Virginia Commission on Energy and Environment

Thursday, October 14, 2008, 10:00 a.m.
Hampton/Newport News Room
Webb University Center
Old Dominion University
Norfolk, Virginia

Meeting Summary

Senator Whipple called to order the third meeting of the Commission on Energy and Environment. After brief introductions, the Commission began with the first speaker on the agenda.

Al Christopher, Virginia Clean Cities- Mr. Christopher reviewed several different alternative transportation fuels and discussed the benefits and drawbacks of each. Although alternative fuels will help reduce the demand for oil, Mr. Christopher stressed the importance of conservation, which is faster, cheaper, and easier to implement than any of the alternative fuels discussed.

After reviewing the different types of alternative fuels Senator Whipple asked when Mr. Christopher would expect hydrogen vehicles to be market ready. Mr. Christopher responded that hydrogen vehicles are still not ready for the market due to their high cost and the lack of refueling stations, which are also expensive to build and operate. Due to the high cost of the technology and the high cost of producing hydrogen, market ready vehicles are not currently feasible.

Virginia Clean Cities recently received a $143,000 federal grant and $60,000 in private grant money to retrofit diesel engines on school buses in the middle peninsula. Clean Cities was able to provide 76 school buses with updated emission reduction technologies.

Mr. Christopher discussed his work with the state on a waiver process to make it easier to install E85 pumps. Mr. Christopher identified an issue with local fire officials and their resistance to E85 because it requires a different kind of foam for their trucks.

Andrew Smith, Virginia Farm Bureau- Mr. Smith provided a presentation providing the Commission with information on the impact of expanded renewable fuels on the nation's food supply. Mr. Smith discussed the breakdown of how corn is used in the US. Currently, as ethanol uses increases, it is the nation's corn export that is shrinking, not the domestic supply of corn. The overall global increase in food demand is driving up the price of corn in all countries, including the US. Additionally, increased fuel and processing costs, combined with a weak dollar, have resulted in higher food costs.

Mr. Smith also reviewed the variables that affect the price of corn, which includes variations in weather, world demand, ethanol production, and others.

Of the expected 5% increase in corn prices this year, 44% of the increase is the result of higher fuel, transportation, and energy costs.

Senator Peterson- What are farmers doing about the increased cost of fertilizer? Mr. Smith responded that many dairy and poultry farmers are being encouraged to use BMPs to deal with excess animal waste that is not used as fertilizer.

John Warren, Osage Bio Energy- Mr. Warren discussed Osage's plans for producing ethanol using barley, which offers several useful byproducts, including barley protein meal and fuel pellets. Mr. Warren's presentation contains several estimates on the benefits to Virginia, which includes new jobs, environmental benefits, and tax revenue. One of the major benefits of using barley is that its use will have little to no impact on food supplies. One of the major challenges for Osage has been generating local interest among farmers in growing barley. Osage is prepared to import the barley it needs, but the ultimate goal is to have all barley production come from within the state. The Hopewell plant is scheduled to go on-line in the second quarter of 2010 with construction expected to start by the end of 2008.

Senator Peterson- Where in the state will there be sufficient barley production? Mr. Warren responded that the eastern part of the state is the best place to grow barley. The main goal is have current soybean farmers add barley to their crop rotation.

-Lunch Break-

Ann Swanson, Chesapeake Bay Commission- Mrs. Swanson provided an overview of the Commission's recent report entitled *Biofuels and the Bay*. One of the important data points in the report was an analysis on the impact of different biofuel crops on pollution levels in the Chesapeake Bay. Although the addition of corn and soybean crops would add nitrogen to the Bay, expanded use of switchgrass and cover crops, such as barley, results in a net reduction in nitrogen input to the Bay. Using a combination of switchgrass and cover crops could result in two-thirds of the targeted nutrient reductions.

Mrs. Swanson also highlighted information from the Commission's report on the potential for the Bay region to take a national lead on cellulosic biofuel production. One of the major factors that makes Virginia well positioned to pursue cellulosic ethanol production is the fact the Virginia is one of the only significant corn producing states that is not committed to corn-based ethanol production. Mrs. Swanson proposes the Bay region focus on three pillars: feedstock, natural resource protection, and marketing and infrastructure. In her presentation Mrs. Swanson highlights potential steps to help the Bay region move towards becoming a leader in cellulosic biofuel production.

Senator Peterson- Has the Bay Commission been able to rally environmental groups with the Commission's recently released reports? Mrs. Swanson stated that she has had positive feedback and the reports are gaining recognition.

Victor Fischer, Virginia Tech- Dr. Fischer provided the Commission with an overview of cellulosic biofuels, including ethanol and green diesel. Dr. Fischer highlighted key national policies that are moving the industry towards cellulosic biofuels. A major factor driving the push for biofuels is the need for greater confidence in national security.

Dr. Fischer next discussed the cellulosic ethanol production process develop by Virginia Tech that can produce ethanol at $1.36-$1.56 per gallon. The VT process is also more efficient in converting the sugar in organic matter to ethanol.

Dr. Fischer also explained the type and value of the byproducts resulting from green diesel production using the new process developed at Virginia Tech. One byproduct, phenol, is worth almost twice that of the green diesel on a per volume basis.

Senator Peterson- What can the General Assembly could do to help VT commercialize this technology. Dr. Fischer said that he can make green diesel out of old tires. Dr. Fischer suggested taking the money in the tire recycling fund to build a demonstration plant and then use the tires as a feedstock.

Dr. Fischer suggests that the next step will be a pilot plant, followed by a commercial size demonstration plant, followed by full commercial plant. Dr. Fischer estimates that in five years he could have a fully replicable commercial plant.

Mr. Wallmeyer stated that the Commonwealth should fund and operate a pilot plant and a demonstration plant. Mrs. Swanson stated that she has heard from entrepreneurs that the Commonwealth needs to fund a pilot plant to prove the concept is lucrative for private investment.

Dennis J. Sulick, Virginia Biodiesel Refinery- Mr. Sulick provided the Commission with a presentation on biodiesel production in Virginia. Mr. Sulick noted that for every dollar spent on biodiesel approximately $.90 stays in Virginia, compared to $.13 for petroleum diesel. Mr. Sulick also stated that for every million dollars spent on biodiesel production in the state, there is created an additional 2-3 million dollars of economic activity. Mr. Sulick recommends that the Commission work to encourage the use of biodiesel in school buses and strengthen producer incentives in the state.

Dr. Dennis Hatcher, Old Dominion University- Dr. Hatcher presented on the potential for algae as a feedstock for biofuel production. The main attribute of algae that makes it so lucrative is its oil content and reproduction cycle. Another benefit is that algae growth can be coupled wit other industrial processes to achieve greater economic and environmental benefits. Algae require carbon dioxide, nitrates, and phosphates to grow and reproduce. These same compounds are detrimental to the air, soil, and water.

Dr. Hatcher reviewed ODU's first pilot facility as well as a recently constructed demonstration plant in Hopewell, VA. Dr. Hatcher offered the Commission members a tour of some of the labs working in algae biofuels research.