



March 11, 2008

## **Expanding Virginia's Alternative Fuels Corridors and reducing a primary green house gas through Fleet Conversion**

### Summary

The project intends to expand the Central and Northern Virginia alternative fuels corridor, link air quality improvements to the use of alternative fuel vehicles and demonstrate that the conversion to alternative fuels and petroleum conserving technology should be priority choices for improving air quality, limiting mobile-source GHG emissions and reducing dependence on foreign sources of energy.

The following objectives are key:

- Locate appropriate government and private fleets to convert to alternative fuels
- Develop fleet conversion proposals with work plans that document feasible alternative fuel options, necessary steps for conversion/implementation for each option analyzed, barriers to conversion, costs, benefits (i.e. air-quality improvements using tools such as EPA's Diesel Emissions Quantifier<sup>1</sup>, petroleum reduction potential, greenhouse gas reductions, economic benefit), etc.
- Develop a strong network of partners such as fleet owners, alternative fuel and infrastructure providers, alternative fuel distributors and suppliers, Virginia's Department of Environmental Quality, regional air quality and environmental bodies and decision makers, such as the Virginia Regional Environmental Management System (V-REMS).
- Assist each fleet in implementation
- Develop an easy-to-apply fleet conversion plan template which can be used by other fleets throughout Virginia using their own metrics

We propose to locate appropriate fleets with large fleet conversion potential. A comparative and detailed fleet analysis will be drafted based on fleet metrics gathered by Virginia Clean Cities in partnership with fleet managers in order to determine the best alternative fuel, petroleum reduction or technology option or options. See "Deliverables" section for more details. Conversion of vehicles to alternative fueled vehicles, the purchase of original equipment manufactured vehicles, idle reduction technologies, VMT reduction, fuel economy improvement, and the development of the alternative fueled vehicle infrastructure will all be considered as options for a particular fleet.

Clean Cities will bring individuals with the powers of decision making to the table, such as a Metropolitan Planning Organization or City Council. This is a key component to the success and long-term sustainability of an alternative fuel initiative. Arlington County is a great example of high-level leadership helping to sustain innovative practices. Arlington is the largest alternative fuel fleet in the Commonwealth of Virginia, in part, due to the leadership at the Board of Supervisors and especially the support from the former Bureau Chief, Ric Hiller. When the time is afforded to compile a sound business case containing a variety of options, buy-in at all levels can occur. A detailed comparative analysis will also give the fleet key benefits with which they can then promote and

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<sup>1</sup> Available online: <http://cfpub.epa.gov/quantifier/>

garner desired attention from the community. Positive feedback and attention from the media and the community are important to the continued expansion of an alternative fuel fleet.

Furthermore, Virginia Clean Cities has worked with James City County in the past on a petroleum reduction resolution that called for a 20% reduction in petroleum use by 2010 with respect to the amount used in 2003. The County also put in place accountability measures, which has helped keep them on track to meeting their goal and created an environment for innovation and proactive procurement practices. Virginia Clean Cities has tried to work with other jurisdictions to pass similar initiatives, but were hampered by the extreme time commitment required for many of the fleets that were starting from square one and did not have a “champion” to help carry the torch such as James City County has. Funding will allow us to commit the time necessary to lay out options the fleet can implement to meet a particular goal.

Another potential and very effective approach would be to educate lawmakers in the Commonwealth of Virginia. Virginia Clean Cities has not worked extensively on many policy related initiatives, but have heard from many other Clean Cities Coordinators that this has been a very effective use of their time. We have provided recommendations in the past to the Joint Committee on Fuel Efficient Vehicles and Transportation Funding including providing incentives to expand the use and production of alternative fuels, implementing elements of Executive Order 48,<sup>2</sup> leveraging surplus real estate, making alternative fuel infrastructure available to the public, restructuring the producer incentive fund, using new industry revenues to pay for incentives, and attracting biofuels producers to the Commonwealth. The letter used as a supplement to our presentation is attached to this proposal in the appendix. Funding restrictions have limited our ability to pursue lawmaker education in the past.

An example of how education can lead to substantial state investment in alternative fuels is the recently announced 2008 Clean Fuel Advanced Technology (CFAT) Project request for proposals.<sup>3</sup> More than \$555,000 is available to help reduce mobile emissions. The North Carolina Solar Center (NCSC) at NC State University and project partners are seeking proposals from governments, business, and/or non-profit fleet and fuel providers for transportation-related emission reduction projects. The CFAT Project is a 3-year, \$2 million dollar initiative of the NCSC, funded by federal dollars from the NC Department of Transportation, with state support from the State Energy Office and Division of Air Quality. In addition to providing assistance for emission reduction projects, such as purchasing alternative fuel vehicles, installing refueling infrastructure for cleaner-burning alternative fuels, retrofits on older diesel vehicles and idle-reduction technology, the CFAT project focuses on education and outreach to the 24 NC counties that do not meet national ambient air quality standards.

Such approaches will assist in the more rapid expansion of AFVs in the Commonwealth as well as create incentives, visibility and recognition for public and private fleets adopting a clean vehicle philosophy. Furthermore, Virginia Clean Cities will remain fuel neutral in its pursuit to convert large anchor fleets to alternative fuels to avoid limiting the prospect of a successful project and enabling the fleet to implement what makes the most sense. Be that as it may, CNG has typically been the alternative fuel demonstrating the largest emissions and public health benefits upon comparative analysis. It is therefore our hope to remain focused on expanding the CNG portfolio in Virginia.

The limiting factor in CNG growth in Virginia has almost always been infrastructure costs. Virginia Natural Gas quoted the City of Chesapeake a minimum cost of \$500,000 for a fast-fill CNG station

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<sup>2</sup> <http://www.dmme.virginia.gov/DE/StateAgencyProgs/EO48.pdf>

<sup>3</sup> [http://www.ncsc.ncsu.edu/news/news\\_story.cfm?ID=311](http://www.ncsc.ncsu.edu/news/news_story.cfm?ID=311)

that could handle a fleet of CNG refuse vehicles. Municipalities often do not have the funding available to cover such costs, in addition to the cost of converting the fleet of vehicles.

Consequently, if Virginia Clean Cities can work with a large fleet and document the fleet specific opportunities for alternative fuel and quantify benefits, an alternative fuel provider would have the business case necessary to justify financing and maintaining a station. A reallocation of funding will also allow Virginia Clean Cities to spend time on assembling the proper team to accomplish such goals, and hopefully end up with a success story such as Clean Energy's Smithtown project.

The end goal is to work with appropriate fleets, develop fleet conversion proposals with work plans that document costs and benefits, determine which plan (may include multiple options) is most effective at achieving the particular fleet goals desired, achieve maximum petroleum reduction and environmental benefit, and create a fleet conversion plan template that other fleets can use and easily apply.

### **Leveraging Outcomes with Complementary Grants and News Coverage**

Virginia Clean Cities manages several additional projects that complement this proposal and offer opportunities to leverage materials and intellectual resources to improve and extend outcomes for all of the projects and extend the impacts of federal dollars used in this project and the others:

The Virginia Middle Peninsula Clean School Bus USA Project's objective is to promote healthful air, especially for student riders, by reducing diesel exhaust emissions from school buses in Virginia's Middle Peninsula through:

1. Installation of exhaust after treatment devices
2. Use of biodiesel blends and, possibly, a propane demonstration
3. Idle reduction through driver training
4. Early replacement of old buses with cleaner new ones

The Dragon Run Biodiesel project affects all of the Middle Peninsula counties in Virginia and encompasses portions of the land area of four of the six counties. This federally-financed initiative is exploring ways in which increased use and possible small-scale production of biodiesel could provide economic value to farmers and other landowners and, therefore, help to preserve current and historic agrarian and sylvan land uses to buffer a unique and sensitive watershed that is protected by a Special Area Management Plan.

Advancing the Choice (ATC) events are outreach and education events focused on the Clean Cities portfolio. An idle reduction focused ATC event is planned for early March in cooperation with the two main fleet manager associations in Virginia. Such events can further carry the message of various fleet conversion options, and help to solicit partners.

The Commonwealth and the Virginia Soybean Association funded the Biodiesel Retail Infrastructure and Marquee Fleet project, which includes money for biofuels education and cleaning tanks in preparation for the introduction of biodiesel blends, a standard protocol to be observed by school districts.

News media and outreach: Virginia Clean Cities works to provide multiple opportunities for local and statewide news media coverage through promotion of success stories. Arlington County is a perfect example, and has been featured by many news outlets in print, on TV and in videos.