

Clean Fuel Advanced Technology Success Story: City of Greensboro

NC STATE UNIVERSITY



Project

A total of \$2M in funding was provided to the NC Solar Center at NC State University by the NC Department of Transportation, State Energy Office and Division of Air Quality. Funds were used for the Clean Fuel Advanced Technology (CFAT) Project to reduce transportation-related emission in NC counties that do not meet national air quality standards. **The City of Greensboro received \$12,000 in CFAT funding to install 20 diesel oxidation catalysts (DOCs), a retrofit technology that is being utilized to reduce emissions on existing city refuse trucks.**

CFAT Impact by the numbers

Yearly Emissions Reductions:

134 kg/yr CO
30 kg/yr PM
32 kg/yr VOC

On the Road to Success:

- The City of Greensboro worked with Cummins Atlantic to install Fleetguard DOCs on the city's solid waste trucks.
- Cummins Atlantic staff worked with city technicians to properly install the addition to the exhaust systems, which requires little maintenance.
- When DOCs are attached to the vehicle's exhaust system, pollutants are oxidized by metals in the catalyst, thus minimizing the amount of harmful molecules that are released into the air.
- According to the U.S. EPA, Cummins DOCs can reduce particulate matter emissions by 30%, VOC emissions by 74%, and carbon monoxide emissions by 50%.



Additional Accomplishments

The City of Greensboro is committed to protecting the environment and to sustainability. Some other initiatives include:

- Use of biodiesel blends (B5-B20) since 2002
- Hybrid vehicle use in the Engineering and Inspections Department
- A hybrid bus expected in the next 12 months to be used by Greensboro Transit Authority
- A policy requiring that the City purchase the smallest, most fuel-efficient vehicle practical for the job
- Implementation of RouteSmart technology to make solid waste pick up more efficient. Over a six-month period, they decreased miles driven by 4,472, which is equal to about 1491 gallons of diesel fuel.

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For more information about Clean Transportation projects at the North Carolina Solar Center visit
www.cleantransportation.org

In 2006 the NC Solar Center at NC State University was awarded \$1.6M in Congestion Mitigation Air Quality funding from the NC Department of Transportation to reduce transportation related emissions in NC counties that do not meet national air quality standards¹. The NC Division of Air Quality and State Energy Office also contributed \$200,000 each. The two million dollar project covers three broad areas: education and outreach, recognition of exemplary activities, and project funding.

More than \$1.4M is being distributed for emission reduction projects. Funding recipients have contributed over \$1.2M in cost-share, rendering CFAT as a cost-effective way to reduce more transportation-related emissions.

Education and Outreach

- The NC Solar Center partnered with the **Triangle J Council of Governments and Centralina Council of Governments** for educational outreach in the Triangle and Charlotte regions.
- Outreach efforts have included annual conferences, technical workshops, presentations, regional meetings, and individual consultations.
- The 2007 *Mobilizing NC: Where Air Quality, Energy and Transportation Meet* attracted over 300 attendees and featured a ride n’drive , table-top displays and presentations about alternative fuels, advanced transportation technologies, fleet procurement policies, refueling options, incentives, and best practices examples. The 2008 symposium and awards took place at the Proximity Hotel in Greensboro with a capacity crowd of over 175 in attendance.
- A Spring 2009 event will feature a multiple location “Drive Clean and Green” event across NC to raise awareness about transportation technology solutions.
- Over 15 technology specific factsheets, dispenser and vehicle decals, conference displays and web pages featured at www.cleantransportation.org have been developed.

Mobile CARE (Clean Air Renewable Energy)

- Mobile CARE is an initiative to acknowledge leadership in reducing transportation-related emissions.
- Exemplary fleets, technology providers, programs, policies and individuals are nominated for annual awards presented by NC Dept of Transportation, State Energy Office and the Division of Air Quality.
- Quarterly Mobile CARE stakeholder meetings in the Triad and Upper Coastal Plain countries bring together public and private partners to learn and share information about transportation technology solutions ranging from biofuels to diesel retrofits.

Emission and Petroleum Reduction Projects

- Funds were used for transportation-related emission reduction projects in areas that do not meet national air quality standards.
- Up to 80% of project costs went to alternative fuel vehicles, refueling infrastructure, idle reduction technologies, heavy-duty hybrid electric vehicles and diesel retrofits.
- Thirty public and private entities were funded including a national park, local governments, school systems, service station owners and a company providing electrified parking spaces to reduce idling in long haul trucks.
- Overall, these projects will reduce petroleum consumption by 989,000 gallons per year, NOx emissions by 3,738 kg per year, VOC emissions by 990 kg per year, CO emissions by 59,873 kg per year, particulate matter emissions by 1,069 kg per year, and CO₂ emissions by 2,721,345 kg per year.



¹ CFAT eligible counties include Cabarrus, Catawba, *Chatham, Davidson, Davie, Durham, Edgecombe, Forsyth, Franklin, Gaston, Granville, Guilford, *Haywood, *Iredell, Johnston, Lincoln, Mecklenburg, Nash, Orange, Person, Rowan, *Swain, Union, Wake. (*Represents partial counties).