

## CORRIM Report on Environmental Performance Measures for Renewable Building Materials Released

*The Consortium for Research on Renewable Industrial Materials (CORRIM) has been organized to update and expand a 1976 report by the National Academy of Science regarding the impacts of producing and using renewable materials. The original report focused specifically on the energy impacts associated with using various renewable materials. Since the 1976 report was written, a variety of environmental issues and energy-related concerns have surfaced, yet little scientific or quantifiable information has been gathered. Without a scientifically sound database of the environmental and economic impacts associated with using renewable materials, it is difficult for policymakers to arrive at informed decisions affecting the forestry and wood manufacturing industries. Moreover, individual industries, including those that use wood as a raw material, have little information to provide a basis for strategic planning and investments to improve their environmental stewardship. The new CORRIM report aims to provide a database of information for quantifying the environmental impacts and economic costs of wood building materials through the stages of planting, growing manufacturing; construction, operational use, and demolition.*

**Motivation for Creating CORRIM:** Public interest in the environmental impacts of forest management has reached new heights, resulting in a demand for strategies and policies to improve environmental performance. Unfortunately, the environmental consequences of changes in forest management, product manufacturing, and construction are poorly understood, and ironically, may be detrimental to global environmental quality. This situation is greatly accentuated by an almost total lack of up-to-date, scientifically sound, product life-cycle data in the United States, particularly life-cycle data regarding wood and bio-based products.

For example, concerns about the sustainability of present forest practices have led to changes in forest harvesting in the US. As a result, the US wood products sector has lost a substantial market share to non-wood substitutes and foreign suppliers.

Ultimately, concerns about forests and wood products have a direct and significant impact on the US building materials and home building industries. Harvest reductions are quickly reflected in the availability of wood, and in turn, the price of building materials. This triggers consumers to use wood from other regions of the world or to use non-wood substitutes. While the economic impacts have been analyzed and reported, the environmental consequences of these changes in material flow and uses are poorly understood.

Decisions that discourage the use of wood and non-wood building products are made each day at all levels of industry and government. While decisions may be motivated by a desire to protect the environment, the negative consequences associated with using non-wood substitutes are often not considered.

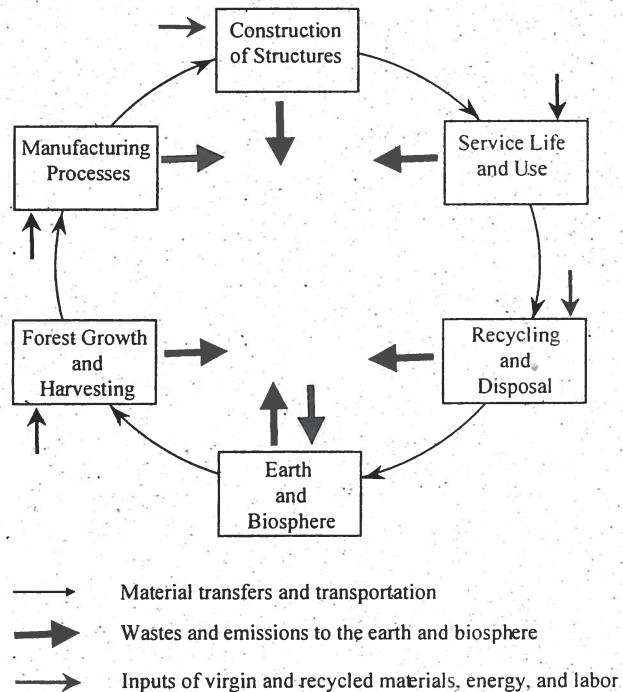


Figure 1. Life cycle from regeneration to disposal of wood materials



Consequences include the impacts that non-wood products can have on the environment and the impacts that various management plans can have on forestland. The decision to avoid using wood building materials may in fact be counterproductive to the intent. It is critical that a better information base of quantitative data regarding the environmental impacts of a variety of building products be developed. Ultimately, decisions based on quantitative or scientific information may have a more positive effect on the environment and economy than decisions based on rhetoric and opinion.

**Mission:** The 1998 CORRIM research plan proposes to develop a scientific base of information relating to the environmental performance of wood based building products. The plan identifies several factors that can affect the efficient use of energy and materials in building materials manufacturing. These factors include forest management and methods to increase carbon sequestration, improve the efficiency of manufacturing processes, reduce waste and potentially toxic materials, and sustain healthy forest ecosystems. The intent is to create:

- A consistent database to evaluate the environmental performance of wood and alternative materials from resource regeneration or extraction, to end use and disposal, *i.e.*, from “cradle to grave.” (figure 1).
- A framework for evaluating life-cycle environmental and economic impacts.
- Source data for many users, including resource managers, manufacturers, architects, engineers, environmental protection and energy analysts, and policy specialists.
- An organizational framework to obtain the best science and peer review.

**Objectives:** CORRIM’s research is focused on two objectives: 1) to develop a database and modeling system for environmental performance measurements associated with materials use and 2) to respond to specific questions related to environmental performance and the cost effectiveness of alternative management and technology strategies. This database and information source will enable decision-makers to make consistent comparisons and systematically characterize the options for improving environmental performance.

By comparing across alternatives, the analyses will reveal marginal costs that contribute to marginal environmental changes and other economic impacts. They will also provide projections of future environmental performance. Examples include:

- A systematic evaluation and quantification of the environmental performance of wood products and wood-using systems with alternatives for improving energy efficiency, carbon sequestration, recycling, reuse, and sustainability and the tradeoffs between environmental and economic performance measures.
- An assessment of how changes in forest culture and wood use affect forest health and the nation’s energy requirements.
- The likely impact of mandated carbon-emission reductions or taxes on forest culture and forest product use.
- A thorough examination of ways to conserve wood.

**Organization of Effort:** A non-profit research corporation (CORRIM) has been established with a voting board of directors representing independent research institutions. Like the 1976 CORRIM study, a number of companies have offered support and will contribute primary data. A comprehensive research plan and methodology have been developed.

*The results of this research project are presented in CINTRAFOR Reprint No. 46. The report can also be downloaded from CINTRAFOR’s website at <http://weber.u.washington.edu/~blippke/cintrafor.html>*