

SFI, Forests & Carbon Key Messages

SFI Certification and Carbon:

SFI certified forests result in healthy growing forests that absorb more carbon and are less susceptible to fire, insects and disease, when compared to poorly managed forests.

- The SFI Standard is based on principles and measures that promote responsible environmental behavior and sound forest management including measures to protect water quality, biodiversity, wildlife habitat, species at risk and forests of exceptional conservation value.
- Managed, certified forests provide a range of climate change mitigation benefits in addition to acting as a store of carbon. Certification ensures that harvested areas are promptly regenerated, soil productivity is maintained and that forests are protected from wildfire and insect infestations. Forest managers contribute to research to maintain and enhance these functions over time.

The Science of Forests and Carbon

Healthy forests store carbon; mitigating the impacts of climate change.

- Through the process of photosynthesis, forests remove carbon dioxide from the atmosphere and store (sequester) carbon in the ecosystem as biomass (stemwood, branches and roots), litter and soil organic matter.
- Estimates of the contribution of forests to climate change mitigation indicate that net sequestration by forests in the United States currently offsets about 10% of annual US emissions from burning fossil fuels.¹ [Note: Canadian figures should be added also if data can be found].
- Forest certification helps to ensure that forests are maintained in a healthy state and continue to help mitigate climate change impacts. For example, healthy, managed forests are less susceptible to wildfires, which emit carbon dioxide into the atmosphere.

Forest Products & Carbon

Wood products developed from certified forests have an important role to play in addressing climate change

- When trees are harvested a portion of their stored carbon remains stored in the form of wood products for a long period of time. EPA estimates that the amount of carbon stored annually in forest products in the U.S. is equivalent to approximately 100 million tons of atmospheric CO₂.² [Note: Canadian figures should be added also].
- Because of this large store of carbon in wood products it is important to recognize their role as a carbon store when developing climate change mitigation policy.

¹ Birdsey, R., K. Pregitzer, and A. Lucier. 2006. Forest carbon management in the United States: 1600-2100. *J. Environmental Quality* 35: 1461-1469.

² U.S. Environmental Protection Agency. 2009. "Inventory of U.S. greenhouse gas emissions and sinks: 1990 – 2007", EPA 430-R-09-004

- Wood-based building materials are substantially less carbon intensive to produce than substitute materials.³ A comparison of a wood-framed house to steel-and concrete-framed houses found that steel generates 26% more greenhouse gas emissions, and concrete 31% more.⁴
- By substituting energy-intensive materials such as steel, concrete or plastics with wood from certified forests, society can significantly reduce its reliance on fossil fuels and its greenhouse gas emissions.

Keeping Forests as Forests

Well managed forests are an integral part of the climate change solution.

- As greenhouse gas emission reduction legislation emerges in the United States and Canada, sustainable forest management needs to be recognized as an essential mitigation tool for global climate change.
- As forestlands face increasing population pressures and land-use change, public policies that encourage their maintenance and sustainable management can be a significant part of global greenhouse gas mitigation efforts. In addition to climate mitigation, many other environmental values are provided by well-managed forests: wildlife habitat, biodiversity, water quality protection, watershed stabilization, air quality improvement, and maintenance of rural landscapes and economies.
- Permanent conversion of forests to other uses accelerates climate change. According to the FAO, 45 million acres of forestland are lost worldwide each year.⁵ Land use change, primarily in the tropics, accounts for approximately 17% of global greenhouse gas emissions, making it the second largest source of emissions, after the power sector.⁶
- Land use change, mostly to development, is a threat to private forestland in the US and Canada also. Within the US, The US Forest Service estimates that approximately 1 million acres of private forestland were converted during the 1990s and projects increasing rates of conversion over the next 50 years.⁷
- The development of carbon trading markets that support responsible forest management and recognize the contribution that certified forests can make to climate change mitigation is an important step necessary to incenting landowners to maintain their forests rather than convert them to other uses.
- When it comes to mitigating climate change, the world's forests and sustainable forest management are part of the solution. Government and business leaders can help by developing policies and procurement processes that encourage the use of forest products from well managed forests.

³ Buchanan & Levine. 1999. "Wood-based building materials and atmospheric carbon emissions," Environmental Science and Policy 2

⁴ Perez-Garcia, J., B. Lippke, D. Briggs, J. B. Wilson, J. Boyer, and J. Meil. 2005. "The environmental performance of renewable building materials in the context of residential construction" Wood and Fiber Science, CORRIM Special Issue 37:3-17

⁵ FAO. 2005. Global Forest Resource Assessment 2005: Progress Toward Sustainable Forest Management. Food and Agriculture Organization of the United Nations. Rome, Italy.

⁶ IPCC, 2007: Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, Pachauri, R.K and Reisinger, A.(eds.)]. IPCC, Geneva, Switzerland, 104 pp.

⁷ USDA Forest Service. FS-874. Interim Update of the 2000 Renewable Resources Planning Act Assessment, April 2007; USDA Forest Service. Pacific Northwest Research Station. Forests on the Edge: Housing Development on America's Private Forests, May 2006.