Virginia Clean Cities

Clean Cities
U.S. Department of Energy
Virginia Department of Mines Minerals and Energy

Stakeholder Newsletter 2014 Volume 5 - September

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Diamond and Platinum Level Stakeholders

James Madison University
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TFC Recycling
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TFC Recycling to Convert 100 Trucks to CNG

TFC Recycling announced it has placed an initial order with Omnitek Engineering for diesel-to-natural gas engine conversion kits designed and EPA-approved for the 12-liter Mack E7 engine.

The order for conversion kits is part of TFC Recycling's goal to convert its entire fleet of more than 100 vehicles to operate on natural gas. TFC Recycling was appointed by Omnitek in June 2013 as an authorized installation center for its diesel-to-natural gas engine conversion systems in the region.

Natural gas burns cleaner than diesel due to its lower carbon content. When used as a vehicle fuel, it can offer life cycle greenhouse gas (GHG) emissions benefits over conventional fuels. Based on Argonne National Laboratory's GREET model, natural gas emits approximately 6% to 11% lower levels of GHGs than gasoline throughout the fuel life cycle.

Omnitek expects to obtain EPA and CARB approval for additional diesel engine models to address increasing interest from trucking fleets that operate with other diesel engine models.

Omnitek projects TFC to have a payback on investment of less than two years – a significant advantage compared with the average five to-seven years.

Second Annual Rally at the Raceway

Virginia Clean Cities would like to invite you to our second annual awards night and fundraiser! We have an amazing program planned for alternative fuel enthusiasts on March 26th, 2015 at the Richmond International Raceway Torque Club. Alternative fuel vehicles of all types will drive across the state to converge for our Clean Fuel Awards. Entrepreneurs, fleet managers, and policy makers will come together for a State of the Alternative Fuel Industry Address.

This will be a great opportunity for Virginia Clean Cities stakeholders from across the Commonwealth to come together to celebrate the progress that's been made in the past year, and look ahead to what we can accomplish together in the future. As a coalition, your support is essential to make everything we do, including this event, a success. For more information on this event and how to support Virginia Clean Cities, please visit our events page at www.vacleancities.org/events.

Spare Tire Propane Tank Now ASME-Approved

A propane autogas fuel tank that won't waste cargo space in your vehicle is now approved by the American Society of Mechanical Engineers (ASME). The doughnut-shaped, or toroidal, propane autogas fuel tank ranges in size from 13 gallons to 25 gallons and fits in the spare-tire space of a car or pickup truck.

Tesla Searching for Prime Locations for EV Chargers

Tesla currently has three Supercharger locations in Virginia and is searching for hotels and businesses that would like to become site hosts for their smaller 25 kW electric vehicle charger. For more information, contact Virginia Clean Cities or destinationcharging@teslamotors.com

Grand Opening for Northern Virginia's First Public Natural Gas Station

VCC and Clean Energy hosted a grand opening for the first public compressed natural gas fueling facility in Northern Virginia in Sterling on August 13, 2014. This fast-fill station has been in operation since mid-2013 and is open to the public 24-hours a day, seven days a week. The station is operated through a partnership between Quarles Petroleum and Clean Energy Fuels. On average CNG is $1.00 cheaper and 10% cleaner than diesel. For more information on this station please contact Matt Wade at Virginia Clean Cities at mwade@vacleancities.org

National Drive Electric Week: September 15-21

National Drive Electric Week, is a nationwide celebration to heighten awareness of today's widespread availability of plug-in vehicles and highlight the benefits of all-electric and plug-in hybrid-electric cars, trucks, motorcycles, and more. According to Plug In America and the Electric Auto Assoication, electric vehicles are fun to drive, are less expensive over their lifetime than gasoline vehicles, are better for the environment, promote local jobs, and reduce our dependence on foreign oil.

Each event is led by local plug-in drivers and EV advocates and typically includes a combination of EV parades, ride-and-drives, electric tailgate parties, press conferences, award ceremonies, informational booths, and more. To find an event near you, go to https://driveelectricweek.org/events.php

WireTough Cylinders Selected For $2 Million Grant

The development of a low-cost, functional hydrogen tank for vehicles has been one of the most signifcant impediments to the hydrogen vehicle industry. Bristol, Virginia-based WireTough Cylinders has recently been selected by the U.S. Department of Energy for a $2 million grant to develop low-cost, high pressure hydrogen storage tanks. "We knew we were a perfect fit to produce these tanks and we're proud the federal government recognizes this as well," said WireTough President Amit Prakash, "It is a huge endorsement of our technology. It's not just a big deal for us, but for our region."

Wiretough will build the storage tanks using a patent-pending steel wire over-wrap process A second project was awarded to Oak Ridge National Laboratory, which will use the WireTough tanks. WireTough plans to develop a 30-foot tank that can store 700 gallons of hydrogen at 12,700 psi. The project's goal is to ultimately allow hydrogen vehicle fuel to be sold at the retail level to consumers.

Grant Awarded to Biomass Project at Virginia Tech

Two Virginia Tech researchers have received a $1.4 million grant to investigate the genetic regulatory networks that will allow an important bioenergy crop to be bred so it will grow in less than ideal soils and climate.

Populus, a fast-growing tree commonly known as cottonwood and aspen, is being grown for bioenergy because it produces a significant amount of biomass in two years and will re-grow robustly when cut at just above ground level. Woody biomass can be converted to liquid fuels, such as ethanol.

"The goal is to develop the species so it will not become dormant in conditions that would stress other crops, such as high temperature, drought, or marginal soil nutrients," said Amy Brunner, associate professor of molecular genetics in the College of Natural Resources and Environment. "It is important that bioenergy crops not require prime agricultural land."

"Populus is grown for biomass in the Pacific Northwest, the lower Mississippi valley, and the Great Lakes area. There has not been a market for it in the southeastern U.S., but there could be," said Brunner. "It could also be a resource for power, pulp, and paper."

FLEET Symposium: Exhibition Booths Still Available!

Exhibitor booths are still available for the Fleet Learning Expo and Efficient Technology Symposium (FLEETS). This symposium is presented by the National Association of Fleet Administrators and Virginia Clean Cities on September 24-26th at the Virginia Beach Convention Center. This event will attract fleet managers, technicians, and decision makers from across the region to learn about vehicle technologies and products. The conference will include an opening reception, a ride and drive event, nine educational training sessions, and a golf tournament at Hell's Point Golf Course.

Fleet manager training will feature courses on shop safety with a VOSH inspector, fuel cards, a comprehensive driver safety program, an advanced course on alternative fuels, a course on data validation and exception reporting and how to avoid problems with leasing vehicles. Technician training will feature courses on school buses, alternative fuel vehicle diagnostics, and lift safety and certification. Sponsorships are available. For more information please visit www.nafa.org/chapters/chapter-list/eastern/odchapter/.

VCC Staff Updates

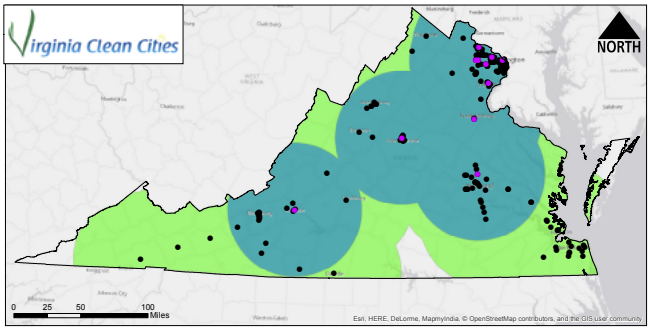
Branden Walraven, VCC's Argonne intern for 2013-2014, has graduated from James Madison University and has taken a position with a technology start-up in Charlottesville. We are grateful for Branden's hard work and dedication while with VCC and will miss his insight and cheerful demeanor. Good luck, Branden!

Kayla Cook

Please welcome Kayla Cook! Kayla is joining Virginia Clean Cities as the Argonne intern for the 2014-15 academic year. Kayla is a junior at James Madison University and is completing her degree in Integrated Science and Technology. Kayla's interests are sustainability, energy, volunteering with her local church and rugby.

New Alternative Fuel Maps from VCC

As part of his Argonne Internship with Virginia Clean Cities, Branden Walraven developed a series of alternative fuel maps using the ARC Geographic Information System. These maps show each of the fueling locations for the different alternative fuels in Virginia and the distance between them. This allows the user to visualize the driving range betweern each station. You can view the maps by going to the Formal Reports page at VCC's webiste. Pictured below is a map that shows the location of electric vehicle chargers and the driving range for each.



Electric Vehicle Charger Infrastructure in Virginia: June 2014

Legend
- Virginia
- L3 Chargers
- L1 & L2 Chargers
- L3 Electric Range
- L1 & L2 Electric Range

The purpose of this map is to show the extent and limitations of Virginia's current electric vehicle charging infrastructure. Virginia's electric vehicle charging infrastructure is currently most concentrated in the high population centers of Hampton Roads, Richmond, and Northern Virginia. Through Virginia Clean Cities' initiatives, DC fast chargers (Level 3) have been added in Roanoke and Charlottesville as well. Despite its relatively high level of EV adoption, the Hampton Roads region has no Level 3 chargers. To give an estimate of electric vehicle access in Virginia, 50 mile buffers were placed around all charging infrastructure. Fifty miles was chosen as a conservative estimate to account for direction changes, road type, topography, and driving style. The LEAF is Virginia's most popular electric vehicle, however other vehicles may have different ranges.

Upcoming Events

9/15-9/21 - National Drive Electric Week
9/16 - CNG Infrastructure Webinar and Report hosted by NREL and the Department of Energy
9/17 - Task Oriented Electric Vehicle Open House, Richmond, VA
9/24-9/26 - Fleet Learning Expo and Efficient Technology Symposium and Golf Tournament, Virginia Beach, VA
10/20 - 100 Best Fleets, Norfolk, VA
10/22-10/24 - Southeast Alternative Fuels Conference & Expo, Raleigh, NC
3/26/15 - 2nd Annual Rally at the Raceway, Richmond, VA

*Please visit **www.vacleancities.org** for the latest information about all Virginia Clean Cities events.*

Thank You to Our New and Renewing Stakeholders!

Virginia Truck Center strives to meet your commercial truck sales needs, heavy truck parts demands and truck service needs in a timely manner. Virginia Truck Center has locations in Roanoke, Weyers Cave, Richmond/Chester, and Virginia Beach.

Interchange Group, Co. is a full service warehousing and logistics company serving the East Coast. With a wide array of warehousing, logistics, and land development services available, InterChange offers complete storage and transport options for your business..

Since 1935, **Werres** has been providing material handling equipment, customized engineering systems and forklift equipment to clients throughout Maryland, Virginia, West Virginia, Washington D.C. and the Federal Government worldwide.

Williams Mullen blends the law, government relations and economic development to help you get where you want to go. No matter the size of your organization, Williams Mullen has an attorney or team of attorneys to help connect you to opportunities and find the answers you need.

PAPCO is a proven leader in innovative fuel solutions. With an exceptional and diverse portfolio of products and services PAPCO provides customized, worry free energy management programs that allow you to focus on your core business.

Cummins Atlantic is regional power leader, and a corporation of complementary business units that design, upfit, distribute, and service electric power generation systems, engines, and related technologies, including fuel systems, controls, air handling, filtration, and emissions solutions

Virginia Clean Cities counts on a diverse membership base to facilitate our mission. If you are considering becoming a stakeholder, please visit our membership page at:
***www.vacleancities.org/get-involved/join-us**.*

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