

# THE EMISSION INTENSITY APPROACH TOWARD GHG EMISSION REDUCTION : THE CASE OF THE PULP AND PAPER INDUSTRY

*Jean-Thomas Bernard, Julie Adès and Patrick Gonzalez*  
GREEN

Department of economics, Université Laval, Québec, Canada

## SUMMARY

*The Regulatory Framework for Industrial Greenhouse Gas Emissions* published by the Canadian government in spring 2008 calls for a 18% reduction of GHG emission intensity by 2010 relative to 2006 and further annual decrease of 2% afterward by large industrial emitters. Through an estimated energy demand model, we analyze what are the expected effects of this policy on the energy use by the Québec pulp and paper industry. The latter industry has some interesting features with respect to this new policy: it is very energy intensive, it uses a diverse mix of energy sources, including biomass, and it is also an electricity producer through cogeneration. In 2001, this industry used 217918 TJ: petroleum products (14.8%), natural gas (6.8%), electricity (34.2%), steam (1.9%), black liquor (24.9%) and solid wood waste (17.4%). The new regulatory framework calls for reduced use of heavy oil and natural gas and expansion of cogeneration based on biomass with the associated increase of electricity use. We estimate that the CO<sub>2</sub> price presented by government will make the pulp and paper industry to realize only 25% of the emission reduction target.

**KEYWORDS:** Canadian GHG policy, large industrial emitters, emission intensity, pulp and paper industry.