

## NewPage: Project Independence

### Construction of an Integrated Biorefinery for Production of Renewable Biofuels at an Existing Pulp and Paper Mill.

The project will construct and operate a thermal gasification and gas-to-liquids plant integrated into the Wisconsin Rapids Mill to replace natural gas use and produce liquid biofuels that will ultimately be converted into renewable diesel. For more information, visit: [www.newpagecorp.com](http://www.newpagecorp.com)

#### Project Description

The overall goal of Project Independence is to design, build, and operate a 15% scale thermal gasification and gas-to-liquids (GTL) plant at the NewPage Wisconsin System Inc., Wisconsin Rapids Mill; this will produce 555 barrels per day of clean, zero sulfur renewable biofuels and replace existing natural gas use from a variety of lignocellulosic feedstocks.

The biorefinery will gasify forest biomass to syngas. The syngas will be cleaned and converted to liquid fuels or products through a Fischer-Tropsch conversion process. Unconverted syngas will be burned for heat for use in the biorefinery and to offset some of the existing mill energy needs.

The project will use currently underutilized forest biomass to add revenue (sale of renewable fuel and co-products) and reduce energy costs for existing paper mill infrastructure. Project Independence consists of the process technologies and equipment for biomass handling, reforming and gasification system, liquid fuel storage and loading equipment, and energy and utilities integration with the existing mill.

The thermochemical technology provider, TRI, is currently conducting pilot-plant operations. This pilot plant is



*The integrated biorefinery in Wisconsin Rapids, Wisconsin, operated by NewPage.*

providing the operational data to facilitate the final engineering design of two demonstration-scale biorefinery projects in Wisconsin (NewPage Corporation in Wisconsin Rapids and Flambeau River Papers, LLC in Park Falls).

NewPage and Flambeau River have demonstrated successful collaboration on their respective DOE projects illustrating how two historical pulp and paper industry companies can work for a common goal of creating domestically available renewable energy to reduce U.S. dependence on oil and decreasing the carbon footprints of both sites.

#### Potential Impacts

The technologies being demonstrated through this project are scaled to fit within the NewPage existing industrial infrastructure. The approach is cost-effective, scalable and transferable to hundreds of other locations in the U.S.

The project technology estimate is that 357 million barrels of oil/year can be displaced from the pulp and paper sector alone if this technology is deployed at 130+ existing pulp and paper mills; if agricultural residues are included, then an estimated additional 375 million barrels/year can be displaced.

#### Other Participants

Thermo Recovery International is the gasification technology provider. EFT, Inc. is providing the Fischer-Tropsch conversion technology. CleanTech Partners is working closely on project coordination. AMEC is serving as the engineering firm for the project.

<b>Prime</b>	New Page Corporation
<b>Location</b>	Wisconsin Rapids, WI
<b>Feedstock (s)</b>	Mill residues and un-merchantable wood
<b>Size</b>	497 dry metric tonnes per day
<b>Primary Products</b>	Fischer-Tropsch liquids (renewable diesel) and heat (offset natural gas)
<b>Capacity</b>	8.2 million gallons per year of F-T liquids
<b>Award Date</b>	September 2008
<b>GHG Reduction</b>	91% reduction versus fossil product for F-T liquids
<b>Anticipated Job Creation</b>	15 Permanent and up to 200-250 during peak construction (estimated to last 16 months during construction).
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