



TREEDC-Hiwassee College Forum Report: February 22, 2013

The Mayors of the Tennessee Renewable Energy and Economic Development Council (TREEDC) held their first 2013 Community Energy forum at Hiwassee College on February 22, 2013. The University of Tennessee's Institute for Public Service, Tetra Tech, PHG Energy and the Tennessee Gas Association sponsored this free community outreach forum for Hiwassee College students, staff and Monroe County area clean energy stakeholders. Presentations ranged from funding strategies to actual best municipal practices in solar and compressed natural gas development. Hiwassee College students were treated to a breakout discussion in renewable energy by TREEDC Founding Member Tetra Tech representative Robert Kennedy, III. Former Congressman Zach Wamp was the lunch keynote speaker.

TREEDC President/Ducktown Mayor James Talley recognized his fellow mayors in the audience: Graysville Mayor Ted Doss, Sweetwater Mayor Doyle Lowe, Kingston Mayor Troy Beets and TREEDC Co-founder Graysville Commissioner Andy Beene. Hiwassee College President Dr. Robin Tricoli thanked the TREEDC mayors for being role models in clean energy and invited them back for another forum next year. 65 attendees also heard presentations from Pathway Lending, USDA Rural Development, PBG Genera Energy, Tennessee Department of Environment and Conservation, and Cemex Corporation.

Monroe County Economic Development Director/TREEDC Board Member Shan Harris stated that the TREEDC membership grew from 70 mayors to 92 mayors during the past year. In February 2012, TREEDC had 8 colleges and universities as members and as of February 2013 had 23 including universities in Mississippi and Arkansas. In 2012, TREEDC brought in international partners from Germany, Philippines and Kenya to help these countries replicate the public/private approach and to help TREEDC business members with information and technology exchange.

The 2012 TREEDC annual report is available online at http://treedc.us/annual_reports/annual_report.pdf

Some of TREEDC's goals for 2013 include working with TDEC on a Green certification program for local governments, finding and seeking TREEDC champions in the legislature and congressional delegation, starting relationships with the new TVA board and CEO, and to create a resource guide with Tennessee Tech.

Chuck Morris described the USDA Rural Development Renewable Energy for America Program (REAP) as a program designed to assist farmers, ranchers and rural small businesses with renewable energy and energy efficient improvement projects. This program provides grants and loan guarantees for renewable energy and energy efficiency projects. Mr. Morris reviewed successful REAP solar projects in Brownsville and TREEDC member city Fairview.

Brandon England of Pathway Lending described their Energy Efficiency Loan program as a low-interest, revolving loan fund to finance energy efficiency and renewable energy projects in Tennessee. Some success stories include:

- Holiday Inn World's Fair Park in Knoxville, Tennessee used a Pathway Lending Energy Efficiency loan to purchase high efficiency water boilers and clothes dryers. Financing was also used to retrofit parking garage lights. Total Project Cost was \$343,000 with annual Energy Reduction of 450,532 kWh with annual cost savings of \$45,053.
- Eco Travel Plaza in Crossville, Tennessee aims to be the most eco-friendly truck plaza in the country. With a Pathway Lending Energy Efficiency loan, the business was able to implement LED lighting, efficient HVAC, Electric Charging Stations and Solar projects to achieve this goal.

Christina Treglia, Manager of the Tennessee Department of Environment & Conservation Department (TDEC) Sustainable Government Program highlighted the key operational principles in TDEC's delivery of sustainability services and outreach to Tennesseans. They include the following:

- Catalog and Benchmark of best practices;
- Recognize and Reward achievers. She mentioned TREEDC members Ducktown, Athens and Kingsport
- Promote and Publicize through the Governor's Award program
- Support and Enhance through various grant programs.

Lance Stewart, Genera Energy advised the audience that with support from the state of Tennessee and University of Tennessee (UT), Genera partnered with DuPont Danisco to construct and operate one of the world's first cellulosic ethanol biorefineries. Operating since 2010 on multiple feedstocks, the facility is a direct precursor to commercial scale. The ethanol produced at the Vonore demonstration plant is supplying E-85 to UT Motor Pool fleet. Mr. Stewart also added that the Genera Biomass Innovation Park is a unique asset spanning the space between the farm gate and the biorefinery gate, designed to develop and innovate integrated supply chain and pre-processing systems.

Harvey Abouelata, President of ARiESs Energy stated that since 2007, Wampler's Sausage has successfully built a wastewater treatment plant, installed a recycled material program, installed 2 solar systems and is currently installing a biomass energy system. The Wampler's 30kW and 500kW solar systems produce a total of 694,410 kilowatt hours annually.

The CHyP system developed by Proton Power uses a thermal gasification process that converts cellulosic material such as switchgrass into syngas by reacting it at very high temperatures. Abouelata concluded his remarks by stating that the new tagline for Wampler's Sausage is: **"Established in 1937 and Energy Independent in 2012"**

Bob Patterson, President of PBG Energy showed construction pictures of the Compressed Natural Gas (CNG) Station at Roberts Bros. Motors, Inc. in Athens, Tennessee. The goals of the installation of this station includes:

- 1) Fuel Savings for Utility Vehicles
- 2) Develop CNG Market and attract Customers
- 3) Help community transition to CNG and support private station development
- 4) Support community by offering lower cost and cleaner fuel; and
- 5) Provide jobs and support the local economy

He encouraged the local elected and university officials to explore the feasibility of using compressed natural gas as a more cost effective alternative than petroleum.

Monica Sowders of CEMEX Corporation gave an overview of alternative fuels used in cement manufacturing. CEMEX provides cement and concrete products to construction projects in every sector: industrial, commercial, residential and municipal.

CEMEX's efforts to reduce CO₂ emissions are focused on:

- 1) Energy Consumption Reduction

- 2) Substitution of fossil fuels by lower CO₂ emission factor fuels
 - Special interest on biomass sources
- 3) Cementitious materials for cement production
 - Pozzolana, Slag, Fly ash
- 4) Renewable Energy
 - Wind Farms, Waste to Energy, Biofuels for transport; and
- 5) Carbon Capture and Storage (CCS)

The CEMEX commitment with the World Business Council for Sustainability Development Cement Sustainability Institute (CSI) is to reduce 25% of our net CO₂ emissions per ton of cementitious material by 2015- taking as a reference 1990 levels. CEMEX has beneficially reused over 4,500,000 used tires in Knoxville alone since 1999. According to Sowders, plants in Europe have replaced up to 80% fossil fuels

Ben Farmer, president of Farmer - Morgan & Associates gave a powerpoint presentation with pictures during the progress of the Ducktown solar system. The City of Ducktown, population of 475 citizens became formally involved in renewable energy and sustainable development as a founding member of the Tennessee Renewable Energy & Economic Development Council (TREEDC). This effort coupled with continued education and awareness has led the city and Mayor James Talley to pursue renewable and sustainable methods of operation. The first project involving energy production was a 28 kilowatt solar photovoltaic system on City Property. Through creative means, the solar development project team consisting of Ducktown's employees, Mage Solar, PV Racking, DC Electrical, TREEDC, South East Tennessee Development District and Farmer-Morgan, were able to construct a 28 kilowatt system on city owned land adjacent to an old landfill. The system is expected to produce an average of \$8,000.00 per year to the city at a cost of \$100,000.00 funded through an Energy Efficiency Community Development Block Grant.

The capabilities of the employees of Ducktown and Mayor Talley are the primary success story for this project. City employee Jeremy Tipton agreed to travel to Georgia for solar install training and worked tirelessly to see the project up and producing energy with quality in craftsmanship.

During the luncheon, Former Congressman Zach Wamp and Shan Harris were given TREEDC appreciation awards. Congressman Wamp discussed the merits of a radio

controlled Light Emitting Diode (LED) lighting system for local governments and colleges that measures electricity, provides security and increases WIFI capability via street light poles. He is consulting for TREEDC member Global Green Lighting and mentioned that the lighting system is doing very well in Chattanooga. He informed the audience that in April 2011 Chattanooga was the First City in the United States to deploy on a large scale, low energy lighting with Smart Grid technology, creating additional energy saving, further maintenance cost reduction, increased reliability, and security features to make the environment safer. The Chattanooga North Shore and Coolidge Park was the first beta test site for this most advanced lighting system in the country to be demonstrated on a large scale basis. Over 300 LED and Induction lights, all containing the wireless Lighting Control system have been successfully deployed and monitored. With average annual savings of over \$2,750,000, the Chattanooga system pays for itself within 7 years and provides ongoing environmental and community benefits at no charge. Demo units are being used in TREEDC member City Jackson as well as other college campuses in the South. He commended UT, the TREEDC mayors and the state for taking a leadership role in renewable energy.

A question and answer question followed. The next TREEDC event will be at luncheon in Jackson on April 22, 2013.