The Virginia Joint Commission

JCOTS

on Technology and Science

Energy Advisory Committee

Tuesday, October 2, 2012 1:00 p.m.

House Room C, General Assembly Building

The Energy Advisory Committee held its second meeting of the 2012 Interim on Tuesday, October 2, 2012.

After Delegate John Cosgrove, chair of the Advisory Committee, called the meeting to order the Committee received three presentations concerning alternative energy sources and solutions.

Emil Avram, Director of Business Development, from Dominion gave a summary of Dominion's renewable energy developments. Mr. Avram noted that Dominion continues to work towards short and long term goals in renewable energy including meeting Virginia's renewable energy goals. The Commonwealth has a diverse set of potential renewable resources including solar, offshore wind, and biomass. Dominion currently has over 1600 MW of renewable energy sources in development, construction, or operation.

The Committee was especially interested in the cost of the various renewable resources. Mr. Avram noted that the price of natural gas has fallen, due to the development of shale gas. This has led to the wholesale price of electricity and the price of a Renewable Energy Certificate to drop significantly. The price drop has created a bad environment for renewable development where revenue components are below the levelized cost of energy.

The Committee inquired into Dominion's use of electricity from the wholesale market and the use of peaking natural gas units. Mr. Avram noted that Dominion buys 25% of its electricity from wholesale markets and also utilizes a fleet of peak natural gas units to lower costs. In addition, Dominion uses a pump storage facility located in Bath County to offset the costs of peak usage.

Committee members also asked about the externalities of energy production and their costs. Mr. Avram responded that the external cost of carbon emissions is a complicated and global issue, and that there is no formula to calculate the costs of carbon emisssions. Committee members also inquired about the difference between centralized and distributed solar. Mr. Avram noted that the larger the facility; the more costs can be contained due to the economies of scale.

Dr. Liam Leightley, Executive Director of the Institute for Advanced Learning and Research (the Institute), gave a presentation on the biomass industry in Virginia. Dr. Leightly pointed out that biomass based materials could improve national security, could help protect the environment, and could increase prosperity in rural areas of the Commonwealth.

Dr. Leightley noted the challenges in meeting renewable energy portfolios and that biomass could help meet those challenges. The IALR has partnered with Virginia Tech to look into what types of biomass feedstock could be grown in Virginia and identified specific grasses that could be farmed with repurposed tobacco farming equipement. The Institute has also partnered with CHEMTEX, a North Carolina company, to identify suitable land and growers and develop the basis for the required logistic infrastructure for producing biomass.

Committee members asked about the potential amount of oil biomass could offset. Dr. Leightly noted that a community could offset up to 50 million barrels of oil if it had a local biomass refinery. Committee members were also concerned with the economic viability of the biomass industry.

Joe Hirl, CEO of Agilis Energy, gave a presentation on leveraging data to increase energy efficiencies using data collected from smart meters. Mr. Hirl demonstrated that monthly energy consumption bills do not show the entire picture of a building's energy use. There may be energy peaks and lows, or buildings may be consuming high amounts of energy when they are empty.

Mr. Hirl noted that through smart meter data analytics there is potential for a tremendous savings in commercial retail, office, and government buildings. He estimated that $30 to 40 million a year in savings in Virginia office buildings could be achieved by utilizing this data, and that comparable savings could be achieved in educational, healthcare, and other facilities. For example, using smart meter data, a building at Duke University was able to save 70% of its overnight costs.

Committee members inquired about the availability of the data and the use of Smart Meters in the Commonwealth. Mr. Hirl noted that the utilities collect the data through their meters. Dominion noted that smart meters were available in three regions of the Commonwealth. Dominion cannot fully implement smart meters without the State Corporation Commission's involvement. Both Mr. Hirl and Dominion noted that third party smart meters were available to any consumer.

Following the presentations, Delegate Cosgrove asked Robert Stolle, representing CIT, for an update on the strategic roadmap developed by CIT. The Commonwealth Research and Technology (R&T) Strategic Roadmap is a comprehensive planning tool the Commonwealth uses to identify research areas worthy of economic development and institutional focus. CIT has identified investment areas that become force mulitpliers for a region. There is not a region in the Commonwealth that does not have energy businesses. There is a real opportunity in the cross section of information technology and

the energy sector for people and companies that develop the applications and processes that manage smart grid information.

Before adjourning, Committee members asked for an update on HB 2175/SB1347 from the 2009 session, which directed the Department of Environmental Quality to develop a permit or permits by rule for the construction and operation of small renewable energy projects. Delegate Cosgrove indicated that at the next meeting, he would like Committee members to bring ideas about what the Commonwealth can do to advance alternative sources and other energy solutions.

Future Meeting Date:

Wednesday, November 7
10:00 a.m., House Room C, GAB