



City of Richmond CNG Waste Haulers

Case Study
An ARRA EPA NCDC
Project

Case Study

1. Accomplishment

The City of Richmond's Department of Public Utilities, with assistance from Virginia Clean Cities, has launched a compressed natural gas (CNG) project as part of the Green Richmond Initiative. The Green Richmond Initiative was launched by the City of Richmond to build on its past efforts and implement new programs to further Mayor Dwight C. Jones' triple bottom line goals of sustainability. One component of the Initiative is the City's commitment toward alternative fueled vehicles for its city fleet. In early 2011, Richmond became the first city in Virginia to build a new compressed natural gas (CNG) fueling station to service its fleet of 25 new refuse collection trucks that run on CNG. This project was made possible through a \$29,000 grant awarded with the help of Virginia Clean Cities. The City is also using creative partnerships to assist the local public transit system to convert its buses to CNG and build a public CNG fueling station.

2. Significance

- The CNG program has enabled the city government to switch from an imported fuel with price and supply uncertainties to a domestically produced fuel that is distributed by the Department of Public Utilities under long-term firm contracts, thus enhancing supply and price stability
- The CNG program utilized creative public-private partnerships to establish a public use CNG facility within the city limits, furthering the economic development potential for CNG in the area and enabling other partners to participate in the program.
- Fostered a more efficient use of resources and improved quality of life in a number of ways:
 - Reduced the number of refuse trucks required from 37 diesel trucks to 25 CNG trucks
 - Reduced fuel costs
 - Lower emissions: 23% less greenhouse emissions and 50% less NOX than diesel

Case Study, (cont'd)

2. Significance, (cont'd)

- No diesel fuel to leak into ground water or the storm water system
- Reduced noise
- Higher capacity vehicles
- Helped to create and maintain jobs in the City of Richmond
- Increased VCC's visibility and reach in the Richmond region
- VCC was able to secure funding from an ARRA EPA NCDC project

3. Lessons Learned

This project faced some barriers to its successful final implementation, but the largest was the short timeline and process to build the fueling station and enable it to come into service in the timeframe required to provide the critical service of refuse pick-up for citizens. The project needed to be delivered on time as the City's plan was to convert it's entire fleet of refuse trucks to CNG. One helpful step towards this goal was gaining buy-in from employees. This was focused on early, and all involved employees recognized the value of the project.

Another barrier was that once the CNG facility was operational, the City had to work hard to ensure all refuse truck operators were properly trained and comfortable with the new equipment. Citizen education has also been an important part of the project. The refuse collection routes were studied and changed to provide more efficient routing for the new trucks so citizens had to be informed and brought on board. Through the successful implementation of this project, we learned that these are key aspects when dealing with complete conversions of critical service fleets.

4. Where to Find Information

- **Michael Kearns** is the Energy Services Manager for the city of Richmond. He can be reached at (804)646-5215 or michael.kearns@richmondgov.com.
- **Alleyn Harned** is the Executive Director of Virginia Clean Cities. He can be reached at (540)568-8896 or aharned@vacleancities.org.
- Virginia Clean Cities created a CCTV video highlighting this project. It can be found online at <http://www.youtube.com/user/VirginiaCleanCities#p/u/8/2P5KKOJSQGO>.