on E85. The answer: not legally.

In the 1980s and early 1990s, various companies offered kits to convert conventional vehicles to run on alternative fuels. The U.S. Environmental Protection Agency (EPA), however, found that many of these conversions increased tailpipe emissions. To combat the problem, EPA implemented regulations requiring conversion kits to be tested and approved if they change a vehicle's emissions in any way—better or worse. With no kits yet approved for E85, converting conventional vehicles to run on E85 violates federal law.

Today several companies, some of which currently sell conversion kits in Brazil, are expressing interest in getting U.S. approval, but the EPA certification process is not simple, and none have yet reached the stage of submitting an application for certification. Without testing and certification, conversion kits are illegal and converted vehicles may fail emission standards or encounter serious problems from fuel system corrosion.

For consumers wishing to use E85, their best bet is to purchase a new or used flexible fuel vehicle (FFV). However, they may already be driving one. Because manufacturers receive credit towards Corporate Automotive Fuel Economy (or CAFE) standards for producing FFVs and do not generally charge extra for them, many dealers are unaware or do not mention that vehicles are FFVs, so many owners do not realize that they have an FFV. Nearly 5 million FFVs are estimated to be on U.S. roads already; very few, however, run on E85. To find out if their vehicle is an FFV, consumers can check inside their fuel doors for a small decal indicating ability to use E85 or gasoline. They can also search the Clean Fleet Guide for a detailed list of available FFVs.

Consumers should not fuel their conventional, gasoline-only vehicles with E85. To accommodate E85, the fuel system must be corrosion resistant. Because ethanol is more corrosive than gasoline, FFVs have stainless-steel fuel tanks, Teflon-lined fuel hoses, and other corrosion-resistant parts that standard vehicles do not have. Frequent use of E85 in a standard vehicle could damage fuel injectors, the fuel pump, or other components, and could cause other serious operating problems. It can also interfere with pollution control systems. FFVs also have fuel/air mixing appropriate to the oxygen content of the E85 (ethanol (C2H5OH) differs from gasoline (HxCx) in that it contains oxygen). Even though most modern vehicles have oxygen sensors and computerized fuel injection allowing for some adaptation to the oxygen content of the fuel, the computers and sensors also adjust operation of numerous air emission devices. They cannot be reprogrammed after installation and cannot fully adjust to the large oxygen content difference, so still must be set for the expected fuel. Original equipment FFVs are actually tuned for optimal performance on regular unleaded gasoline—what nearly all would operate on most of the time...until now. Now that E85 is becoming more readily available, industry and regulators are starting to investigate tuning FFVs for optimal performance with E85.

Success Story

Greater Long Island Coalition Celebrates a Decade of Making a Difference

Ten years ago a small group of committed stakeholders formed the Greater Long Island Clean Cities Coalition (GLICCC) to address the ozone non-attainment status of New York's Nassau and Suffolk counties. Back then, there were 265,000 alternative fuel vehicles (AFVs) on the road nationwide, the United States imported 3.5 billion barrels of oil per year, and the average gasoline price was $1.25 per gallon.

Today, GLICCC is celebrating a decade of making a difference and looking forward to the challenges ahead. The coalition has secured almost $10 million in Congestion Mitigation and Air Quality grants to support AFV and alternative fuel infrastructure projects. It has directly funded the deployment of more than 250 AFVs, and the total number of AFVs in the coalition service area has increased 700%.

Another achievement has been public outreach. GLICCC hosts an Advancing the Choice event each fall, drawing fleet operators from across the region to learn about the latest advances in vehicle technologies. Two years ago it initiated a seminar series, with each seminar focusing on a single topic such as biodiesel, alternative fuel school buses, and the municipal AFV market. The coalition participates in other outreach events, such as Earth Day, as well.

"Clean Cities is proud of the Greater Long Island Coalition's 10 years of accomplishments," says Marcy Rood, Deputy Director, Clean Cities. "When I attended its designation in 1996 there was so much enthusiasm among stakeholders. I had a strong feeling it would succeed—and Greater Long Island has proven me right."

One key to GLICCC's success has been its collaborative structure. "We have an active board of directors and executive committee along with committees for specific projects," says GLICCC coordinator Andria Adler. "Because many people are involved, things get done more effectively than if one person was doing everything."

Choosing the right host organization is also important. "A good host can support the organization in between funding cycles," says Adler. In 2000, GLICCC became a clean air program at the

Long Island Forum for Technology (LIFT), a state-funded economic development organization.

GLICCC is not resting on its laurels. It is creating a new five-year plan that includes a focus on penetrating specific vehicle markets such as refuse trucks. It is also funding and promoting Long Island's first publicly accessible E85 station and supporting the continuation of single-passenger AFV use of the Long Island Expressway's high-occupancy vehicle lane.

Today, there are more than 550,000 AFVs on the road, and hybrid vehicles are selling in large numbers. The United States imports 5 billion barrels of oil per year. The average gasoline price is $2.30 per gallon, with recent New York prices topping $3.25 per gallon. "In the past, it was a challenge to get people to listen and think about vehicle options, but the situation today has made AFVs much more visible," says Adler. "It was important for us to stick with our message during the harder times. Now we're looking forward to even bigger successes."

GLICC's Decade of Progress

	October 1996	October 2006
Stakeholders	12	259
AFVs	269	1,900
Hybrid Electric Vehcles	0	2,100
Alternative Fueling Sites	20	30

International News

Binational Collaboration Turns Restaurant Grease into Biodiesel

Colleen Crowninshield, manager of Tucson Regional Clean Cities at the Pima Association of Governments, is working with a Mexican border city to turn restaurant grease into biodiesel.

A NTI student transfers oil in the production of biodiesel.

Photo contributed by Tucson Regional Clean Cities

Sponsored by the Ambos Nogales Air Quality Task Force, the project is part of the Environmental Protection Agency's (EPA) Border 2012 Initiative, a federal program to address health and environmental issues along the United States-Mexico border. For the last four years Crowninshield has actively participated in the task force, which focuses on improving air quality conditions in the sister cities of Nogales, Arizona, and Nogales, Sonora (Mexico), just 60 miles south of Tucson.

The first step in the project was for the Arizona Department of Environmental Quality (ADEQ) to identify issues in the Nogales area. One concern it cited: restaurant grease in wastewater—one of many culprits contributing to sanitary sewer overflows from the wastewater conveyance impacting Nogales Wash, which runs north into Arizona.

"Although the wastewater utility is developing a pretreatment program, it doesn't yet enforce a system to properly dispose of restaurant cooking oils. Therefore, many businesses just pour it down the drain," says Crowninshield. "We are trying to alleviate the problem by creating incentives for people to recycle this material for the manufacture of biodiesel."

In late 2005, the University of Arizona, the Nogales (Sonora) Technical Institute (NTI), ADEQ, and Tucson Regional Clean Cities teamed up to coordinate the effort. Together, the partners identified how restaurateurs handle their waste grease. Based on a survey conducted by NTI students, 53% dispose of their grease down the drain, 35% dispose of it in the sewer system, and 12% dispose of it via pick-up service."

When the students followed up the survey by asking restaurant owners if they would allow a company to pick up their grease for free, the owners responded with an "overwhelming yes," says Crowninshield. At this time, the students were already experimenting with converting waste grease into biodiesel and tested different formulas to ensure a high quality product.

The next step was to find area businesses willing to use the biodiesel. Word spread of the project, and two local fire districts from the sister cities expressed interest in using it in their trucks. As a result, a proposal was submitted and approved to receive $90,000 through EPA's Border 2012 Program. When the contract is signed early next year, the money will fund source characterization of waste oils and establish two biodiesel rendering facilities—one on each side of the border. These sites will produce a total of 1,000 gallons of biodiesel over two years. The biodiesel will be mixed with petro-diesel at a 20% blend for use in the fire districts' emergency response equipment.

"You know the old saying, 'It takes a village to raise a child?' Well this is no different," Crowninshield says. "No one entity can take on these tasks and be successful. But when everyone joins forces, combines funding and knowledge, we can build the foundation to make a huge difference."

New Resources

2007 Fuel Economy Guide

The 2007 Fuel Economy Guide is now available on www.fueleconomy.gov/feg/feg2000.htm. Check out this latest version, which contains detailed information on conventional and alternative fuel vehicles offered in model year 2007.

Yahoo! Green Car Center

In collaboration with Environmental Defense, Web search engine Yahoo! launched the Green Car Center (http://autos.yahoo.com/green_center/;_ylt=AvfXEs6EodM3ZfE4MjjuGo8Ec78F), a new section that rates vehicles based on fuel economy, toxic emissions, and pollution generated in production. Green ratings are provided for a wide range of vehicles and accompanied by a wealth of related information.

Biomass Energy Data Book

The Biomass Energy Data Book is now available on the Oak Ridge National Laboratory Web site (http://cta.ornl.gov/bedb/index.shtml). This convenient reference book represents an assembly and display of statistics and information that characterizes the biomass industry, from the production of biomass feedstocks to their end use.

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. 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 diverse portfolio of energy technologies.

For more information contact: EERE Information Center 1-877-EERE-INF (1-877-337-3463)
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DOE/GO-102007-2376
January 2007

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