NC Mobile CARE Awards
April 13, 2011

Background:

The NC Mobile Clean Air Renewable Energy (CARE) awards were created in 2006 to recognize outstanding individuals and organizational efforts at reducing transportation related emissions. The NC Solar Center/NC State University, with support from the NC Department of Transportation, organized the 5th annual Mobile CARE awards as part of the Clean Fuel Advanced Technology Project.

Candidates in four categories: Individual, Fleet, Fuel/Tech Provider and Policy/Organization were sought and after evaluating more than two dozen nominations, the judges narrowed the winners to an impressive group of six. Some of the criteria the judges used to make their decision included:

- Expanding educational opportunities
- Conducting outreach
- Changing policies
- Length of involvement in alternative fuel/vehicle activities
- Perceived risk related to involvement
- Diversity of strategies/technologies employed

2011 Awardees

INDIVIDUAL: Dave Navey

Dave has a passion for vehicles and alternative fuels that he has put to good use through his employment at the Charlotte Truck Center for the past 4 ½ years. During this tenure, Dave has developed and conducted the “Green Truck Initiative” which has educated medium and heavy duty truck fleet owners about technologies for increasing fuel efficiency and saving money. He has introduced these fleet owners to electric hybrid, hydraulic hybrid, natural gas,
biodiesel, and plug-in electric options. In this realm Dave has excelled at expanding awareness about the use, benefits and availability of alternative fuels and advanced transportation technologies and related air quality benefits. His “Green Truck Initiative” is reaching fleets that otherwise might never consider alternative fuel vehicles. Moreover, Dave is practicing what he preaches, having purchased a natural gas Honda Civic GX as his personal vehicle that he often volunteers to display at various events. With over 60 events and ten presentations under his belt, Dave is doing a commendable job spreading the word both professionally and personally about alternative fuel vehicles.

**INDIVIDUAL: David Taylor**

David has engineered two innovations for advancing transportation technology by improving the serviceability and utility of existing Toyota Prius hybrid electric vehicles. The first innovation is a process for completely refurbishing Prius batteries that have failed. Rather than replacing the whole battery pack, the original units are retained, refurbished and re-used/recycled, reducing waste. The less durable parts in the battery packs are replaced with improved and upgraded parts, and all cells are upgraded to the more durable Gen2 design cells. To date, he has refurbished and installed 465 units. Customers have driven from throughout the Eastern USA to get their car refurbished at Re-Involt based at his shop, Taylor Automotive in Sanford, NC.

The second innovation is a complete Lithium-Ion retrofit kit for a Toyota Prius which expands the original vehicle’s range and utility to 50 miles in all electric mode. The kit essentially converts the Prius to a plug-in electric vehicle with a gas engine backup. David studied hybrid technology when his normal garage business slowed with the economic downturn. He experimented (using his own funding) to arrive at the process for refurbishing Prius batteries. He is working to license this technology in other countries as well as an option to enhance the life of the existing Prius vehicles worldwide. He is also working to provide an upgraded refurbishment kit for the Honda Civics currently on the road, again using his own resources. The investment in developing the Li-Ion Retrofit kit for the Prius was also significant as it involved reverse engineering the kit to be compatible with the original Prius electronics, controls, and gas engine. Re-Involt Technologies must come up with cost competitive kits in order to provide a real benefit to the consumer. Currently, David is working on a drop in Li-Ion kit for the existing Ford Fusion as this vehicle and the Prius are often purchased for fleet use. North Carolina’s options for a cleaner transportation future are enhanced by David Taylor, the energy behind Re-Involt’s, vision and commitment.

**FLEET: Gaston County Solid Waste & Recycling Division**

Gaston County Solid Waste and Recycling Division have proven to be on the forefront with alternative fuel technology over the past several years. Their landfill was the first in the state to convert all 14 pieces of heavy duty off-road equipment to B20 biodiesel in the fall of 2006, and now with expanded storage capability they are committed to using 100,000 gallons of B20 annually. In addition, they have reduced emissions and improved performance by repowering and replacing engines in existing equipment with cleaner technology. This, along with Gaston County’s anti-idling policy, has displaced at least 20,000 gallons
of petroleum diesel annually.

Gaston County is also leading by example through the construction of a Power Generation Facility that will convert landfill gas into electricity. When operational, slated for spring 2011, the energy produced will power 1,800 homes with intentions of ramping up to 3,600 homes within the next decade. In addition, the Solid Waste and Recycling Division has also begun to construct a Green Energy Park adjacent to the County Landfill. Plans call for a biodiesel production facility within the energy park that would produce between 500,000 and 1,000,000 gallons of biodiesel per year. Gaston County Solid Waste and Recycling Division is an excellent example of connecting the dots between all operations to ensure a more sustainable (and cleaner) future for North Carolina.

**FUEL/TECHNOLOGY PROVIDER: Blue Ridge Biofuels**

Blue Ridge Biofuels (BRB) is now in its 6th year of operations – something that is no small feat for a grass-roots biodiesel producer. Situated in Asheville, Blue Ridge Biofuels is a community-based fuel provider, producing and delivering biodiesel blended fuel and heating oil throughout Western North Carolina (WNC).

BRB controls its own feedstock of waste vegetable oil (WVO) which it collects from restaurants and kitchens across the region. With the 2010 lapse of the $1.00 per gallon federal biodiesel blender’s credit, BRB cash flow was hampered reducing their ability to purchase additional feedstock off the open market. Undaunted by this challenge, which forced many biodiesel producers to shut down, its resourceful staff designed and built an esterification system that allowed BRB to make biodiesel from poorer-quality feedstock it collected from its restaurant clients that otherwise would have been composted. In addition, the company created 3 new part-time jobs by hiring restaurant recruiters to increase the amount of WVO collected. It worked with its customers to keep prices down by creating custom biodiesel blends that met the clients’ needs.

In 2010, BRB produced over 107,000 gallons of biodiesel at its plant in WNC along with training 20 people in the Biofuels Technician Program. BRB is also working on BQ9000 certification in an effort to secure some of the State’s biodiesel business. Similar to ISO certification but specific to the biodiesel industry, BQ9000 certification is required of its biodiesel suppliers by the NC DOT, the state’s biggest single consumer of biodiesel. Half complete now, the BQ9000 process is increasing quality control procedures at the production facility as well as increasing efficiency and productivity in the manufacturing process. With resourcefulness, creativity, and pure determination, BRB is committed to providing WNC with sustainable energy for many more years to come.

**FUEL/TECHNOLOGY PROVIDER: Thomas Built Buses**

Based in High Point, N.C. Thomas Built Buses offers two innovative technologies to the school bus market. Thomas Built launched its compressed natural gas (CNG) fueled bus more than 10 years ago and since then has put more than 1,000 on the road. CNG bus demand is growing and last year alone Thomas Built delivered more than 300 natural gas powered school buses. Their hybrid bus option, the Saf-T-Liner C2e
hybrid diesel/electric delivers up to 30% better fuel economy than conventional diesel and is now in use in 15 states with more than 150 are in regular use.

In addition to producing more sustainable transportation technology options, the Thomas Built school bus manufacturing plant in High Point is gaining national recognition as a zero waste facility that utilizes solar power to generate electricity for 41 homes in the area. Demonstrating its commitment to manufacture vehicles in an environmentally responsible manner, Thomas Built Buses is an industry leader in sustainability efforts and the first school bus manufacturer to achieve Zero-Waste-to-Landfill operations.

POLICY : City of Raleigh

By putting into place policies and procedures to ensure a more sustainable transportation future, the City of Raleigh is gaining national recognition, particularly for its forward-leaning actions in the electric transportation arena. In 2009, the City joined Rocky Mountain Institute's Project Get Ready Team as one of 3 pilot cities along with Portland, Oregon and Indianapolis, Indiana to implement the installation of electric vehicle charging infrastructure. The City realized early on the need for electric vehicle charging infrastructure and created a task force to facilitate implementation that includes several departments within the City including: Inspections, Public Works, Parks & Recreation, Public Affairs, Administrative Services, Developmental Services, Fleet Services, Information Technology and Community Development. By partnering with other stakeholders such as Progress Energy and Advanced Energy, the City is providing a road map and lessons learned for other municipalities to follow. As a result, the City has been featured in several publications including a case study on the US Department of Energy’s website featuring Raleigh, Oregon, Los Angeles and Houston. www.afdc.energy.gov/afdc/vehicles/electric_deployment_case_studies.html

Raleigh has been a leader in alternative fuel use for well over a decade, using B2O, E85 and natural gas for transportation, along with neighborhood electric, hybrid electric and plug in hybrid electric vehicles. A 2008 City Council mandate to reduce petroleum consumption provided for the Sustainability Office efforts to instill sustainability values & principles into departmental policies and procedures. An example is recent changes in how they budget. Instead of using dollars to budget fuel for their fleet, the City has converted their budgeting process to a “consumption budget” so that the Department Head and drivers are more aware of miles driven and held more accountable, resulting in more efficient fuel use. For this and more, the City of Raleigh is an excellent example of how strong leadership and committed staff can provide a big win for transportation innovation and solutions.