

# WHAT ROLE DOES BIOMASS GENERATION PLAY IN CANADA'S ENERGY FUTURE?

By Phill Feltham

Imagine a time when energy derived from agricultural and wood waste provides electricity to homes, factories, schools, and when communities, previously at a loss of how to deal with biomass waste, gain from its transformation into green power. According to Andrew Kingston, CEO and President of DynaMotive Energy Systems Corporation, the time is now and the place is Canada.

“With new technologies, biomass can become an important part of Ontario’s fuel mix and a major factor driving the growth of other green industries that support economic development,” said Kingston.

One of those technologies is BioTherm™, a fast pyrolysis system DynaMotive uses to convert biomass waste into BioOil, a liquid fuel that can produce process heat and energy. It also produces Char, a byproduct with applications like production of charcoal briquettes.

“There are more than 20 to 30 million tons of biomass waste just sitting at landfills that could be used to produce this fuel, and that’s just in Ontario,” said Kingston.

Taking into account factors like the differences in density and moisture content in BioOil versus conventional hydrocarbon oil, Kingston said it would take about 20 million tons of the biomass now available in Ontario’s landfill to provide about 40 million barrels of the equivalent oil now being used to produce energy. Unlike energy from conventional oil, BioOil generated energy is greenhouse gas neutral and produced from a renewable resource.

The company has spent the past decade developing green energy solutions based on its pyrolysis system. In June 2003, it announced plans to develop an integrated 100 tonne/day bio-fuel and 2.5 megawatt combined heat and power facility in West Lorne, Ontario.

The plant, the largest commercial plant of its kind, is being built by a consortium including DynaMotive, Bruks-Klockner Inc., Ramsay Machine Works Ltd., Magellan Aerospace Corporation-Orenda division, UMA Engineering and Ontario Power Generation (OPG), a major North

American electricity producer that already operates multiple cogeneration plants. OPG plans to use biomass fuels as a part of its renewable portfolio mix.

“Our objective is to help companies and communities meet their power generation requirements and also comply with environmental regulations and the demand for clean power,” Kingston said. “By validating our technology application and economic models, the West Lorne plant will prove our fuel is a viable mainstream energy resource.”

Utilizing wood residue from Erie Flooring and Wood Products, the West Lorne plant will consist of wood conditioning equipment, a pyrolysis plant, and a combined heat and power plant. It will take seventy tons of biomass a day from Erie Flooring and Wood Products’ local operations, along with thirty tons of biomass from other sources, and convert it into fuel. The fuel will power a turbine that generates 2.5 megawatts of electricity and 12,000 tons of steam per hour.

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