



June 25, 2009

TRI Successfully Launches Operation of its New Thermochemical Biorefinery Demonstration Unit

New state-of-the-art gasification facility gasifies a range of biomass feedstocks to produce renewable fuels and clean energy

Durham, NC June 25, 2009 -- ThermoChem Recovery International (TRI), a leading renewable energy technology company headquartered in Baltimore, MD, today announced that it successfully launched operation of its new, large-scale state-of-the-art biomass gasification process demonstration unit (PDU) in Durham, North Carolina. The PDU transforms biomass into a synthetic gas or "syngas," which is catalytically converted to produce liquid fuels and other bio-based chemicals. Biomass gasification is considered to be a key technology platform for advanced cellulosic biofuels, and a primary means for reducing our nation's dependence on foreign oil and reducing greenhouse gas emissions.

TRI's new demonstration unit can process 4 dry tons of biomass per day. The 1.0 MW_{th} PDU is designed to be easily integrated into a variety of downstream catalytic processes to produce renewable fuels, chemicals and power. The PDU has the flexibility to gasify any form of biomass, and provides analytical and engineering data needed for process evaluation and commercial scale-up.

"The system's design and scaling parameters were developed with our commercial projects firmly in mind," said Dave Newport, TRI's VP of Projects. "We learned a great deal from our previous pilot project work and from our commercial scale gasifier at Norampac, which has been operational since 2003. This new system will now allow us to evaluate different types of feedstocks used to produce biofuels and to support the development of premier commercial gasification facilities as we move forward."

"This is a proud moment for TRI and its partners as we successfully launch a large-scale pilot plant that allows us to accelerate development of commercial biorefineries as well as next generation design concepts for renewable fuels and clean energy," said TRI President and CEO Dan Burciaga. "The development of biofuels is here to stay and TRI is poised to play a major part in this bioenergy revolution."

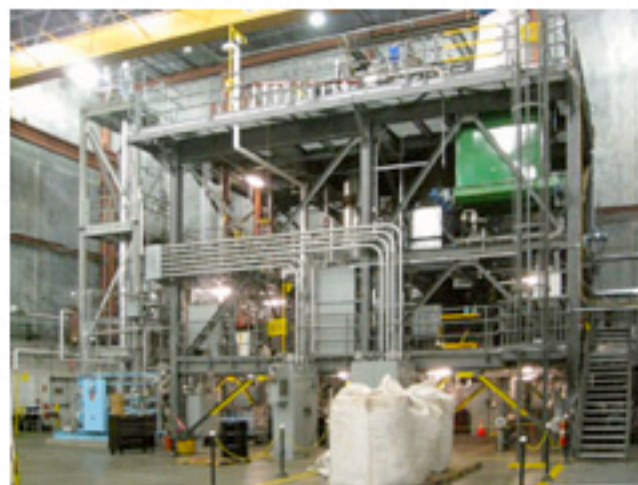
TRI, which was founded in 1996, is a leading renewable energy technology company commercializing thermochemical biorefinery systems for the production of biofuels and clean energy from non-food biomass feedstocks. TRI is currently a key technology provider for two United States Department of Energy-funded biorefinery projects: Flambeau River BioFuels LLC (Park Falls, WI) and NewPage Corporation (Wisconsin Rapids, WI), and is engaged in a range of other commercial-scale projects. The PDU is located at Southern Research Institute's Carbon 2 Liquids™ facility in Durham, NC.

For more information, please visit www.tri-inc.net



Research & Development/Test Facilities

In order to verify and validate TRI's most recent commercial-scale process and design improvements, TRI is currently operating a pilot plant nominally rated at 4 dry tons per day of biomass or 1 MWth. Fluid dynamic and gasification process scaling parameters were employed to design this pilot plant so that the test results are directly and immediately applicable to the design of next-generation commercial scale systems. Several biomass feedstock characterization test campaigns in this unit are underway and scheduled into 2010 and beyond. The pilot plant is located at Southern Research Institute's Carbon to Liquids (C2L) Research Facility at Durham NC.



Technology

How it Works

Applications

R & D

TRI's steam reforming technology has evolved and matured from bench scale to commercial scale via a coordinated program of sequential and parallel development steps utilizing a network of private and public research facilities. The bulk of the developmental work for the proprietary technology has been conducted on Manufacturing and Technology Conversion International Inc's Process Development Units (PDU) in Baltimore, MD. Fluidization dynamic and liquor injection simulation studies have been performed at Pemm-Corp, a well-respected fluid bed consultant and cold flow modeling company. Black liquor trials have been conducted at the University of Utah's steam reforming process development facility. Recent biomass steam reforming screening trials have been carried out in a bench scale test unit at the Energy and Environmental Research Center, in North Dakota.

The feedstocks tested to date include various spent liquors (kraft, sulfite, soda and straw spent liquors; distillery spent wash) and solid biomass and carbonaceous matter, including paper mill sludge, wood chips, rice hulls, saw dust, grape plant prunings, pistachio nut shells, municipal solid waste, refuse derived fuel, sewage sludge, lignite and sub-bituminous coals, low-level mixed waste surrogates, wood wastes, switchgrass pellets, poultry litter, swine waste and olive pits. These tests helped establish the feasibility and fuel flexibility of the technology.