

Forest Concepts Awarded \$150,000 Department of Energy Research Grant for Biomass Drying

May 17, 2012 - Forest Concepts, LLC, a small business in Auburn, Washington was notified today that it was awarded an SBIR research grant in the highly competitive \$11 million DOE program announced by U.S. Deputy Secretary of Energy Daniel Poneman. Innovative research and technology grants up to \$150,000 were given to approximately 70 small businesses out of a total of 764 applicants. If Forest Concepts is successful in the \$150,000 SBIR ten-month long research project, it will qualify for up to an additional \$1 million of funding over two years to complete the development effort.

The proposal, ***Process Intensification through Improved Dryer Engineering Data and Design***, combines our ongoing low-energy biomass feedstock comminution engineering program with new advanced drying physics and science work that will reduce the capital and operating costs of biofuels facilities using woody and herbaceous biomass as their feedstocks. The technologies to be developed under this proposal will achieve process intensification by combining Forest Concepts' energy efficient comminution of high moisture fibrous biomass to produce small, uniform particles with optimal design of low-temperature dryers. In addition to the already demonstrated 50% reduction in comminution energy for Forest Concepts' patented Crumbles® precision feedstock technology, process intensification can be achieved when, a) the gross drying energy relative to current technology dryers are reduced by 25% through better engineering design data, and b) the capital and footprint of a dryer might be reduced by 30%.

Conversion of lignocellulosic biomass to liquid transportation fuels and bioproducts is a core element of our nation's strategy to replace imported oil with renewable domestic resources. Thermochemical conversion processes typically require very dry feedstocks thus require an expensive drying process step. Dryer design data for grains and many industrial materials are known, but prior experiments at our facility have demonstrated that biomass feedstocks, particularly woody biomass, are sufficiently unique from agricultural commodities that the appropriate design data does not exist or is not applicable to the design of low-temperature dryers for such feedstocks. The technologies resulting from this project can be implemented today at solid biofuel pellet facilities to reduce capital and operating costs; and at second generation liquid transportation fuel producers as commercial scale facilities are built.

About Forest Concepts LLC:

Established in 1998, Forest Concepts, LLC is a biomass feedstock supply chain technology developer with a portfolio of proprietary and patented innovations that expand sources of cost-effective biomass for producers of cellulosic biofuels and bioproducts. Our ongoing research and development seeks to even further improve the value of cellulosic biomass feedstocks through upstream preprocessing and pretreatment to reduce biorefinery capital, operating costs, and environmental footprints. We apply a deep understanding of plant biology, renewable resource production, and disciplined engineering development to create transformational and paradigm-changing solutions. Deployment of Forest Concepts' novel technologies will help reduce dependence on domestic and imported fossil fuels, improve the atmospheric carbon balance, and create sustainable jobs throughout the biomass production and supply industry.

For more information visit our corporate web site www.forestconcepts.com .

Digital photos are available.

Contacts:

James H. (Jim) Dooley
Chief Technology Officer
Ph: 253-333-9663

jdooley@forestconcepts.com

Michael C. (Mike) Perry
Chief Executive Officer
Ph: 253-333-9663

mperry@forestconcepts.com