Alternative Fuel Programs for Municipal Fleets

A City Practice Brief **Fall 2008**

Faced with the impact of rising fuel costs on city budgets, municipalities are realizing the importance of environmental sustainability or ñgoing greenò with their vehicle fleets. Local governments are doing their part by proactively researching alternative fuel methods and implementing Green Fleets ï city owned and operated cars, buses and trucks which use alternative fuels or take advantage of environmental sustainable technologies. These programs reduce costs by reducing dependency on high-priced gasoline and diesel fuels through the introduction of alternative fuel sources.

In scanning the alternative fuel and vehicular technology programs being implemented in U.S. cities, the most important consideration is identifying the municipalityôs needs. By researching the economic and environmental factors associated with the various alternative fuels and technologies available, city leaders can determine which options best meet their cityôs needs.

Following are some examples of environmental sustainable fuel and technology programs which can easily be implemented in any city. For more examples, visit the City Practices database on the NLC website or contact the NLC Municipal Reference Service at (202) 626-3130 or mrs@nlc.org.

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Light & Heavy Duty CNG Trucks

City: **Lake Jackson, Texas** Population: 26,386

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Lake Jackson, Texas, has begun replacing its light-duty and heavy-duty diesel trucks with vehicles powered by compressed natural gas (CNG). The City currently has 15 light-duty pick-up trucks, two rear-loader refuse trucks for residential garbage collection, and one roll-off refuse truck for commercial garbage collection. In addition, the city has a CNG forklift. For the light-duty trucks, the city pays approximately $4,000 more than it would for diesel trucks. The City has, however, received some small rebates from the Department of Energy to help cover the cost. The city pays an incremental cost of $55,000 to $60,000 for new CNG vs. new diesel heavy-duty refuse trucks. A federal Congestion Mitigation and Air Quality Improvement grant covers 20 percent of the incremental cost. It is estimated that the total fuel cost savings will be $130,000 in 2009. The city has also expanded its CNG program to include three CNG Honda Civics, which are operated by the state health inspectors.

Biodiesel Fleet

City: **Fayetteville, Arkansas** Population: 68,726

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In the fall of 2005, the City of Fayetteville tested using biodiesel (B-20 fuel) in its fire department vehicles. The pilot program was initialized in order to determine if biodiesel was an appropriate alternative fuel for the city's needs. The city was testing for the following problems related to biodiesel use: reduced mileage, reduced power output, clogging of fuel filters and the increased chance of fuel gelling during the winter months. After about two months of use it was determined that there were no problems related to the use of B-20. In June 2007, after several months of the engineering and bidding process, the city of Fayetteville opened its new fuel facility and began pumping a B-20 blend into all of its diesel powered equipment, slightly over half of the fleet, and two thirds of total fuel use. Since the program's inception, the city has replaced 70,000 gallons of petroleum fuel with B-20 annually and is currently saving 2.4 cents a gallon with B-20 versus petroleum diesel.

Evanston Fuel Station

City: **Evanston, Illinois** Population: 74,239

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Evanston has an alternative fuel dispensing station for use by the city's fleet, as well as the fleets of neighboring Skokie and Northwestern University, and the general public. The three entities used a grant to create a business authority called EVNORSKO that owns and operates the station. The facility dispenses compressed natural gas (CNG) that helps the entities comply with the Clean Air Act and the Energy Policy Act. The city selected CNG fuel over an ethanol blend because manufacturers make more CNG vehicles. The three entities have 47 vehicles that use the alternative fuel, which reduced annual emissions by 9,600 pounds of hydrocarbons, 126,000 pounds of carbon monoxide, and 10,000 pounds of nitrogen oxides in three years.

Green Fleets Policy

City: **Ann Arbor, Michigan** Population: 113,206

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Ann Arbor's Green Fleets program, started in 2004, aims to reduce the City's fuel use by 10% by 2014 through the purchase of fuel efficient and alternative fuel vehicles. Ann Arbor's Green Fleets Policy Team worked together to create the policy, gathering information and policies from other US cities that are operating or creating similar programs. After reviewing all of these programs, the Policy Team recommended: the creation of a Green Fleets Team to review the purchase and operation of City vehicles; a 20% green incentive to facilitate the purchase of a greener project if it is within 20% of the low bid; a program goal of ten percent reduction in fuel use in ten years and a program goal for the purchase of alternative fuel vehicles to comprise at least ten percent of vehicle purchases annually. Ann Arbor currently operates two natural gas heavy-duty trucks, sixteen other natural gas vehicles, two neighborhood electric vehicles, over 150 pieces of equipment running on biodiesel and a fuel cell car. Additionally, the Green Fleets Team oversees the implementation of the policy and reports on progress towards reaching the established goals. The Team reviews annual fuel use data and vehicle purchases provided by fleet managers to determine compliance with policy requirements and measure progress

towards the policy goals. The Team performs an annual review of the policy's vehicle mileage and emissions standards and will update them as improved technologies become available. The Team may amend the policy, as necessary, to better match the spirit of the Green Fleets Program, and more effectively achieve its goals.

Green Fleet Initiative

City: **Colorado Springs, Colorado** Population: 372,437

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The City of Colorado Springs has been aggressively expanding its alternative fuel use since 2003, when it began using biodiesel in vehicles with diesel engines. In order to expand on its green fleet initiative, the City created an ethanol fuel (E85) pump at its central fleet maintenance facility. The pump will serve 100 flex-fuel vehicles and dispense an estimated 10,000 gallons of E85 in its first year. Flex-fuel vehicles are designed to run on gasoline or a blend of up to 85 percent ethanol. About 30 percent of the ethanol filling station was funded by a $15,000 grant from the Governorôs Biofuel Coalition and the rest was split by the city and Colorado Springs Utility. In addition to the new pump, the city has been replacing older vehicles with electric, hybrid or flex-fuel vehicles. Now, more than half of the cityôs fleet, which used a combined 2.4 million gallons of fuel annually, operates on alternative energy.

Alternative Fleet Services

City: **Las Vegas, Nevada** Population: 478,434

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The City of Las VegasôFleet Services is actively engaged in deploying an increasing number alternative fueled vehicles (AFV) that has garnered local and national accolades. The effort has resulted in showcasing the City as a test-bed of innovative technological advancements in cleaner burning fuels that are domestically produced from renewable energy sources, resulting in improved air quality and good business models to boost the local economy. Las Vegas has acquired $13.0 million in federal grants to support the deployment of alternative fuel fleet vehicles throughout the city. The Alternative Fleet Service efforts have included; converting 125 pick-up trucks to compressed natural gas (CNG),introducing 165 biodiesel vehicles, and operating a total alternatively fueled fleet of nearly 1,200 vehicles.

Renewable Fuel Standard

City: **Portland, Oregon** Population: 529,121

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The City of Portland uses a local Renewable Fuel Standard (RFS). Approved by the City Council in 2006, the citywide RFS requires a minimum of 5% blend of biodiesel and 10% ethanol for all vehicle fuel sold within city limits. To encourage biofuel production, the City of Portlandôs Office of Sustainable Development created the Biofuels Investment Fund, a grant program to help transform transportation fuels and home heating oil markets by making high blends of biofuels readily available in Portland. Grant amounts range from $40,000 to $200,000. A complementary, but separate grant program is available to help retailers and fleets with infrastructure costs of installing, retrofitting and cleaning fueling equipment to offer the biofuel directly to end users.

A Green Fleet for Denver

City: **Denver, Colorado** Population: 554,636

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On Earth Day in 1993 the City of Denver became the first city in the nation to create a Green Fleet program. The program was enacted through an executive order which called for a reduction in both carbon emissions and fuel expenditures. To comply with this, the city created a completely green fleet of 3,533 vehicles. These vehicles use a combination of alternative fuels and technologies, including hybrid technology, compressed natural gas, gasoline/compressed natural gas dual fuel, biodiesel, propane and electric. Annually, the program has saved the city $40,000 in operation and maintenance costs and $100,000 in capital costs by not purchasing some of the vehicles requested.

King County Metro Transit

City: **King County, Washington** Population: 1,859,284

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King County Metro Transit uses re-refined oil for its bus fleet. This allows the 80,000 gallons of oil circulating in the fleet at any given time to be used repeatedly rather than thrown away. This saves energy and reduces the quantity of oil discarded into the waste stream. The re-refined oil used by the county metro system must meet the same American Petroleum Institute (API) standards as conventional refined oil that the U.S. Department of Defense and the U.S. Postal Service use for their fleets. To re-refine used oil, it is initially cleaned of contaminants such as water, dirt, fuel, and additives through vacuum distillation. It is then treated and combined with fresh additives to make a usable lubricant.

Yellow Cabs Go Green

City: **New York City, New York** Population: 8,214,426

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In order to reduce emissions, the City of New York has implemented a policy requiring all 13,000 of the cityÕs yellow taxicabs to be replaced with hybrid vehicles by 2012. The new vehicles run on electricity while idling or in slow-moving traffic and switch to a gasoline-powered engine at higher speeds. The cars are improving the current mpg from 17 mpg to 36 mpg and also reduce greenhouse gases by roughly 40 percent. But, because hybrids can cost an additional $20,000 compared to the used Ford Crown Victorias commonly used as taxis, which can be purchased for about $8,000, some taxi fleet owners need incentives beyond the potential savings in fuel costs. In New York, taxi owners who switch to hybrid vehicles earn a $2,000 income tax credit under federal and state law and a $3,000 sales tax rebate. Also, the city allows hybrid taxis to remain in service one to two years longer than regular taxis. Although New York taxis are privately owned and operated, the cityÕs Taxi and Limousine Commission heavily regulates the industry.

This Brief was developed by Timothy Davis, Municipal Reference Service Intern, National League of Cities.

City Practices Briefs contain examples from NLCÕs City Practices database, available at www.nlc.org. Series editors: Bruce Calvin and Larry Foxman. For more information contact the NLC Municipal Reference Service at (202) 626-3130 or email mrs@nlc.org.

