IBSS
Southeastern Partnership for
Integrated Biomass Supply Systems

IBSS Whistle Stop Tour

"Green diesel" is on the move, and a recent demonstration tour showed Southeastern audiences just how far the biobased fuel can go. Coordinated by the Southeast Partnership for Integrated Biomass Supply Systems (IBSS), the 900-mile mobile tour featured a tractor-trailer scale mobile biomass gasifier from Auburn University.

Motivation

The IBSS Partnership conducts research and outreach to minimize regional barriers to development of the drop-in liquid fuels industry. Recently the project produced some 1500 gallons of a "green" diesel fuel from Southeastern-produced plantation pine and switchgrass and technology provided in part by industrial research partners.

Tim Rials, director of the IBSS Partnership, contends that the U.S. should invest in the Southeast for the production of biofuels. "In 2010 the USDA Biofuels Strategic Production Report estimated that the Southeast will be the leading region for biofuels production because we have the most robust growing season in the U.S.," he said. "In addition, our region can produce a variety of biomass feedstocks including dedicated crops such as switchgrass and sorghum, along with dedicated woody crops and forest residues." The goal of the IBSS Partnership is to demonstrate the production of advanced biofuels from sustainable sources of lignocellulosic biomass. Initially, the partnership has focused its efforts on perennial switchgrass and short-rotation woody crops like poplar, eucalyptus, and pine. Steve Taylor, professor and head of the Department of Biosystems Engineering and director of the Center for Bioenergy and Bioproducts at Auburn, said "Auburn's research has developed technology breakthroughs for harvesting, processing, and transporting forest biomass to the biorefineries that have resulted in lower delivered costs and improved feedstock quality. Also, we have made significant advances in the conversion processes that allow us to make fuels like diesel and gasoline from woody biomass in more cost effective ways."

The IBSS Partnership is funded by a grant from the U.S. Department of Agriculture's National Institute of Food and Agriculture (NIFA). One goal of NIFA's Agriculture and Food Research Initiative (AFRI) targets the development of regional systems for the sustainable production of bioenergy and biobased products that contribute significantly to reducing dependence on foreign oil; have net positive social, environmental and rural economic impacts; and are compatible with existing agricultural systems. The Partnership is also charged with developing educational efforts to help prepare future workforce participants to contribute to the growth and sustainability of a new biofuels industry in the Southeast.

The IBSS mobile tour was part of an effort to make the public aware of the science involved in developing biofuels and the potential benefits of biofuels to society. It was also designed to raise public awareness of the next-generation of biofuels that, unlike ethanol, will perform just like today's petroleum-based fuels.

Approach

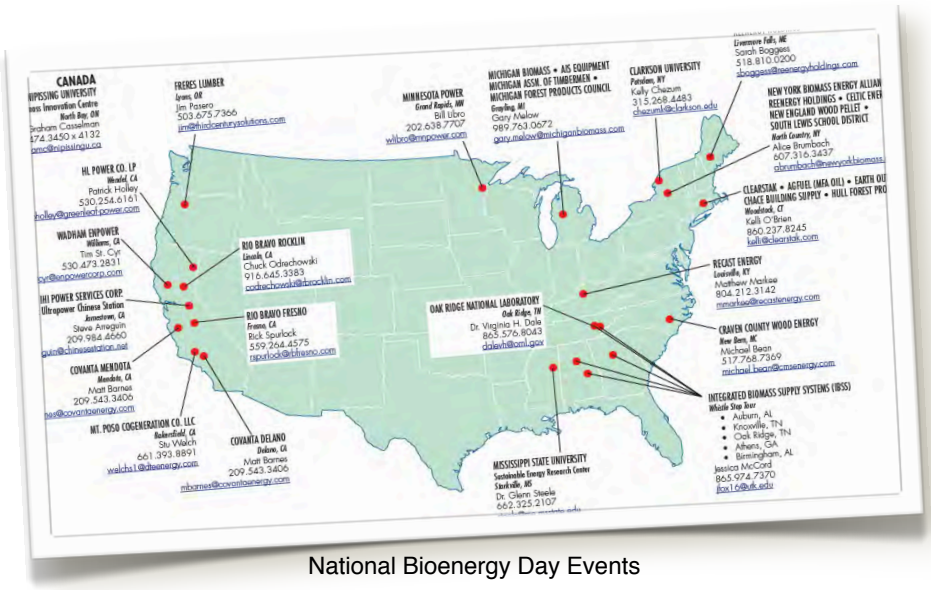
Using synthetic diesel made from IBSS feedstocks southern pine and switchgrass, the gasifier traveled a three-state tour route and demonstrated to hundreds of students and adults how to turn biomass into electricity and drop-in fuels like diesel. Visitors to the display learned first-hand about how plant-based materials, including wood and switchgrass, are being intensively studied for conversion into biobased fuels.

Christian Broadbeck explaining the Auburn mobile gasifier to Middle School students at the AMSE in Oak Ridge, TN.

For more information visit http://www.se-ibss.org

Five tour stops touted the successes of the first two years of the regional research partnership focused on bioenergy production in the Southeast. On Oct. 2 the tour visited the McWane Science Center in Birmingham Alabama. On Oct. 3 it stopped at the American Museum of Science and Energy in Oak Ridge, Tennessee, and on Oct. 5 it made the short trip from Oak Ridge to the University of Tennessee's Ag Day in Knoxville. The UT Center for Renewal Carbon is the lead institution for the IBSS Partnership. Other participants include North Carolina State University; Auburn University; ArborGen, Inc.; Ceres, Inc. and the University of Georgia.

At Ag Day, the University of Tennessee Institute of Agriculture's annual alumni event, the unit demonstrated electricity being generated from biomass by powering large screen TVs that had gameday coverage of college football. Also, an all-terrain vehicle (ATV) fueled with "green" diesel highlighted real life farm-to-fuel technology. The ATV even helped escort alumni to and from the event's parking and individuals, young and old, got to see "green" diesel produced by IBSS in action. More than 1,200 are estimated to have attended Ag Day.



National Bioenergy Day Events

Following Ag Day, the tour traveled to the University of Georgia's Bioenergy Day in Athens. That Oct. 8 community event, which was held as a precursor to National Bioenergy Day, was hosted by UGA's Bioenergy Systems Research Institute (BSRI) and held at the State Botanical Gardens in Athens. Key features included grade-specific, kid-friendly educational exhibits linked to Georgia's 5th grade science curriculum and activities regarding biofuels research, development and use. At the UGA stop alone, approximately 250 individuals attended with 230 being middle school students.

The mobile tour was listed as part of the larger National Bioenergy Day with events held all over the country. Sponsored by the Biomass Power Association, Biomass Magazine, the U.S. Industrial Pellet Association, the Forest Landowners Association, the Biomass Thermal Energy Council and the American Council On Renewable Energy, this event highlighted different types of bioenergy work and research around the country. The IBSS mobile tour was selected to participate and inform the general public on the benefits of bioenergy.

The IBSS mobile tour returned to the Auburn campus in time for homecoming activities on Saturday, Oct. 12, where over 2,000 visitors had a chance to learn about biofuels at the annual College of Ag Roundup.

The 900 mile tour, spanning three states and reaching thousands of individuals in the Southeast, was a huge success. The IBSS Partnership is now working on the next effort to increase public awareness and inform future workforce participants.


Jessica McCord adding switchgrass pellets to the micro-size gasifier and power generator.

Tweets from National Bioenergy Day
#BioenergyDay

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