Kruger

RESPONSIBLE ENVIRONMENTAL MANAGEMENT

Air Quality

Reduction of Greenhouse Gases

Since 1990, Kruger has done as much as possible to replace high-GHG-producing fossil fuels in its mills with the cleanest available fuel, such as natural gas, and by favouring energy production from biomass.

Reduction of GHG Emission Intensity
Publication Papers

Year	Energy Intensity ($KgCO_2$ equivalent/metric ton of production)
1990	523
2000	351
2002	356
2004	334

Overall reduction of GHG from Publication Papers mills has been 36% since 1990, 5% of which was achieved between 2000 and 2004. These reductions apply to emissions of the three main GHGs:

- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrogen oxide (N_2O)

Reduction of Greenhouse Gas Emissions		
Paper production	Paper production	Reduction of CO_2 Emissions
1990	2004	1990 to 2005
1 037 000 metric tons	**2 459 000 metric tons**	**36%**
CO_2 Emissions	CO_2 Emissions	
523 kg/metric ton	**334 kg/metric ton**	

The start-up of the cogeneration plant at the Brompton mill at the beginning of 2007 will contribute an additional reduction of 83,000 metric tons of emissions. This will bring the GHG reduction to almost 40%.

Reduction of GHGs Related to Chip Transportation

In December 2005, Kruger announced the continuation of chip transportation from the North Shore sawmills to the Kruger Wayagamack mill in Trois-Rivières by water rather than by road.

By reducing fuel consumption, and thereby greenhouse gas emissions, this initiative helps improve environmental performance for both the Kruger organization and Québec, in accordance with Kyoto Protocol objectives.

It is estimated that eliminating the 18,000 one-way truck trips (9,000 round-trips), which involve both highway travel and the Tadoussac ferry, will reduce greenhouse gas emissions by 9,000 t/year.

Atmospheric Emission Treatment Systems

Kruger's four publication paper mills – in Brompton, Trois-Rivières, Wayagamack and Corner Brook – are equipped with state-of-the-art technology ensuring that particulate matter discharged into the atmosphere does not exceed the prescribed standards. In each mill, emissions are collected at source, pretreated if necessary, and then redirected to purification equipment. The purified air is then discharged into the atmosphere through a stack pipe. The increased conversion to biomass at the Kruger mills has led to a considerable reduction in the amount of fossil fuels used and, as a result, reduced GHS emissions, in addition to preventing the proliferation of landfill sites.

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Cleaner Air Emissions

Each mill that is likely to emit GHGs is equipped with state-of-the-art technology to ensure the purification of substances discharged into the atmosphere. The following are examples of equipment in use at the mills:

- Brompton: Bag filters, sedimentation chambers
- Trois-Rivières (Gene H. Kruger Blvd. Mill): Wet scrubbers
- Trois-Rivières (Kruger Wayagamack): Electrostatic precipitator and non-condensable gas burners
- New Westminster: Electrostatic precipitator
- Corner Brook Pulp and Paper: Wet scrubbers

Periodical verifications ensure that this equipment is operating and in optimal condition.

Samples are taken regularly at all mills to determine the concentration of contaminants identified in the atmospheric emissions regulations. These samples are compared to the standards that define acceptable concentration levels. The progress is controlled and data recorded at a pre-determined rate.

Corner Brook Pulp and Paper has two ambient air sampling stations located close to the mill. These ensure that emissions comply with the Newfoundland and Labrador standards.

Electrostatic precipitator on residue boiler commissioned at Kruger Products' New Westminster mill in 2002