



Growing recognition of wood's positive environmental attributes will help stabilize the industry, create jobs and encourage investment in the future health of American forests. As the following facts demonstrate, encouraging the use of wood from responsibly managed forests offers considerable benefits for both jobs and the environment.

### More jobs than other materials

Research shows that, in the U.S., forestry is the most jobs-intense industry.<sup>1</sup> The forest products industry as a whole employs nearly 900,000 people, exceeding employment levels in the automotive, chemicals, and plastics industries. The wood manufacturing segment accounts for more than a third of those jobs,<sup>2</sup> yet this industry is being lost as markets collapse and the economy continues to struggle. According to the Bureau of Labor Statistics,<sup>3</sup> employment in the U.S. wood products industry declined from 620,300 in 1999 to 331,000 in 2011, a reduction of 47%. At the same time, there are reasons to be optimistic about the industry's future.

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### An environmentally responsible choice

As governments seek to improve the environmental performance of buildings and reduce their carbon footprint, there is growing recognition that using North American wood from responsibly managed forests is part of the solution.

Wood is produced naturally and is the only major building material that comes from a renewable resource. Life cycle assessment<sup>4</sup> (LCA) studies show that wood is better for the environment than fossil fuel-intensive materials such as steel or concrete in terms of embodied energy,<sup>5</sup> air and water pollution, and other environmental impact categories. For example, one study compared the environmental impacts of wood-frame and steel-frame homes in the cold climate of Minneapolis and wood-frame and concrete-frame homes in the hot climate of Atlanta—the framing types most common to each city.<sup>6</sup> The results demonstrated the superior performance of wood with respect to the following environmental attributes:

- *Embodied energy* – The wood-frame homes had 17% and 16% less embodied energy, respectively, than the homes framed in steel and concrete.
- *Air emissions* – The wood-frame homes had 14% and 26% less air emissions, respectively, than the homes framed in steel and concrete.
- *Greenhouse gas emissions* – The wood-frame homes performed 26% and 31% better, respectively, than the homes framed in steel and concrete.

In addition to greenhouse gas emissions avoided by not using fossil fuel-intensive materials, wood lowers a building's carbon footprint because it continues to store carbon absorbed during the tree's growing cycle, keeping it out of the atmosphere for the lifetime of the building—longer if the wood is reclaimed and used to manufacture other products.

## An incentive to keep lands forested

According to *The State of America's Forests* report, responsible forest management has resulted in more than 50 consecutive years of net forest growth that exceeds annual forest removals.<sup>7</sup> More than half of U.S. forests are owned by private landowners, including more than 10 million family forest owners.<sup>8</sup> The rest are owned by public entities such as national, state and local governments.

Although 57 million acres of private forests are expected to face significant development pressures over the next 20 years,<sup>9</sup> strong markets for wood products provide a financial incentive for landowners to invest in their forests and keep them healthy for future generations.

## Summary

- Using wood from responsibly managed forests can improve the environmental performance of buildings and reduce their carbon footprint.
- Design and building professionals are becoming increasingly aware of wood's environmental attributes, helping to create strong markets for wood products. Stronger markets will stabilize the industry's ability to create jobs and support rural economies, while providing an incentive for forest owners to keep their lands forested.



Photos: [www.naturallywood.com](http://www.naturallywood.com)

<sup>1</sup> *How Infrastructure Investments Support the U.S. Economy*, 2009, Political Research Institute

<sup>2</sup> American Wood Council

<sup>3</sup> Bureau of Labor Statistics, [www.bls.gov/ces/](http://www.bls.gov/ces/)

<sup>4</sup> Life cycle assessment (LCA) is an internationally recognized method for comparing products, materials, assemblies and buildings over the course of their entire lives, based on quantifiable indicators of environmental impact.

<sup>5</sup> Embodied energy is the energy required to extract, process, manufacture, transport, construct and maintain a material or product.

<sup>6</sup> Perez-Garcia, J., B. Lippke, D. Briggs, J.B. Wilson, J. Bowyer, J. Meil, *The Environmental Performance of Renewable Building Materials in the Context of Residential Construction*, 2005

<sup>7</sup> *The State of America's Forests*, M. Alvarez, 2007, Society of American Foresters

<sup>8</sup> U.S. Forest Resources of the United States, 2007 (Table 60)

<sup>9</sup> *Private Forests, Public Benefits: Increased Housing Density and Other Pressures on Private Forests*, 2009, USDA Forest Service