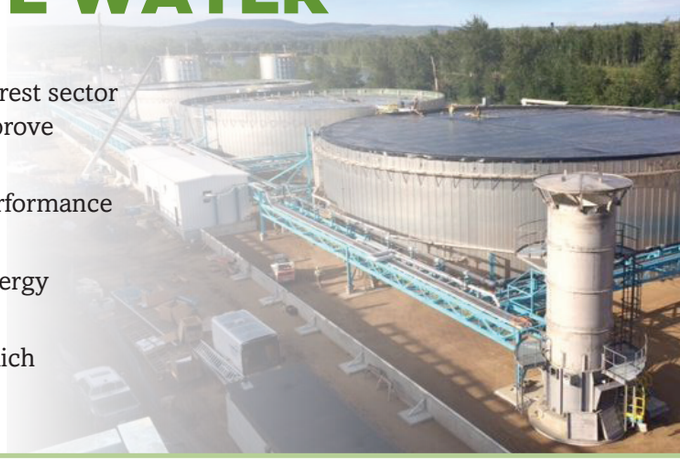
AN IFIT PROJECT

ENERGY FROM WASTE WATER



Millar Western Forest Products installed the first Canadian forest sector application of anaerobic hybrid digester (AHD) technology to improve effluent treatment from pulp mills.

- the technology has the capacity to strengthen environmental performance by removing more organic pollutants and bio-solids
- competitiveness improvements have been gained through bioenergy generation, reduction of input costs and production
- organic matter removed is converted to methane-rich biogas which could fuel co-generating power stations

UTILIZING CANADA'S FORESTS: RESULTS EXPECTED

PULP MILL DISCHARGES

ANAEROBIC HYBRID DIGESTER

METHANE-RICH BIOGAS

POWER AND HEAT

RESULTS

70% DECREASE IN POLYMER, NITROGEN AND PHOSPHORUS USAGE

10% REDUCTION IN FRESH WATER CONSUMPTION

50% REDUCTION IN ANNUAL FUEL CONSUMPTION FOR HAULING AND DISPOSAL OF SOLID BIOMASS WASTE

10 DIRECT JOBS

+200 000 CONSTRUCTION HOURS

INNOVATING WITH WOOD

- a reliable technology ready for commercial application in Canada's pulp and paper industry

The Science of Anaerobic Digestion

Anaerobic (no oxygen) treatment uses microorganisms to convert organic matter into biogas from industrial wastewaters containing high concentrations of biodegradable organic matter.

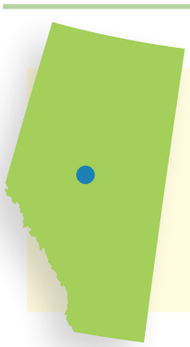
- significant potential for replication of similar technology in existing pulp mills across Canada
- conditioned biogas can be used for green electricity production or sold to natural gas distributors

POTENTIAL OPPORTUNITIES

ENVIRONMENT: DIRECT AND INDIRECT GHG EMISSIONS CUT BY 75% (DIRECT – 17%, INDIRECT – 58%) OF CURRENT MILL EMISSIONS

ECONOMIC: SIGNIFICANT EMPLOYMENT BENEFITS DURING IMPLEMENTATION PHASE

ENVIRONMENT: REPLACEMENT OF FOSSIL-FUEL-DERIVED ELECTRICITY, REDUCTION IN OVERALL POWER AND NATURAL GAS CONSUMPTION, AND DECREASES IN WATER CONSUMPTION



MILLAR WESTERN FOREST PRODUCTS OWNS AND OPERATES SAWMILLS AND A PULP MILL IN ALBERTA

PROJECT LOCATION:
WHITECOURT, ALBERTA

By extracting more from our wastewater streams we've accomplished a number of integrated outcomes: better water quality of effluent discharges to rivers, and reduced greenhouse gas emissions. The company and community also benefit from increases in the mill's productivity and competitiveness.

— Ron Reis, P.Eng, Senior Vice-President
Pulp Millar Western Forest Products Ltd.

Investments in Forest Transformation Program: In 2010, Natural Resources Canada's Canadian Forest Service created the Investments in Forest Industry Transformation Program (IFIT) to support Canadian companies to develop and grow markets for new and innovative high-value products using Canada's forest resources. *For more information www.nrcan.gc.ca/forests/federal-programs/13139*

Cat. No. Fo4-73/2016E-PDF (Online) ISBN 978-0-660-06881-7
Aussi disponible en français sous le titre : Produire de l'énergie à partir d'eaux usés

Natural Resources Canada | Ressources naturelles Canada

Canada