

# THE ENERGY EFFICIENCY & RENEWABLE ENERGY TRACKER

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## EE & RE Awards at TransTech Energy Conference

The 2016 TransTech Energy Business Development Conference was held October 26-27 in Morgantown. The event had three winning pitches in the areas of renewable energy and energy efficiency:

- **Runner-Up Award for a finalist start-up company** - Optimus Technologies of Pittsburgh, PA – The firm's product, an EPA-approved biofuel conversion system for light and medium-duty diesel trucks, allows a vehicle to run on 100% biofuel with fallback to diesel as needed. The system enables 10 to 15 % savings on fuel, and 80% emissions reduction compared to diesel with a two-year payback;
- **WVU Industrial Assessment Center In-Kind Award** - Hibernsense of Pittsburgh, PA – The firm's product is a building-wide HVAC sensor and control system that transmits temperature, motion, light, and humidity data to a central hub to maintain optimize occupant comfort; and
- **Scott Rotruck Award for the most innovative technology pitched by start-up company or commercializable project** - Potential Labs of Athens, OH – The main product is Glow, an intelligent energy tracker that helps reduce electricity usage through real-time usage data. Glow uses a wireless electricity sensor that relies on magneto resistive sensors to measure inductive magnetic fields created when current moves through a conductor. The sensor is mounted on a utility meter box and measures whole house current.

SOURCE: The TransTech Energy Conference at WVU



## WVU Expands Work in Manufacturing Efficiency with Renewal of Industrial Assessment Center and Receipt of New Manufacturing Innovation Institute Award

The U.S. Department of Energy recently announced a new advanced manufacturing initiative called the Smart Manufacturing Innovation Institute (SMII). The Institute is led by the Smart Manufacturing Leadership Coalition in Los Angeles. The goal of the SMII is to "spur advances in smart sensors and digital process controls that can radically improve the efficiency of U.S. advanced manufacturing."

WVU is a research partner, along with several others in nearby states such as the National Energy Technology Laboratory, Michigan Technological U., Oak Ridge National Laboratory, Penn State, U. of Virginia and Virginia Tech. SMII is a consortium comprised of nearly 200 partners across academia, industry, and non-profits from more than thirty states.

The SMII is part of the U.S. DOE's National Network for Manufacturing Innovation (NNMI). Through the NNMI, the SMII will partner with other innovation institutes to pioneer various emerging technologies. WVU researchers will be part of the Gulf Coast Node focusing on energy efficiency and smart manufacturing in the petrochemical and plastics industry. One possible outcome is to work with industry partners in WV in hosting of a technology test bed to develop, test, and deploy the smart manufacturing platform in the petrochemicals supply chain.

In December 2016, the US DOE announced an additional five years of funding for the Industrial Assessment Center (IAC) at \$1.5 million. The IAC provides free energy efficiency assessments for small and medium-sized enterprises, and will likely conduct 85 assessments with the renewed funding. Participating businesses can expect to save at least five percent of energy and water use per facility.

The IAC is part of the Statler College of Engineering and Mineral Resources at WVU, and is headed by Dr. Bhaskaran Gopalakrishnan, Professor of Industrial and Management Systems Engineering. The center is one of 24 such centers around the country. To date the WVU IAC has conducted 527 industrial assessments in WV and recommended more than 10 Tbtu in energy savings measures representing \$90 million in savings.

SOURCE: WV Energy Institute, IAC at WVU and whitehouse.gov

## WVU Energy Institute

### WV Firm Working on Micro-Hydro Turbine Design

A recent graduate of WVU and Preston Machine, a Kingwood-based machining business, are working to design micro-hydro turbines to generate electricity with lower cost. The initiative is headed by Josh Matheny, a 2016 graduate of WVU with a master's degree in mechanical engineering.

Research is focused on design improvements that can increase the manufacturability and cost-effectiveness of turbine impellers, the main components of hydro turbines, which rotate based on the pressure of the flow of the water. Primary goals are to improve impeller performance and commercial viability.

The design idea was initially pitched at the 2013 TransTech Energy Business Development Conference. The next step for the team is to build a complete prototype. One potential application for such systems is use of water flows from acid mine drainage sites.

SOURCE: wvutoday.wvu.edu

## THE ENERGY EFFICIENCY & RENEWABLE ENERGY TRACKER (CONTINUED)

### Coalfield Development Corporation Receives Funding for Solar Panel Installation Training and other efforts

The Coalfield Development Corp. is a social enterprise company founded in 2012 that seeks to provide affordable homes, create quality jobs, and improve the quality of life for low income families in southern West Virginia. In August 2016, funding of \$1.87 million was announced via a POWER grant from the Appalachian Regional Commission for the organization to implement its "Appalachian Social Entrepreneurship Investment Strategy." Coalfield also received a solar training support grant of \$150,000 from CommunityWINS, a program sponsored by the Conference of Mayors and Wells Fargo.

Coalfield is a family of social enterprises that aims to foster entrepreneurial activities and build a competitive workforce in Wayne, Lincoln, MacDowell, and Mingo counties, some of the primary counties to be negatively impacted by the decline of the coal industry.

The family of enterprises is comprised of:

1. Revitalize Appalachia - green-collar construction;
2. Refresh Appalachia - agricultural businesses;
3. Reclaim Appalachia - environmental remediation, plus a woodshop (Saw's Edge); and
4. Rewire Appalachia - solar installation training.

The Rewire Appalachia initiative now has 4 positions filled and installed over 150 panels in October and November in Huntington, Charleston and Shepherdstown. The Rewire Appalachia Crew Chief is a laid-off coal miner from Mingo County who was a certified electrician in the mines.

Coalfield is headquartered in Wayne, WV. Solar installation training takes place at the West Edge Factory in the Westmoreland neighborhood of Huntington.

**SOURCE:** Coalfield Development Corporation, [whitehouse.gov](http://whitehouse.gov) and The State Journal



### ACEEE Ranks West Virginia 44th in Efficiency Efforts

The American Council for an Energy-Efficient Economy (ACEEE) recently released the 2016 edition of its State Scorecard. California and Massachusetts are tied for first, scoring 45 out of 50. Three states are listed as most improved: Missouri, Maine, and Michigan.

West Virginia is ranked 44th, with a total score of 8 points out of 50, and is tied with Oklahoma. WV rose from 45th in 2015 and 46th in 2014, in spite of losing half of a point since 2015.

### ACEEE Ranks West Virginia 44th in Efficiency Efforts (continued)

The State's score in each of the six ACEEE policy areas are:

1. Utility (-0.5 out of 20): received 0.5 points for electricity program savings and -1 point due to opt-out provision for large customers;
2. Transportation (3 out of 10): 1 point each for % change in VMT per capita, complete streets legislation and dedicated transit revenue stream statutes;
3. Building codes and compliance (4.5 out of 7): 1 point each for residential and commercial code stringency, and 2.5 points for compliance activities including gap analysis, training and stakeholder engagement;
4. Combined heat and power (0.5 out of 5): for deployment incentives;
5. Government-led efforts (0.5 out of 7): for the West Virginia University Energy Institute; and
6. Appliance standards (0 out of 2): because WV has no appliance standards.

ACEEE recommends WV focus on incentivizing the utility sector to increase investment in energy efficiency.

**SOURCE:** ACEEE 2016 State Energy Efficiency Scorecard



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