

Canadian Institute of Forestry/Institut forestier du Canada  
“Voice of Forest Practitioners”

## *Position Statement*

### *Forests and Global Warming*

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Worldwide, it has been estimated that atmospheric carbon is accumulating at 2.9 billion tons annually. This is taking place in an environmental system where 4.8 - 5.8 billion tons of carbons are released annually. This release can be attributed mainly to fossil fuel consumption, although wildfire and conversion of forests to other uses also contribute.

Forests play an active role in taking up (sequestering) atmospheric carbon and mitigating its build-up in the form of carbon dioxide in the atmosphere. The carbon taken out of the atmosphere becomes incorporated into new growth through photosynthesis. A forest stand that experiences net growth sequesters carbon and becomes a "carbon sink". Forest stands that are growing at their maximum rate provide the greatest annual uptake of atmospheric carbon. At maturity, forest stands experience little or no net growth, and thus while they may hold large carbon stocks, they sequester little additional carbon or they may even be net carbon producers.

Recently, estimates showed that 465 million hectares of fast growing plantations could sequester the annual increase of 2.9 billion tons of atmospheric carbon. While this estimate is based on rates of growth that are generally superior to Canada's forest growth rates, it indicates that forest renewal can have a beneficial effect in mitigating atmospheric build up of carbon dioxide.

Over the past decade Canadian planting programs, along with increases in other silvicultural activities and plantation follow up, have nearly tripled. Figures from the Canadian Forest Service show that from 1977 to 1993, the area planted annually increased from 170,000 to 450,000 hectares.

**The CIF believes** that the Government of Canada is responsible for ensuring that Canada forests are managed in a manner compatible with the commitments made by them regarding global warming. This includes supporting programs of afforestation and reforestation through appropriate incentives.

**The CIF recommends:**

- that forestry projects funded by the Canadian International Development Agency should focus on improved management of tropical forests and on



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agroforestry initiatives that involve tree planting.

- that the Federal Government initiate and support a research program to more rigorously establish linkages between forestry practices, forest growth, decay and depletion and the atmospheric carbon budget to ensure that their commitments in this area will be realized.

Depending on the actions of other countries, Canada's best effort may not be sufficient to avoid global warming. A significant climate change will affect Canadian forests in many different ways. Research is required to ensure that the species of trees growing in Canadian forests are genetically adapted to such changes and will be capable of continuing current or increasing rates of growth if warming takes place.

**The CIF/IFC believes** that the Federal Government should encourage research into the identification and use of better adapted forest tree species.

Uncontrolled wildfires can destroy many thousands of hectares of forest, liberating excessive amounts of CO<sub>2</sub> into the atmosphere. While such natural disturbance patterns may historically have been the case, **the CIF/IFC believes** that a continuance of emphasis on development of fire detection and control techniques, an area of excellence within federal research programs, should be maintained to ensure that the release of CO<sub>2</sub> from forest fires does not contribute unduly to the problem of global atmospheric CO<sub>2</sub> increase.

Prepared by

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