

NEWS RELEASE

BC Bioenergy Network Funds Elemental Energy Inc. to Support the Demonstration of Paradigm's MicroSludge® Technology at Catalyst Paper's Crofton Mill

Vancouver, BC - December 13th, 2010 – The BC Bioenergy Network, a provincially-funded leader supporting the growing bioenergy sector in British Columbia, announced the funding of \$1,500,000 to Elemental Energy Inc. to demonstrate Paradigm Environmental Technologies' MicroSludge® and anaerobic digestion at Catalyst Paper's Crofton-based pulp and paper mill on Vancouver Island.

This funding complements \$2.5 million from Natural Resources Canada and \$1.0 million from the BC Ministry of Forests and Range. Significant in-kind contributions to the project have also been committed by Elemental Energy, Paradigm Environmental Technologies, Catalyst Paper, and FPIInnovations for a total \$6.1 million project budget.

The project involves the establishment of a fully automated transportable demonstration plant that includes a MicroSludge unit, sludge thickening equipment, anaerobic digesters, and a laboratory. The plant will process a portion of the waste activated sludge ("WAS") from the mill's effluent treatment plant to show how it can be turned into biogas, a renewable source of energy. The demonstration will replicate mill operations in order to measure the operating savings at full scale. Installation of the equipment at the Crofton mill, located north of Victoria, is scheduled for early 2011. The demonstration trial is expected to last about 15 months. Following the Crofton demonstration, the transportable plant will be moved to other pulp mills for further trials.

"The new technology being demonstrated at the Crofton mill clearly aligns with one of B.C.'s goals for clean energy development," said B.C. Forests, Mines and Lands Minister Pat Bell.

Michael Weedon, Executive Director of the BC Bioenergy Network, stated, "We're excited to be implementing an innovative technology that has the potential to increase efficiency across the entire BC pulp and paper industry. The development of this project as a Collaborative Development and Demonstration Centre for the Pulp and Paper Industry is another step towards developing a world class bioenergy industry in British Columbia."

Ken Rekrutiak of Elemental Energy, the project lead, commented on the potential market for the technologies: "The pulp and paper industry is always looking for ways to cut costs and to be more sustainable. If, by using MicroSludge and anaerobic digestion, pulp mills can produce "greener" paper at lower cost and produce renewable energy, that's an important competitive advantage to all mills."

"MicroSludge has already been applied at municipal wastewater treatment plants, and now this project will open up a new market for our technology in the pulp and paper sector" said Gordon Skene of Paradigm Environmental Technologies, the Vancouver-based developer of the MicroSludge process. "We're optimistic that by enabling much faster anaerobic digestion, MicroSludge will prove to be an economically viable and sustainable waste-to-energy process for the pulp and paper industry."

"As Canada's Forest Sector Innovation hub, we believe that through multipartite projects, we will be able to demonstrate the viability of new technologies with a view to creating and marketing new products and developing new markets. This partnership is exemplary in every respect" stated Jim Dangerfield, Executive Vice-President, FPIInnovations.

About the BC Bioenergy Network - Established in April 2008 with a \$25 million grant from the BC government, the BC Bioenergy Network is an industry-led association that acts as a catalyst for deploying near-term bioenergy technologies and organizing mission-driven research for the development and demonstration of sustainable world class bioenergy capability in BC. For more information about the BCBN, visit www.bcbioenergy.ca.

About Elemental Energy Inc. - Elemental Energy's business is to develop, invest and operate in a diverse range of sustainable products, services, and processes that harness renewable materials and energy sources that dramatically reduce the use of natural resources and cut or eliminate emissions and wastes. The Elemental team consists of a team of senior personnel with extensive experience in the clean technology and renewable energy business, and a growing network of top level business partners and advisors.

About FPInnovations

FPInnovations is a non-profit research and development organization that works towards optimizing the forest sector value chain by developing and helping to implement innovative and safe solutions covering the engineering, human, operational and environmental aspects of forestry and wild land fire operations.

About Paradigm Environmental Technologies - Paradigm Environmental Technologies Inc. is a private company located in Vancouver, British Columbia, Canada that has developed MicroSludge®, a patented technology to process wastewater at municipal sewage treatment plants and at industrial facilities. MicroSludge is a sustainable technology for municipal wastewater treatment plants (WWTPs) that significantly enhances the anaerobic digestion process, thereby reducing operating costs and increasing plant capacity. MicroSludge is modular, and can be easily deployed at existing WWTP facilities. MicroSludge can also be used to process industrial waste, including petrochemical waste, and pulp and paper waste. For more information about MicroSludge and Paradigm, visit www.microsludge.com

About the Ministry of Forests, Mines and Lands – The Ministry of Forests, Mines and Lands supports new and innovative technologies that develop new uses for wood and delivering maximum value from our forest resources; stimulate innovation and commercialization of new forest products and supporting the province's Wood First Initiative; expand and expedite investments in value-added growth; and pursue opportunities for clean energy development.

About Natural Resources Canada - The Transformative Technologies Pilot-Scale Demonstration Program is administered by Natural Resources Canada to provide up to \$20 million during the 2010–2011 federal fiscal year. The Program is to develop on-site pilot-scale demonstration projects of new/emerging highly transformative technologies at existing commercial forest product facilities in Canada that will ultimately lead to commercial applications to facilitate the competitiveness of Canada's forest industry.

About Catalyst Paper Corporation – Catalyst Paper manufactures diverse specialty mechanical printing papers, newsprint and pulp. Its customers include retailers, publishers and commercial printers in North America, Latin America, the Pacific Rim and Europe. With four mills, located in British Columbia and Arizona, Catalyst has a combined annual production capacity of 2.0 million tonnes. The company is headquartered in Richmond, British Columbia, Canada and its common shares trade on the Toronto Stock Exchange under the symbol CTL. Catalyst is listed on the Jantzi Social Index® and is ranked by Corporate Knights magazine as one of the 50 Best Corporate Citizens in Canada.

For further information, contact:

Sandy Ferguson
 BC Bioenergy Network
 Tel: (778) 385-2750
Sandy.ferguson@bcbioenergy.ca
www.bcbioenergy.ca

Jamie Houssian, Director of Business Development
 Elemental Energy Inc.
 Tel: (604) 648-6682
jamieh@elementalenergy.ca

Gordon Skene, President and CEO
 Paradigm Environmental Technologies
 Tel: 604-742-0360 x271
gskene@microsludge.com
www.microsludge.com

Andre Bernier, General Manager
 Catalyst Paper, Crofton Division
 Tel: 250 246 6391
andre.bernier@catalystpaper.com
www.catalystpaper.com

Dr. Brian O'Connor, Program Manager,
 Environment
 FPInnovations
 Tel: 514 630 4101 x 2255
brian.oconnor@fpinnovations.ca
www.fpinnovations.ca

Vivian Thomas, Communications Manager
 Ministry of Forests, Mines and Lands
 Tel: 250 387-5728
Vivian.Thomas@gov.bc.ca

Project Backgrounder

MicroSludge® Waste-to-Energy Demonstration at Catalyst Paper's Crofton Site

The BC Bioenergy Network, in cooperation with project partners have supported the demonstration of a leading Canadian technology to improve environmental performance and improve competitiveness in the forest sector.

The Project

A transportable plant, to be installed at the Crofton pulp mill in early 2011, will include MicroSludge®, sludge thickening equipment, anaerobic digesters, and a laboratory. The plant will process a portion of the waste activated sludge (“WAS”) from the mill’s effluent treatment plant to demonstration performance. The plant will be used for future trials at other pulp mills.

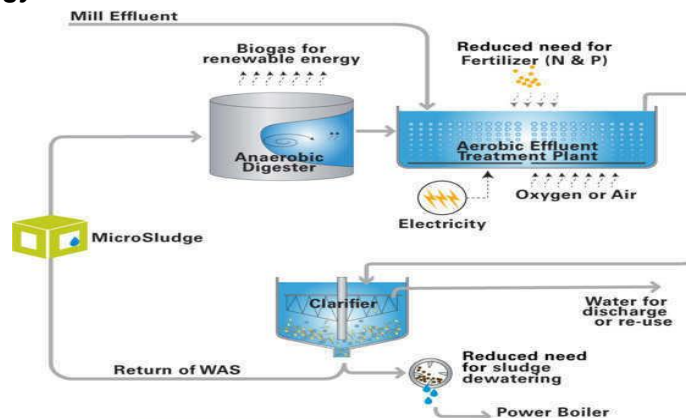
Collaborative Development and Demonstration Centre (CDDC)

Concurrent with the investment, a Collaborative Development and Demonstration Centre (CDDC) will be formed to bring together private and public stakeholders to participate in the CDDC to observe, test, and demonstrate bioenergy technologies and solutions relating to large scale anaerobic digestion for pulp and paper and wood wastes in order to identify best practices for economically and environmentally viable solutions.

The Technology

Microsludge destroys the bacterial cell membranes and releases the cell contents of WAS. An anaerobic digester then converts WAS to biogas and reduces sludge for disposal. Digester effluent, containing nitrogen and phosphorous, is returned and reused by the mill’s effluent treatment plant.

MicroSludge Demonstration Plant and Technology



Program Partners

For more information please contact: jamieh@elementalenergy.ca or gskene@microsludge.com