

# Compressed Natural Gas (CNG) Vehicles

# Fact Sheet



*ACUA uses CNG collection vehicles to reduce emissions and save on fuel costs.*

Natural Gas is responsible for over 30% of our nation's energy supply. Abundant, clean, and produced in the United States, natural gas is becoming widely accepted as the smartest alternative to gasoline and diesel fuels, especially in heavy duty fleets. The same natural gas that is used to heat homes and offices has been utilized for many years as a transportation fuel by compressing the gas for storage on vehicles.

Since 2010, ACUA has been working to green its fleet by using vehicles fueled by Compressed Natural Gas (CNG), and helping to increase access to this clean fuel by constructing a CNG Fueling Station at its solid waste facilities in Egg Harbor Township. ACUA contracted with Clean Energy Fuels to build, operate and maintain the station which is

used by ACUA's collection fleet, as well as outside fleets. The station is equipped with two dual hose "fast fill" dispensers powered by two compressors, and is designed with ability to expand capacity by adding additional dispensers as demand increases.

## **NJ Clean Cities Coalition Grant Award made CNG station possible**

The ACUA, along with four New Jersey partners, was awarded \$14.9 million in funding from the US Department of Energy's Clean Cities Recovery Act for alternative and advanced vehicles. The Clean Cities program is a government-industry partnership with the mission of advancing economic, environmental and energy security in the United States by expanding the markets for alternative fuel and advanced technology by reducing petroleum consumption in the transportation sector. In 2009, the Clean Cities program awarded nearly \$300 million in funding from the American Recovery and Reinvestment Act to 25 projects across the country. These projects were intended to accelerate the transformation of our country's fleets, putting over 9,000 efficient, alternative fueled vehicles on the road, and helping to build the infrastructure to support them with 542 fueling stations. These 25 projects alone could displace 38 million gallons of petroleum per year.

In New Jersey, ACUA's Coalition Partners include the Atlantic City Jitney Association, Central Jersey Waste of Trenton and Waste Management of Camden. ACUA was awarded \$2 million in funding which was used to build a CNG fueling station, offset the cost of purchasing 15 CNG collection vehicles, and make necessary changes to the ACUA Maintenance Center where the new CNG vehicles are serviced.

## **Maintenance Center Modifications**

Modifications to the ACUA Vehicle Maintenance Center ensure the safety of staff working on the trucks, and include sensors to detect gas leaks. Changes in ventilation and lighting take into consideration the fact that gas rises when leaked, as opposed to pooling on the ground like diesel and other liquid fuels. Mechanics have also undergone training to become ASE certified in alternative fuels through a CNG Heavy Duty Truck Course.



### ACUA's Natural Gas Vehicles (NGV)

There are about 175,000 NGVs on U.S. roads today and more than 23 million worldwide. Waste collection trucks, like the ACUA fleet, are one of the fastest growing segments in the NGV market.

The ACUA initially purchased 15 collection trucks with funding assistance through the U.S. Department of Energy Recovery Act. These Natural Gas Vehicles (NGV) were designed to collect both municipal waste and recyclable materials for ACUA collection operations.

The ACUA's first five CNG powered trucks went into service in May of 2010 and an additional 10 CNG trucks went into service in Spring of 2011.



*ACUA currently has over 60 CNG vehicles in its fleet.*

The Authority continues to add to our CNG fleet and currently has 53 collection trucks and 27 additional CNG vehicles including pick up and utility trucks, roll-off trucks and a street sweeper.

The ACUA will continue to replace its diesel trucks with CNG models as part of its fleet replacement schedule. As aging diesel trucks are replaced with CNG trucks, ACUA savings on fuel costs increase while harmful emissions are reduced in the communities it serves.

### Cost Savings

The ACUA has saved more than \$1,130,700 through 2019 based on fuel cost savings compared to diesel. The savings on fuel cost will fluctuate based on the oil and natural gas markets, but commodity projections show a consistent long-term savings on the cost of natural gas over diesel fuel. In 2019, the ACUA averaged approximately \$0.74 in savings per gallon compared to diesel.

### In 2019:

ACUA saved over \$181,000 in fuel costs;

ACUA saw a total benefit of more than \$414,600 from cost savings, CNG sales revenue, and federal tax credits;

ACUA reduced its fleet emissions by 897 metric tons of CO<sub>2e</sub> with CNG.

### Emissions Reductions

In addition to the cost advantages of operating an NGV comes a reduction in urban emissions and greenhouse gases. Replacing a typical vehicle with a new NGV provides the following emissions reductions:

- Carbon monoxide (CO) by 70 – 90 percent
- Non-methane organic gas (NMOG) by 50 – 75 percent
- Nitrogen oxides (NO<sub>x</sub>) by 75 – 95 percent
- Carbon dioxide (CO<sub>2</sub>) by 20 – 30 percent



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### For more information on CNG:

[www.cleanenergyfuels.com/main.html](http://www.cleanenergyfuels.com/main.html)

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

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

[www.ngvsnow.com](http://www.ngvsnow.com)

[www.afdc.energy.gov/afdc/fuels/](http://www.afdc.energy.gov/afdc/fuels/)

[natural\\_gas.html](http://natural_gas.html) [www1.eere.energy.gov/](http://www1.eere.energy.gov/)

[vehiclesandfuels/](http://vehiclesandfuels/)

[www.energy-vision.org](http://www.energy-vision.org)