

**2011**  
**Awards for Excellence in Education Programs**  
**Annual Winner**

**Morgan County**  
**“Green Power Projects”**

**Unique Nature of Project:** The Green Power Projects at the Morgan County Career and Technical Center (MCCTC) have identified as the only high school in Tennessee, which has students constructing and fabricating small wind and solar components and installing them. Other school systems had green power projects, but students did not build them. His information was reported by Thom Smith, Executive Council for Career and Technical Education, who was commissioned by the legislature to survey all Tennessee schools to see to what extent renewable energy was being taught in the curriculum. Despite its resources, the Appalachian region in the Southeast has very few small wind installers. Ronnie Trout, a welding instructor at MCCTC is leading his students in small wind design and installation of tall guy-wired towers for small turbine and frames for solar photovoltaic systems.

The MCCTC has been honored to host numerous visitors for the purpose of gaining more information about these green power projects. These visitors include the Career and Technical Division, Assistant Commissioner, Ralph Barnett; Director of Curriculum & Instruction, Will Lewis; Director of Professional Development, Dianne Cashion; Trade & Industry Consultant, Sue Tuckers; and Executive Director Council for Career & Technical Education, Thom Smith.

**Program Adaptability:** The Green Power Projects have been very adaptable to the MCCTC because of the project-based learning elements of the work. Career and Technical Education stresses the importance of academic integration in meeting the goals of increased rigor and relevance of the Tennessee Diploma Project. More than 200 students have been involved with these projects including Math, Physics, Business Technology, Carpentry, Geometry, Welding, Agriculture Education, machine Technology and Collision Repair. Students have demonstrated a genuine sense of pride because they are actively engaged in relevant work, which will benefit the community and the environment. Some students worked on erection of one of the windmills during their summer vacation.

These students are also preparing themselves for careers in these new and emerging fields. Tennessee could gain 4,233 full time jobs in wind and nearly 400 in solar by 2015. There are three solar companies that Morgan County students could possibly

gain employment with. Since these projects benefit the school and community in many ways, it has been easy to get the community involved, the primary benefit being the engagement of students in meaningful learning. Secondly, the Obama administration has brought to our nation's attention the need to put more importance into developing clean, renewable energy sources. Thirdly, such green projects have the potential to reduce the cost of energy for our schools.

**Evidence of Success:** The projects have been awarded grants of \$26,000 and \$45,000 and the second grant is in its final stage of completion. Harriman Utility has donated electrical connections valued at approximately \$4,500. Mr. Trout trained two students to compete in the Sustainability Solution Competition in Kansas City where they won third place in the nation. They also presented at the TSBA Fall Convention in 2009 in Nashville.

Through collaboration and interest from Tennessee Technology Center at Harriman as a part of a Carl Perkins Grant, a dual enrollment class entitled "Electrical Wiring and Basics Code for Alternate Energy" is being offered beginning in January 2011 and taught by a TTC instructor.

A-Wing International, a Japanese business coordinated by Katharina Drokur, originally learned about the renewable energy program at MCCTC through the programs website. She said, "I was impressed with the high school program and its connections with Tennessee Tech and other schools in the area." Drokur is interested in using the schools tower construction model to apply to communities in Vietnam. The company donated a new windmill with all the components to MCCTC to install and collect data here on the campus.

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