



## Tennessee Renewable Energy and Economic Development Council Quarterly Newsletter

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### TREEDC Member City of Ducktown Wins Statewide Green Leadership Award



*TML President/Morristown Councilmember Kay Senter presents award to Mayor Talley*

The City of Ducktown and TREEDC President/Mayor James Talley were recognized as the 2012 Tennessee Municipal League (TML) award winner for leadership in sustainability and clean energy. Ducktown, which has a population of 475, 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.

Ducktown Mayor James Talley also serves as President of TREEDC. Mayor Talley has helped TREEDC work closely with the Tennessee Valley Authority to promote clean energy and Ducktown is looking at ways to convert its municipal wastes into clean energy as well. Ducktown is in the process of installing 2 electric car charging stations on public properties. Ducktown proves that no city is too small to become a giant in renewable energy.

## **TREEDC is Awarded Excellence in Energy and Renewable Resources by the 2012 Governor's Environmental Stewardship Awards**



**NASHVILLE** – Tennessee Gov. Bill Haslam and Environment and Conservation Commissioner Bob Martineau announced the winners of the 2012 Governor's Environmental Stewardship Awards last month. The 11 winners will be recognized for their achievements and positive impact on the state's natural resources in an awards ceremony to be held in Nashville on August 24.

“From implementing innovative new technology to environmentally friendly building practices to community members simply supporting one another, the honorees announced today once again demonstrate that Tennessee businesses, local governments, schools and everyday citizens are committed to healthier and more sustainable communities,” Haslam said.

The Governor's Environmental Stewardship Awards program recognizes exceptional voluntary actions that improve or protect our environment and natural resources with projects or initiatives not required by law or regulation. In its 26th year, this year's awards program covered nine categories: Building Green; Energy and Renewable Resources; Environmental Education and Outreach; Environmental Education and Outreach (school category); Land Use; Materials Management; Natural Heritage; Sustainable Performance; and Lifetime Achievement.

Additions to the award roster this year include two Pursuit of Excellence Awards, recognizing past award winners who continue to demonstrate a high regard for environmental stewardship practices. The winner of one additional honor, the Robert Sparks Walker Lifetime Achievement Award, will be announced at the awards ceremony in August.

A panel of 36 professionals representing agricultural, conservation, forestry, environmental and academic professionals judged more than 100 nominations and selected this year's award recipients based on criteria including on-the-ground achievement, innovation and public education.

"The ongoing protection of our land, water and air are essential components to our quality of life," added Martineau. "This year's award winners have put forth an extraordinary amount of effort, and we are pleased to be in position to honor their commitment to environmental stewardship and for leaving a positive legacy for all Tennesseans."

According to the press release "The Tennessee Renewable Energy & Economic Development Council demonstrated exceptional leadership in 2011 by partnering with 75 cities and counties to facilitate the advancement of renewable energy and energy efficiency in Tennessee.

TREEDC's biggest mark in 2011 was through its assistance to several small communities with solar and biodiesel development. TREEDC also started a joint program with TVA to help bring more renewable energy to the state via its partnership with the Green Power Switch Program. As part of their efforts, TREEDC hosted six free clean energy forums across the state, reaching out to more than 500 citizens to learn more about the environmental and economic benefits of renewable energy. TREEDC's outreach is designed to plan and facilitate development of Tennessee's abundant natural renewable resources to spur sustainable economic development and to provide long term energy security to the citizens of Tennessee, extended to private businesses, local governments, farmers, energy and service providers, resource agencies and universities."



# TREEDC Partners with Tennessee Gas Association for Natural Gas Vehicle Day



*Nevad, Talley and Greg Martin with Clean energy*

On April 4, 2012 the Tennessee Renewable Energy & Economic Development Council participated in the Tennessee Gas Authority's Natural Gas Vehicle Day at the State Legislature in Nashville. Over 400 stakeholders heard presentations regarding the economic and environmental benefits of natural gas. TREEDC is proud of the hard work by its 2012 Gold Founding Member. Please contact [warren.nevad@tennessee.edu](mailto:warren.nevad@tennessee.edu) if your community is interested in locating a compressed natural gas vehicle station.

## Ducktown and Franklin Switch to Solar

Two TREEDC member cities have recently begun the quest to save energy by becoming involved in solar alternatives. Franklin and Ducktown have installed solar development projects. As a result of these endeavors, the cities will both earn revenue and be better stewards of the environment.

According to TREEDC Director Warren Nevad, Franklin should be commended for being

municipal role models in creative solar financing in which the city does not bring upfront investment. Franklin is leasing 1 acre of land at the wastewater treatment facility to Nashville based Energy Source Partners who designed, permitted, funded and installed the ground mounted 200 kilowatt array. "A unique aspect of this project is that the city used land that would be otherwise worthless and parlayed that into revenue generation property," Nevad says. Franklin did not commit any funds, nor will it be responsible for maintaining the system. All of the power generated from Franklin's solar array is sold back to TVA and transmitted to the electric grid, with the revenue being split 80/20 in favor of Energy Source Partners. Once they have been paid off, the revenue will be split 80/20 in favor of the city. "This project is a public/private partnership that allows the City of Franklin to both generate revenue and generate renewable energy that lowers their carbon footprint," says Ron Merville, President and CEO of Energy Source Partners. "Franklin will lead by example as a city committed to being a better steward of both their resources and their environment." Franklin is considering adding solar to additional municipal properties as well.



Ducktown's project involving energy production is a 28 kilowatt solar photovoltaic system on City Property. The solar development project team consisting of Ducktown's employees, Mage Solar, PV Racking, DC Electrical, TREEDC, Southeast 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. In the future, Ducktown plans to build a 200 kilowatt solar farm and is working to become completely dependent on solar. The City of Ducktown was recently given the award for Excellence in Renewable Energy by the Tennessee Municipal League (TML).

## PHG Energy Joins TREEDC



*Delivering Affordable Renewable Technology*

PHG Energy, founded in 2010 and based out of LaVergne, Tennessee, officially joined the TREEDC network of 82 cities and counties during the Tennessee Municipal League Conference on June 11, 2012. PHG Energy uses a downdraft gasification process which converts municipal and wood wastes to clean energy. Their technology is scalable and will help reduce local government's energy costs. PHG Energy will also be a sponsor at the TREEDC-Tennessee Tech University Forum on July 27, 2012. TREEDC appreciates the support of PHG Energy and welcome them to our organization. To view a demo of their technology go to <http://www.phgenergy.com/>.

## Tennessee Tech Vice President of External Relations Dr. Susan Elkins Announces 2nd Annual Free Renewable Energy Workshop for Upper Cumberland Students, Citizens and Businesses



Tennessee Tech University (TTU), the City of Cookeville, PHG Energy and the University of Tennessee Municipal Technical Advisory Service (MTAS) have partnered with the Tennessee Renewable Energy and Economic Development Council to organize a community-wide forum at the 2<sup>nd</sup> annual TREEDC event on Friday, July 27, 2012, 2012 at TTU STEM Center. MTAS Management Consultant Warren Nevad and TTU Associate Director of External Relations Dennis Tennant have developed a comprehensive renewable energy educational agenda for area clean energy stakeholders.

Clean energy topics to be explored include compressed natural gas, solar energy, solid wastes to clean energy and biomass gasification. Attendees will also hear from Pathway Lending regarding energy efficiency loan programs. The forum is free to the public and includes a continental breakfast and lunch. Register at

[http://www.treedc.us/forum\\_registrations/index.html](http://www.treedc.us/forum_registrations/index.html) to ensure a seat. Seating is limited to 150 attendees.

## Clarksville/Montgomery County Meet with TREEDC

TREEDC held a luncheon with members Clarksville and Montgomery County on May 9<sup>th</sup> at Austin Peay State University. Representatives from the University of Tennessee Municipal Technical Advisory Service, County Technical Assistance Service, Tennessee Solar Energy Association, USDA Rural Development Pathway Lending, Tennessee Departments of Environment and Conservation and Agriculture, City of Franklin and Energy Source Partners convened together to learn more about best management green practices in Clarksville, Montgomery County and Hemlock Semiconductor.

Mayor McMillan addressed the crowd by stating that she believes in the mission of TREEDC, which is to promote and connect renewable energy for all communities in Tennessee. Mayor McMillan also expressed to President Talley her support for a TREEDC-Austin Peay State Community Energy Forum next year. Mayor Bowers stated that she was proud of the work at the Bi-County Landfill and Green Certification Program for Clarksville-Montgomery County organizations.



*Steve Thompson, MTAS Executive Director; Talley, Nevad, Montgomery County Mayor Carolyn Bowers, Clarksville Mayor Kim McMillan*

Michelle Newell, program manager, stated that the Green Certification Program was designed to help businesses learn and implement best practices in the area of environmental stewardship in an effort to sustain resources through a series of free workshops taught by environmental and other subject area specialists. Newell also advised the audience that Tennessee Department of Environment and Conservation (TDEC) Commissioner Bob Martineau will be speaking at the Inaugural Green Certification Awards program on May 22<sup>nd</sup>. TREEDC has partnered with TDEC and the Tennessee Economic and Community Development (ECD) Energy Division to conduct a strategic planning retreat in the fall. TREEDC also has partnered with the Tennessee Gas Association to explore the feasibility of developing a statewide network of compressed natural gas stations.

Pete Reed, Bi-County Solid Waste Director explained how the Bi-County landfill converts methane gas to renewable energy, which is sold to the Tennessee Valley Authority power grid through the Cumberland Electric Membership Corp. The landfill gas is collected at 21 wells, then moves to the on-site facility through lines, similar to a gravity sewer system. Once there, the gas is diverted either to the flare station or a treatment station, where the gas is refrigerated to remove excess moisture.

The luncheon keynote speaker was Brian Amick, Hemlock Semiconductor Loss Prevention Team Leader. Amick informed attendees that Hemlock Semiconductor evaluated 60 sites in 5 continents to find a suitable location to build a polysilicon manufacturing facility in Clarksville, Tennessee. Amick gave an excellent overview of the manufacturing process of polysilicon. He cited the factors to select Clarksville and Montgomery County included that the property was a TVA certified mega-site and the skilled workforce in Tennessee and Kentucky. Amick also complimented Austin Peay State University for their willingness to develop a training program partnership with Hemlock in chemical engineering technology.

## **TREEDC Members Athens, Brentwood, Covington and Johnson City awarded TDEC Clean Energy Grants**

The Clean Tennessee Energy Grants were awarded to 17 recipients for projects designed to reduce air emissions, improve energy efficiency and create cost savings. The grant program provides financial assistance to state and local government agencies, utility districts, and private businesses/organizations in Tennessee to purchase, install and construct energy projects. Four TREEDC cities received awards. TREEDC West Tennessee Coordinator/Covington Mayor David Gordon was on hand during the announcement in Memphis on June 21, 2012. Another round of funding will be available next year.

The following TREEDC member cities received awards:

**City of Covington:** \$250,000 to enact a Waste Biomass Gasification to Energy Project that will create electricity and utilize the city's wood waste and biosolids as fuel. The complete system will use landfill-bound waste to provide a continuous stream of domestically



produced energy that is clean, carbon neutral and renewable; it will convert approximately 12 tons per day of the wood and sludge waste collected by the city into electricity.

**City of Athens:** \$250,000 to construct three grid-tied solar power-producing systems and one small office system. The three solar systems combined will produce 137,117 kWh in clean energy each year, which will be sold to the Tennessee Valley Authority. Power sales are expected to produce nearly \$30,000 per year in income. The city will use this income as earmarked funds for future energy savings initiatives in Athens.

**City of Johnson City:** \$150,000 for a wastewater treatment plant aeration system project. The aeration system is a major user of electricity at the wastewater treatment plant, and the funds will be used to replace aeration system diffusers, provide a variable frequency drive on one blower, provide dissolved oxygen based controls, and replace all existing metal halide area lighting fixtures at the plant with LED lighting fixtures.

**City of Brentwood:** \$52,250 to implement an energy-saving and emissions-reducing project at the Brentwood Public Library. The project consists of replacing two 14-year-old, inefficient boilers that require a high volume of combustion air to be delivered to the boiler room.

## TVA Partners with TREEDC



Wouldn't it be great if there was a way to harness the natural power of the wind, sun and earth to create an energy source that is useable in our everyday lives? The Tennessee Renewable Energy and Economic Development Council (TREEDC) has partnered with the Tennessee Valley Authority (TVA) to do just that.

Through the launch of the Green Power Switch Pilot Program in Memphis on November 18, 2011, TREEDC has garnered support from thousands of organizations and individuals around the state. Participation in this program will help to bring clean, green power to the Tennessee Valley, but involvement of others is crucial to the program's success!

TREEDC has recently been educating others on the Green Power Switch program and has hosted several sign-up events. In February, TREEDC representatives traveled to Washington D.C. to meet with U.S. Congressional delegation from Tennessee and urged them to become involved in Green Power Switch.

Additionally, TREEDC hosted a successful Green Power Switch sign-up at a recent Tennessee Tech basketball game.

TVA Green Power Switch Product Manager Jenny Wright has spoken at recent TREEDC forums about the positive effects of the program, and says purchasing two blocks of green power is the environmental equivalent of a 16 panel south facing system in Nashville.

Go to [www.greenpowerswitch.com/treedc](http://www.greenpowerswitch.com/treedc) for more details

## **Solar Farms Cropping Up in TREEDC Members Memphis and Shelby County**



*Memphis Councilman/TREEDC Board Member Dr. Edmund Ford Jr.*

With a desire to use more alternative energy, Memphis and Shelby County government, as well as private entities, have taken significant strides in increasing the number of solar farms in their community. The largest project to date is Agricenter International's solar array, which went "live" in April with the well-attended official ceremony held on April 11,

2012. This five acre, 998.4 kW solar farm, financed by Silicon Ranch and installed by TREEDC Member LightWave Solar, will produce 1,600,000 kWh each year.

The farm was tied to the power grid with the assistance of MLGW and TVA. The construction of this solar array brought green energy jobs to the region and supported local solar panel manufacturer SHARP. Other solar projects include a 750 kw array of nearly 3,000 panels on the parking deck of TREEDC Member Memphis Bioworks Foundation. In addition, Inman Solar recently installed a 28 kw array at All Better Pediatrics in East Memphis and a 50 kw array at Memphis Pediatrics in TREEDC Member Germantown.

## **Memphis and Shelby County Office of Sustainability Spring 2012 Newsletter**

This edition discusses a new recycling drop-off location, highlights from the first annual Sustainability Month, and a spotlight on Brother International Corporation's commitment to sustainability.

Please view the newsletter here: <http://bit.ly/J8STKL>

Follow on Twitter: @SustainShelby or like on Facebook: <http://on.fb.me/tEo1cM>

## **TREEDC Holds Renewable Energy Forum in Jackson, Tennessee**



*From: Warren Nevad, the University of Tennessee MTAS*

TREEDC held its third annual renewable energy forum for area farmers, elected officials and clean energy providers at Jackson State Community College in Jackson, Tennessee on April 12, 2012. A total of 67 participants representing 16 cities, 8 counties and 4 states joined together to learn about the clean energy sectors of biofuels, solar energy, green diesel, compressed natural gas and biosolids gasification. The event was sponsored by TREEDC founding members Jackson Energy Authority (JEA), Jackson Area Chamber of

Commerce, Jackson State Community College, Tennessee Gas Association and Jackson City Councilman Ernest Brooks, II. The University of Tennessee Municipal Technical Advisory Service (MTAS) crafted the agenda, which consisted of educational presentations from PHG Energy, Tennessee Gas Association, 49 Green, Paradoxe Corporation, Tennessee Valley Authority (TVA), the University of Tennessee Center For Industrial Services, and Efficient Energy of Tennessee.

Jackson Mayor Jerry Gist thanked the Jackson community for supporting economic development through renewable energy and complimented Jackson Councilman Ernest Brooks for his efforts in bringing more awareness in clean energy to West Tennessee. Jackson Area Chamber of Commerce Vice President Shirley Jones stated that she was proud that the Chamber was a sponsor of the forum. Jackson Energy Authority President Jim Ferrell advised the audience that Jackson Energy Authority recognized the need and importance of compressed natural gas as a viable alternative transportation fuel for various fleets across the state. Scott Golden, Deputy Chief of Staff for Congressman Stephen Fincher gave an update on renewable energy related activities in District 8. He explained that as a farmer, Congressman Fincher understands the importance that renewable energy producing facilities such as biomass gasification and solar can bring to needed farm income.

Jackson State Community College President Bruce Blanding informed the stakeholders that Jackson State is a member of the Sustainability Education & Economic Development Center (SEED). The Center is a leadership initiative and online resource center exclusively for community colleges. This resource provides tools for community colleges to advance sustainability and green workforce development practices. Jack Laser, Jackson State Director of Center of Emphasis expressed to the audience the need for communities to become more educated about renewable energy and that we needed to encourage younger generations to learn more about renewable energy through continuing education.

Peg Hamlett gave a thorough presentation about the benefits of sustainable agriculture for area farmers. Donna Stokes with TREEDC Founding Member Efficient Energy of Tennessee gave an update of the 1 megawatt solar system in Jackson that was interconnected to JEA last year. This solar system supplies enough power to roughly 200 homes in Jackson. TVA Green Power Business Development Associate Donna Suter stated that Green Power Switch was created by TVA on Earth Day 2000. This program adds more renewable energy to our local grid. TVA is transitioning from Generations Partners to Green Power Providers. The goal if this transition is to provide long-term stability to small-scale renewable growth in the TVA region. Eddie Parimore explained that Solar & Renewable Power was formed as a division of Paradoxe Corporation in 2008. Solar & Renewable Power built the first solar interconnected systems in Jackson, Savannah and Milan, Tennessee. They also built a 2 kilowatt wind turbine at Walters State Community College in Morristown.

Henning Bollerslev of 49 Green explained their revolutionary Danish process of converting municipal and agricultural wastes into green diesel as an emerging alternative transportation fuel for city and county fleets. This technology should be available for commercial production in Denmark sometime in late 2012. Chris Koczaja, PHG Energy Vice

President of Sales & Engineering illustrated how PHG Energy converts wastes to energy. Their downdraft gasifier converts crop residues, scrap tires and sludge into syngas. This process can offer clean carbon neutral energy solutions to waste disposal costs. His powerpoint along with the others will be available shortly at [http://www.treedc.us/newsletters\\_reports/index.html](http://www.treedc.us/newsletters_reports/index.html)

Keith Ridley, Energy and Environment Team Leader with the University of Tennessee Center For Industrial Services (CIS), gave an historic overview of CIS, which was formed in 1963 by the Tennessee General Assembly. The mission of CIS is to help Tennessee businesses succeed, grow and create high quality jobs. Ridley also discussed the E3 Initiative which stands for Economy, Energy and Environment. The kick-off was at TREEDC member Bartlett Chamber of Commerce. Other partners to the E3 initiative include TREEDC members Pathway Lending and Pew Charitable Trusts.

Scott Dahlstrom, representing TREEDC Founding members Tennessee Gas Association and Jackson Energy Authority informed the audience that natural gas is considered to be the cleanest fossil fuel because it produces fewer emissions than other fuels. According to Dahlstrom, Natural Gas Vehicles produce 25% less CO<sub>2</sub>, 80% less nitrogen oxide and 90% less particulates.

## Upcoming TREEDC Events

**July 27, 2012** TREEDC 2nd Annual Upper Cumberland Forum Tennessee Tech University Cookeville, TN. 8:30 a.m. to 1:00 p.m. Refer to page 5 for more details

**August 2012** Ameresco/TREEDC Luncheon

**October 18-19** Knoxville Tennessee Solar energy Association Workshops

