Potential climate change mitigation measures towards a carbon-neutral forest industry in Canada
January 2009

This matrix of potential actions has been jointly prepared by FPAC and WWF, as the next step in a partnership aimed at supporting GHG mitigation measures across the forest products value chain. Designation of particular actions as “low,” “moderate” or “high” is based on an initial qualitative assessment of GHG mitigation opportunities across the sector as a whole, and is focused on identifying activity likely to have the greatest overall impact while also considering the relative ability to influence the measure. Specific companies may see potential in measures marked as “low,” and this matrix should in no way discourage companies from acting in those areas. Rather, this matrix is aimed at identifying the priority areas where FPAC and WWF can help to stimulate enhanced actions by FPAC members and other actors in the forest products value chain.

The categories are based on those included in the *Scope and Methodology* paper previously developed by FPAC and WWF. We have been conservative in designating opportunities as having a “high” potential. We are not trying to diminish the importance of other measures but simply seeking to focus our activities in a few strategic areas where we can make a genuine difference.

Measure (For each general category the estimated total emissions or removals in 2005 are included in brackets, based on the 2007 NCASI report or on CFS figures)	**Potential for actions by FPAC members**	**Potential for actions in the forest product value chain**	**Potential for collective actions by FPAC and WWF to stimulate uptake**	**Comments**
1. Direct emissions from forest products manufacturing facilities (emissions of 13.8 Mt CO_2 eq. in 2005)				
1.1 Measures to improve energy efficiency	High	n/a	Moderate	Most low-hanging fruit have already been picked, but FPAC/WWF could help to address regulatory uncertainties that would make other opportunities financially attractive
1.2 Fuel switching	Moderate	n/a	Low	There are unrealized fuel switching opportunities, but challenges will need to be addressed at a site-specific level
1.3 Emerging technologies (e.g. black liquor gasification)	Moderate	n/a	Moderate	FPAC/WWF could seek to ease regulatory barriers
1.4 Measures to reduce emissions from process waste sent to landfill	Low	n/a	Low	This is a very minor component

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2. Indirect emissions associated with electricity purchases (emissions of 11.8 Mt CO_2 eq. in 2005)				
2.1 Provision of surplus energy into the grid	Low	n/a	Low	Already happening
2.2 Purchase of energy from renewable energy portfolios	Low	n/a	Low	This will be a company-by-company decision
2.3 Use of biofuels to displace fossil fuels in forest products manufacturing (see also 8.1)	Moderate	High	High	Forest industry has already captured significant benefits from biofuels use, but the growth of demand from other energy producers is sharply increasing. FPAC/WWF could play a role in encouraging optimum policy environment; addressing concerns with respect to biodiversity, access to fibre, etc.
3. Emissions associated with transporting materials and products (emissions of 3 Mt CO_2 eq. in 2005)				
3.1 Wood exchanges to reduce raw material transport	Low	n/a	Moderate	New possibilities for fibre exchanges may arise from government review of tenure and appurtenancy requirements
3.2 Improvement of vehicle fleet efficiency	Low	Low	Moderate	FPAC/WWF could play a role in communicating best practices from the transportation sector
4. Methane emissions attributable to forest products in landfills (emissions of 24.4 Mt CO_2 eq. in 2005)				
4.1 Waste wood and paper diversion from landfills	Low	High	High	FPAC/WWF seeking collaboration on product stewardship and reuse initiatives
4.2 Methane gas capture	n/a	High	Low	This is a huge issue, but largely outside the ability of forest producers or customers to significantly influence
5. Carbon sequestered in forests (removals of 16.6 Mt CO_2 eq. in 2005)				
5.1 Increasing the area of forests	Moderate	Moderate	Moderate	Possible role for FPAC/WWF in encouraging non-traditional actors such as municipalities

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5.2 Maintaining and/or increasing the volume of carbon stored in existing forests	Moderate	n/a	High	FPAC members have been slow to act because of uncertainties in the market for forest offsets, but FPAC/WWF could share information about potential actions, their costs, benefits and effectiveness
5.3 Reducing deforestation	Moderate	Moderate	Moderate	A very minor component of the forest sector carbon profile. FPAC/WWF could explore opportunities for reduced impact of linear disturbances
6. Carbon stored in forest products in use (removals of 39.8 Mt CO_2 eq. in 2005)				
6.1 Production of longer-lived forest products	Low	Low	Low	
6.2 Forest product reuse	n/a	Moderate	Low	
6.3 Substitution of forest products in place of other materials	n/a	Moderate	Moderate	FPAC/WWF could encourage broader appreciation and implementation of comparative life-cycle analyses; remove regulatory barriers to substitution
7. Carbon balance of forest products in landfills (removals of 40.6 Mt CO_2 eq. in 2005)				
No measures proposed				
8. Other measures relevant in the forest products value chain (not quantified)				
8.1 Forest-based bioproducts (see also 2.3)	Low	Low	High	FPAC/WWF could play a role in encouraging optimum policy environment; addressing concerns with respect to biodiversity, access to fibre, etc.
8.2 Using non-recyclable discarded products for bioenergy	Low	Low	Low	Opportunities would have to be identified and acted upon on a case-by-case basis
8.3 Working with suppliers of non-fibre inputs to help reduce upstream emissions	Low	Low	Low	A very minor component of the forest sector carbon profile

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