

VIRGINIA

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The Division of Energy (DE), Department of Mines, Minerals and Energy (DMME), is the State Energy Office for the Commonwealth. The Division is driven by the primary goal of enhancing Virginia's economy by improving its ability to make informed energy choices. To achieve this goal, the Division works to a) increase the use of proven energy conservation practices in Virginia; b) foster growth of emerging and sustainable energy industries and infrastructure; c) identify applications of new and innovative energy technologies in Virginia; d) advance partnerships that will enable energy efficiency and economic development opportunities; e) improve the energy efficiency of commercial, institutional, and residential buildings in Virginia; and f) provide energy education and outreach to Virginians to increase their ability to make informed energy choices.

The Division of Energy actively promotes several U.S. Department of Energy initiatives and programs. Virginia supports a very active Rebuild America program. The Building America program and Industries of the Future also have continuing activities in Virginia. The Clean Cities program in Virginia demonstrates extraordinary leadership of alternative fuels in the Commonwealth. Virginia actively supports the Energy Star program.

The Division of Energy works closely with colleges, universities, consultants, and contractors to further renewable and innovative technology education and opportunities. The Division works with the Department of Housing and Community Development and Department of Social Services in collaborative efforts involving the Weatherization and Low Income Home Energy Assistance programs.

The Division of Energy takes an active role in the state's utility restructuring plan. Managing new and existing utility contracts of electricity in a deregulated market, the Division provides direction to state agencies for the procurement of electricity, relates the impacts of a changing utility environment to state government operations, and promotes alternative energy sources, energy conservation, and energy efficiency in the public sector of the Commonwealth.

VIRGINIA ENERGY PLAN

The Department of Mines, Minerals and Energy has been tasked with developing a 10-year comprehensive Energy Plan. The Virginia Energy Plan was established in Senate Bill 262, signed by Governor Timothy M. Kaine in May, to proactively assess and plan for Virginia's energy future. "The development of the Virginia Energy Plan is a key step in establishing how we will develop and conserve our energy resources in a manner that helps protect our environment while promoting continued economic development and vitality in the Commonwealth," Governor Kaine said.

The key components to the Virginia Energy Plan are Energy Sources and Consumption, Energy Conservation and Efficiency, Virginia / Regional Energy Infrastructure, Energy and Environment, and Energy Research and Development.

2006 Accomplishments

The Virginia Energy Plan

The Virginia Department of Mines, Minerals and Energy (DMME) has held Public Listening Sessions to

receive public comments on and recommendations for the Virginia Energy Plan in Abingdon, Annandale, Lexington, Williamsburg and Virginia Beach. In addition to the Public Listening Sessions, an Advisory Group was formed composed of key leaders with an interest in Virginia energy matters that have been asked to provide input to the plan. Constituent groups represented by these leaders include consumers, local government and military, general business, environmental advocacy, electric and natural gas utilities, petroleum industry, energy extraction industry, renewable energy, and other energy interests

Virginia Rebuild America & Building America Programs

The Virginia Sustainable Building Network (VSBN) administers the VA Rebuild America and Building America Program. VSBN has confirmed a total of 38 Rebuild America partnerships. VSBN meets with local government representatives to discuss opportunities for energy efficiency and green building design. Activities include: VSBN received Innovation Award for the LEED-certified Hermitage Elementary School; Assisted Roanoke County Schools who had requested assistance in making a 138,000 square foot high school renovation and addition into a 50% more efficient project; Rebuild America and Building America programs were represented at various conferences and expos throughout the year, such as: the Virginia EMS Program Conference; Conference for Community College Administrators; Green Building Conference; the AECF Energy Expo; GAIA Conference, Henrico Energy Fair and VMI Energy Conference. VSBN completed the first Shades of Green Calendar for Virginia. VSBN continues the development of the Virginia EarthCraft Homes (ECH) homes construction demonstration project and work on assembling the administrative and technical resources for the launch of the EarthCraft House Single Family Program in Virginia.

Clean Cities Program

Virginia Clean Cities was awarded \$284,000 in DOE Special Project funds, with a cost share of \$483,000, for the Virginia-Maryland-DC Public E85 Refueling Project. Virginia Clean Cities is one of 16 projects awarded funding to expand E85 infrastructure. Virginia Clean Cities teamed up with Maryland, the DC Energy Office, the federal General Services Administration, General Motors, and VREMs to install up to 12 publicly accessible E85 dispensing stations along the I-95, I-64 Crescent corridor that passes through Virginia, Maryland, and the District of Columbia. This project can make E85 available to an estimated 15,000 public and private flex fuel vehicles.

Virginia Clean Cities, with Virginia Tech's Fuels Diversification Program, developed an Environmental Studios program. These Studios allow students to practice the principles, processes, and vocabularies of environmental problem solving. Outreach to fleets and the fuels distribution community in Blacksburg attracted 200 participants.

DOE awarded \$200,000 in Special Projects funds for CNG School Buses in Arlington County, which recently put four CNG school buses into service, expanding their astounding alternative fuels program, and completed construction of a new CNG station. Arlington County joins VA Beach and Charlottesville in the CNG School Bus Club in Virginia, demonstrating extraordinary alternative fuels leadership in the Commonwealth.

The Blue Ridge Clean Fuels helped the University of VA contract with Lynchburg Oil, of Roanoke to supply 125,000 gallons annually of B-20, for its fleet of 32 buses and various heavy-duty trucks and landscaping equipment. UVA is the largest user of biodiesel in Central Virginia.

HRCCC sponsored the "Beyond a Billion Gallons" event in Norfolk, VA.

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Two CNG school buses are in service by the City of Charlottesville, through Clean Cities grants. The Charlottesville FuelMaker Time-Fill CNG station (3600 psig) was completed during summer 2006.

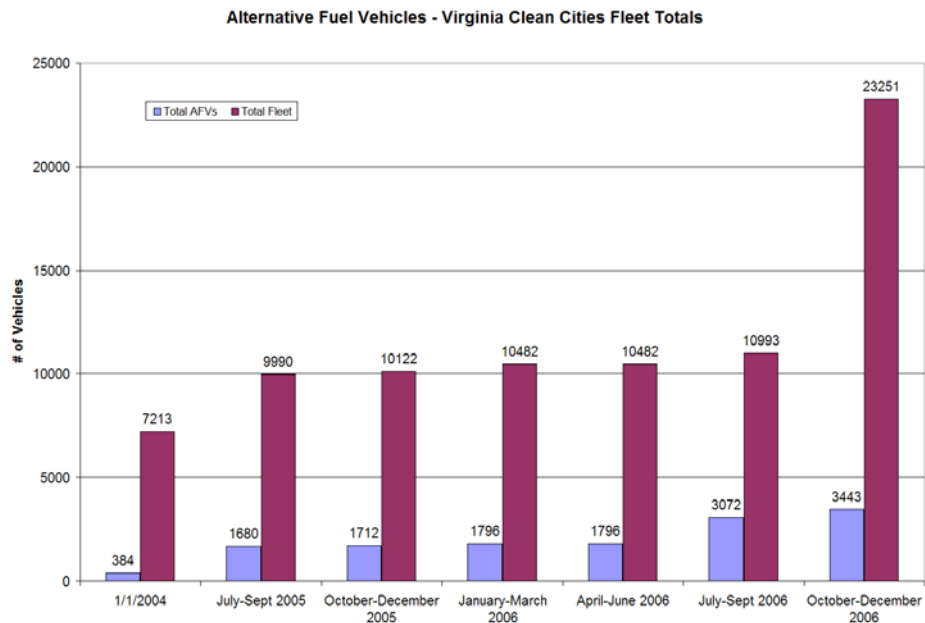
Westmoreland County Schools has become the second state school system to specify B20 for its fuel use.

Division of Energy coordinated Virginia's AFV Odyssey Day held at Arlington's Courthouse Plaza in October 2006. Worked with the National Alternative Fuels Training Consortium to plan the National Media Kickoff and bring together organizations representing all alternative fuels and petroleum reduction proponents. Arlington County Board Vice Chair Paul Ferguson, Virginia State Senator Mary-Margaret Whipple, Association for the Study of Peaking Oil Editor Tom Whipple, Arlington County Equipment Bureau Chief Ric Hill, and U.S. DOE Clean Cities Director, Dennis Smith, were all present to give a few words.

Virginia Clean Cities chaired the "Alternative Fuels and Advanced Technology Vehicles" workshop track, at the inaugural Energy Virginia 2006 Conference, held at Virginia Military Institute, on October 17-18, 2006. Presentations included E85 development in Virginia, Hybrid and CNG Technology, James City County's model for Petroleum Reduction, Plug-in Hybrid Electric Flex-Fuel Vehicles, 'Is Propane for Transportation About to Make a Comeback', and 'What is to Stopping Virginia from Growing a Biofuels Industry'? Presentations are available for download on the Energy Virginia web page: http://www.energyvacon.com/Program/Agenda_PPT.htm.

The Division coordinated a Canola-Biodiesel Working Group (comprised of a diverse group of folks from Virginia Tech, Virginia Tech Extension, Virginia State University, and Virginia Clean Cities) to research the feasibility of growing canola in Virginia as a biodiesel feedstock.

The graph below trends the number of alternative fueled vehicles (AFVs) against total fleet size for fleets participating in the Virginia Clean Cities programs.



Support to State Facilities -Performance Contracting

Total dollars under contract or in process in state facilities is at \$100,735,732. Projected savings are projected to just over \$7 million per year. This may result in a simple payback of about 14.4 years per project.

Solar and Wind Power

The DMME and The Science Museum of Virginia have coordinated with Virginia Tech to bring the Virginia Tech award winning Solar Decathlon house to Richmond for one year, beginning with the 2007 General Assembly session. The house is prominently displayed in front of the museum. February marks the Kick-Off when the house will be accessible to the public. Virginia Tech was able to get a local well drilling company to donate their time and materials to drill a 400 foot deep well at the site to enable connection of the house's geothermal heat pump system. Additional infrastructure improvements included bringing in water, power and internet connection, as well as considerations for handling sewer needs.

The Division of Energy and the Virginia Economic Development Partnership (VEDP) have been in contact with a solar PV manufacturer interested in building solar PV panels in the Commonwealth. The company would assemble finished panels from component parts versus manufacturing the actual semiconductor materials.

The Virginia Small Wind Incentives Program announces the installation of its second wind turbine. A 10-kw Bergey Excel-S was installed in November 2006 at a private residence in Independence, VA. This is believed to be, at present, the largest wind turbine installed at a residence in Virginia. Another award was recently approved for a 10-kW Bergey turbine scheduled to be installed at the Volvo Trucks plant in Dublin, VA.

The Virginia Anemometer Loan Program has installed instrumentation and towers at 33 sites across the Commonwealth including thirty-two 20-meter met towers and one 50-meter tower, and has completed a full year of data collection data collection at 29 sites and issued comprehensive reports evaluating the wind resource to program participants and state and federal officials.

Energy Star

The Division of Energy coordinated with the VA Departments of Environmental Quality and Human Resources Management to spearhead the ENERGY STAR Change a Light campaign in Virginia. Participation focused on encouraging all state employees to take the 'Change a Light Pledge' and provide 'Change a Light' information on respective agency web sites. Participation in the campaign will serve as a stepping-stone in Virginia's future involvement with ENERGY STAR.

Energy Education and Outreach:

General Motors

The Division of Energy, through General Motors Corporation and its partnership with the Governor's Ethanol Coalition, was successful in obtaining a one-year lease for a 2007 E85 flex-fuel Chevy Tahoe. The vehicle was displayed at an event hosted by the Virginia Department of General Services, to announce the Tank Installation and Flex Fuel Cars for State Government. Governor Kaine, Cabinet Secretaries and several Department Directors were in attendance. The Division also worked with GM on the assignment of a hydrogen fuel-cell vehicle to the Virginia Department of Environmental Quality, northern Virginia regional office. This project is part of GM's and DOE's hydrogen validation project.

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Energy Virginia 2006

The Department of Mines, Minerals and Energy (DMME) staff worked with Virginia Military Academy and other energy stakeholders to put on the inaugural Energy Virginia conference, held October 2006, in Lexington, VA. There were approximately 275 attendees, with 16 hosts, sponsors, and exhibitors. This meeting brought together experts and stakeholders to address key energy issues as they pertain to Virginia and to consider elements of Virginia's new comprehensive energy plan. Speakers included the Honorable Frank Wagner, R-Virginia Beach, James Woolsey, former CIA director, and Eliot F. Assimakopoulos, GE Global Research and Development, among others. Five parallel tracks of presentations were offered, including: utilities and infrastructure, efficient buildings, fossil fuel technologies, alternative energy strategies, and transportation alternatives.

Virginia Energy Expo

DMME helped support the 7th annual Green Living and Energy Expo, which was held in the Roanoke Civic Center, in December 2006. Roughly 1,500 persons attended the two-day event along with 50 exhibitors. One hundred-fifty VA Energy Savers Handbooks were also distributed. The event continues to grow and generated a match amount of \$14,200 in non-Federal dollars.

Henrico County Energy Fair

DMME also helped to support the County of Henrico and Henrico County Public Schools as they held the 2006 Energy Fair in October 2006. A joint venture between the schools and government Steering Committee established the theme and content for this event.

A total of 17 vendors and 30 student exhibitors participated in the Fair. Sponsors and vendors provided timely information about energy conservation and cost savings. Additionally, there were over 50 individuals and departments represented at the Fair. During the 3-day program, over 750 students (6th Grade) and 380 adults visited the Energy Fairs. Of those in attendance, approximately 83% were Henrico County students and teachers.