The GREEN Movement
Once nouvelle, green has now moved into the mainstream, reconfiguring the playing field for businesses large and small. Whereas attention to environmental issues has to this point been largely mandated through regulation, the new reality is that green initiatives are increasingly market driven. A number of indicators suggest that consumer expectations regarding environmental performance are likely to intensify, presenting new challenges to every sector of business and industry. The shift toward green also presents educational institutions with a need to keep abreast of societal change in designing and updating courses and curricula in engineering, technology, and business oriented programs.

Perhaps no segment of society has been more impacted by environmentally related pressures than the forest sector. Intense scrutiny and criticism of practices and regulatory oversight have long been the norm among forest sector industries, especially so since passage of the Endangered Species Act 35 years ago and adoption of the spotted owl recovery plan in 1993. Similarly, the 1963 Clean Air Act, the Clean Water Act of 1977, the Water Quality Act of 1987, and various regulations growing out of this legislation, had major implications for many forest sector businesses.

Recent Federal actions present a new challenge: the newest Federal environmental initiatives are focused not on regulation but instead on inspiration and encouragement of new industry development—including biofuels and biochemicals. Whether the long-term impact on the forest products industry is positive or negative remains to be seen, but significant impact is certain.

Environmental purchasing programs that are slowly gaining traction will also impact the industry. A relatively new wrinkle on the environmental front is growing influence of nongovernmental initiatives, such as those focused on forest certification, green building, and corporate responsibility.

Ironically, it may be environmental issues that cause society to “rediscover” wood. Current attention to carbon, for instance, could bring active forest management and use of wood squarely to the forefront in a society seeking solutions to the threat of climate change. Alternatively, the same issue could lead to new restrictions on harvesting and reductions in wood consumption. Actions on the part of the forest sector will largely determine how this plays out. All things considered, the next several decades should be extremely interesting for everyone associated with the forest sector.

Environmentally inspired initiatives that have shaped the forest products industry

Environmental law and government policy
Legislation has had a major impact on the forest sector and the forest products industry. As a result of the sweeping Federal environmental reforms of the 1960s and ’70s, the steadily evolving forest practices acts of individual states, and the landmark spotted owl decision of the early 1990s, the industry has been significantly impacted.

Environmental issues hit center stage
The mid-1960s marked the beginning of landmark environmental legislation at the Federal level, reflecting heightened public awareness of environmental issues. That period saw passage of the Clean Air Act (1963), the Wilderness Act (1964), the Endangered Species Preservation Act (1966), the Air Quality Act (1967), and the Endangered Species Act (1973). Then came the first Earth Day, April 22, 1970, and this provided a new impetus to action. A flurry of very significant Federal environmental legislation occurred in the ’70s, including the National Environmental Policy Act (1970), the Clean Air Act Extension (1970), the Federal Pollution Control Amendment (1972), the Endangered Species Act (1973), and the Clean Water Act (1977). While this and other legislation impacted all businesses and all industries, primary industries (those that extract and process basic raw
materials) were particularly affected. Primary forest products manufacturers, which rely on raw materials that are harvested from broad areas of the landscape, experienced perhaps the greatest impact.

Legislation brought into the regulatory framework such things as acid rain, MACTS, HAPS, particulates, arsenates, dioxin, formaldehyde, nonpoint source pollution, streamside buffers, primary and secondary water treatment, and more, and introduced environmental impact statements and assessments.

The forest sector, like all Americans, benefited greatly from the many environmental initiatives enacted over the past 50 years. At the same time, progress on the environmental front forced a number of actions on the part of industry that translated to reduced emphasis on process efficiency and modernization, and increased emphasis on environmental monitoring and mitigation.

**Endangered Species Act**

No legislative initiative has had greater impact on the forest sector than enactment of the Endangered Species Act in 1973. And, no action under the endangered species act has had a greater impact on the forest sector than that related to the spotted owl. Under what became known in various circles as either the spotted owl recovery plan or the Clinton forest plan, forest harvests on Federal lands located in the Pacific Northwest region were officially reduced by about 80 percent, with the objective of protecting the spotted owl and the marbled murrelet. In fact, by the end of the ’90s, harvest levels from Federal land in that region had declined 94 percent from the peak year of 1987. One effect was severe impact on industries dependent on Federal timber in this region and a number of mill closures. Another was a marked shift in timber harvesting and lumber production activity to Canada and the U.S. South region. The shift in Federal forest policy also opened the door to competition from non-Canadian suppliers of largely plantation-grown pine, and may have given a boost to the adoption of engineered wood products in place of solid-sawn lumber. Over the long term, changes resulted in a smaller, restructured, and less product diverse forest industry in the Pacific Northwest Region (Haynes 2008).

**Environmental purchasing programs**

Environmental purchasing programs of the Federal government and various states increasingly influence purchases of forest-based and other products. The oldest Federal environmental purchasing initiative is the Federal Government’s “buy-recycled” program, established under the Resource Conservation and Recovery Act (RCRA) of 1976 (USEPA 2007). RCRA requires EPA to designate recycled-content products and Federal agencies to purchase designated products. This requirement also applies to state and local recipients of Federal funds, including grants, and to Federal, state and local government contractors receiving Federal money. As a result, EPA maintains a list of designated recycled-content products and recommends recycled-content levels that purchasers should use when buying products. Executive Order (EO) 13101 (1998) and its predecessor, Executive Order 12873 (1993) provided additional guidance for meeting these buy-recycled requirements (EPA 1999). This guidance is also incorporated into the Federal Acquisition Regulation.

As a result of EO 13101, the Federal Government increased its purchase of recycled-content products drastically during the Clinton administration. Currently, more than 50 products in eight categories, ranging from construction products to office products, are designated as recycled-content products. New products are added regularly.

Within EO 13101 a biobased product is defined as “a commercial or industrial product (other than food or feed) that utilizes biological products or renewable, domestic agricultural (plant, animal, or marine) or forestry materials.” EO 13101 and a subsequent EO 13134 (1999) on Developing and Promoting Biobased Products and Bioenergy encourage and promote the purchase and use of biobased products that meet agency needs.

The RCRA-mandated buy-recycled program of the Environmental Protection Agency promotes the purchase of recycled-content products (a single environmental attribute); the Energy Star and the Federal Energy Management programs promote energy and water efficiency (both single attributes); and the U.S. Department of Agriculture’s biobased program (USDA 2006) promotes biobased products (another single environmental attribute). New EPA Comprehensive Procurement Guidelines (EPA 2008) build on these single-attribute programs and encourage purchasers to examine multiple attributes such as energy efficiency and recycled content and toxicity and other environmental attributes. The mix of attributes considered depends upon the specific product or service being evaluated.

Under the USDA BioPreferred program, Federal agencies are required to purchase biobased products within designated product areas where the cost is $10,000 or greater or when quantities of functionally equivalent items purchased over the previous fiscal year equal $10,000 or more. The guidelines stipulate that Federal agencies must procure biobased products unless the biobased products within designated items are not reasonably available, fail to meet applicable performance standards, or are available only at an unreasonable price. Preferred products in the wood and wood products category include engineered wood products, material derived from forest thinnings,
and forestry materials obtained from short-rotation (10-year harvest cycle or shorter) plants, sustainably managed forests, wood residues, or forest thinnings. The “sustainable” designation has not yet been defined but is likely to equate to wood that is certified by one or more forest certification programs.

Participation on the part of manufacturers and vendors is voluntary. Key steps for participation involve:
— Certification, by the manufacturer, of the biobased content of the product.
— Posting, by manufacturers or vendors, of product attributes and claims, on the USDA BioPreferred website.

The measure directs USDA to consider the availability of items, as well as their economic and technological feasibility, including life-cycle costs, before including them on the preferable purchasing list. In addition, any Federal agency may expressly require verification of environmental benefits, public health benefits, or life-cycle costs, using the National Institute of Science and Technology (NIST) product-evaluation program—BEES (Building for Environmental and Economic Sustainability)—or other life-cycle assessment tool or other suitable evaluation method.

Thus far, environmental preferable purchasing has favored recycled paper producers, composite product manufacturers, and manufacturers of nonwood products with recycled content. Where such programs will ultimately lead is not clear at this point, but it is likely that they will continue to expand and that eligibility guidelines will continue to tighten.

Bioenergy development incentives

Viewed as a green alternative to fossil fuels, renewable energy, including energy from biomass, is currently on the radar screens of policy makers and a growing segment of the general public. Consequently, a wide array of incentives and inducements has been put into place by both the Federal government and various states to encourage bioenergy development.

Presently, biomass is being used in a variety of forms for heating homes, institutions, and districts, and for generating electricity. In addition, corn starch and other agriculturally derived materials, such as soy, canola, and palm oils, are the basis for producing ethanol, biodiesel, and other liquid fuels. In the future, cellulosic materials including corn stalks, switch grass, and wood chips will be primary raw materials for producing liquid fuels.

To this point, bioenergy development has had limited impact on the forest products industry, resulting in:
— Higher wood costs to some segments of the industry,
— Challenges to wood availability for some traditional uses,
— Interest in wood from outside the forest sector,
— Growing opportunity.

Nonstructural panel manufacturers—producers of underlayment grade particleboard, core stock, and MDF—are those most impacted. Rising production of pellet fuels from wood (up 25% in the United States from 2005 to 2007), coupled with declining availability of sawmill residues, is putting pressure on biomass supplies in some regions; prices of raw materials have risen 50 to 100 percent and more over the past 12 to 18 months. Paper manufacturers in some regions have also experienced a rise in chip prices in the face of sometimes-subsidized competition from electric utilities.

But these impacts to the forest products industry as a result of bioenergy production are likely only a hint of what is to come. Global production of biofuels is currently rising annually the equivalent of about 300,000 barrels per day (in contrast to petroleum demand that rose by an average of 900,000 barrels per day in 2007) (World Business Council for Sustainable Development 2008). Current production levels are expected to triple within the next decade (Fig. 1). As soon as cellulosic ethanol becomes commercially viable, a marked increase in demand for woody raw materials for energy production is likely. The use of woody biomass for energy production will almost certainly present a challenge to wood products manufacturers who use small-diameter logs, chips, sawdust, shredded wood, or wood of similar form. Forestland managers also will face challenges as wood prices adjust to reflect energy content. On the other hand, development of new wood-to-energy and wood-to-industrial chemicals technologies and markets undoubtedly translates to significant opportunity for some.

Nongovernmental initiatives

Green building programs

A phenomenon that has thus far had relatively little effect on the wood products industry but which has major implications for manufacturers and distributors alike going forward is the green building movement. In North America, consideration of the environmental impacts of building construction had its beginnings in Austin, Texas in the early 1990s, and a smattering of other programs were initiated over the next several years. A very significant development occurred in 1995 when the UK Building Research Establishment Environmental Assessment Method (BREEAM) was adapted for use in Canada. Three years later, in 1998, a new streamlined program, BREEAM Greenleaf, was developed for use with municipal buildings in Canada. In that same year, a pilot of the Leadership in Energy and Environmental Design (LEED) program was released by the
U.S. Green Buildings Council, and in 2000 LEED New Construction (LEED-NC) became operational. Also in 2000, BREEAM Greenleaf became an on-line assessment and rating tool under the name Green Globes for existing buildings. Four years later, the U.S.-based Green Building Institute acquired the rights to distribute Green Globes in the United States. Today there are more than 40 active green building programs in North America, including LEED, Green Globes, and the NAHB National Green Building Standard.

Unfortunately, provisions of a number of green building programs, including the widely popular LEED program, are prescriptive in nature and based more on intuition than science. Some of these provisions relating to environmentally preferable materials favor recycled-content steel over wood (a serious error from an environmental point of view), rapidly grown material such as bamboo over more slowly grown wood (a criterion that is not supported by science), and require certification of wood and wood products—but not of any material other than wood (despite significant environmental and social impacts associated with a number of common materials) (Bowyer 2007). As the influence of green building programs increases, such provisions could result in substantial, and negative, impacts to the forest products industry unless a change is made in the way that environmentally preferable materials are identified. What is likely to happen is that the primary green building programs will shift to use of life-cycle assessment (LCA) as a means of using science and consistent methodology to inform green building decisions. To take full advantage of a shift toward LCA, the forest products industry will need to learn the essentials and begin the process of obtaining life-cycle data for its products and processes.

Despite considerable activity around green building program development, to date relatively few buildings in North America have received green certification or been built to green building standards. Nonetheless, there is growing evidence that a green building “tsunami” may be in the offing. According to LEED, the annual U.S. market in green building products and services was more than $7 billion in 2005, $12 billion in 2007, and is projected to increase to $60 billion by 2010. Moreover, LEED reports that more than 54,500 designers, builders, suppliers, and managers have attended USGBC educational programs, and that more than 43,000 people have become LEED Accredited Professionals since the program was initiated in 2001.

So far, implementation of green building programs is mostly voluntary across the United States, although a growing number of states and municipalities are requiring construction of government-sponsored building projects to green building (often LEED) standards. In California, a few cities now require or are formally considering commitment to green building standards in privately funded projects as part of the permitting process.

Forest certification

The certification of wood products had its origin in the tropical timber wars of the late 1980s. When a suggested boycott of tropical timber led to the realization that success in such an effort would likely only devalue tropical forests, the concept of identifying and rewarding responsible forest management was born. By the mid-1990s forest certification and chain of custody certification had become reality, first with the introduction of FSC forest certification, and then the development of a host of reactionary programs.

Mainstream forest certification programs in North America include the Forest Stewardship Council (FSC), the Sustainable Forestry Initiative (SFI), the American Tree Farm System (ATFS), and the Canadian Standards Association (CSA). The Programme for Evaluation of Forest Certification (PEFC) is also increasingly recognized.

Over time, the proportion of forests certified by one or more of these programs has increased fairly steadily from negligible in the late 1990s to considerable today (Table 1). As recently reported by the Society of American Foresters (Alvarez 2007), 107 million acres of forests in the United States are now certified, comprising 14 percent of total U.S. forests and 25 percent of privately owned forestlands. In Canada, some 86 percent of actively managed land, and 42 percent of nonreserved forestland is certified to one or more standards.

In addition to forest certification, the major programs require chain of custody (COC) certification. Recent data show the number of companies holding COC certificates to be growing quickly, with more than 1,500 in the United States.

The certification of forests and firms has been costly to the forest products industry. In virtually all operating regions, North American manufacturers must conform to strict state and local forest management and harvesting standards. Certification represents another layer of oversight and another cost of land management. In most cases, little or no premium has been obtained on certified wood in the market to cover these added costs. Despite this, it appears that certification is here to stay.

One common feature of the green building programs discussed earlier is that almost all of them require or reward use of certified wood. Thus, as green building programs grow in popularity, demand for certified wood is certain to grow.

### Table 1. Certified forest area in the United States and Canada.

<table>
<thead>
<tr>
<th>Certification program</th>
<th>United States</th>
<th>Canada</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFI</td>
<td>54.7</td>
<td>90.0</td>
</tr>
<tr>
<td>FSC</td>
<td>31.0</td>
<td>59.3</td>
</tr>
<tr>
<td>CSA</td>
<td>—</td>
<td>189.5</td>
</tr>
<tr>
<td>ATFS</td>
<td>35.0</td>
<td>—</td>
</tr>
</tbody>
</table>

*columns do not add since some lands are certified to more than one standard.*

Forest certification

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**Carbon sequestration**

Although the United States has not ratified the Kyoto Protocol, individual states and regions within the country...
have organized systems for participating in the global carbon market. The U.S. carbon market has developed primarily on a voluntary basis, and forestry-based carbon projects have emerged as an important component in this market.

Trading in greenhouse gas (GHG) emissions has been underway in the United States since 2003, when the Chicago Carbon Exchange (CCX) became the world’s first global venue for emissions trading and offsets. A forestry program that operates within the CCX recognizes afforestation, reforestation, and forest enrichment projects initiated on or after January 1, 1990 on nonforested or degraded forestland. In December 2007, the CCX Committee on Forestry approved new protocols for carbon sequestration associated with long-lived wood products and managed forests (CCX 2007).

Four other major initiatives also have provisions that recognize carbon storage within forests. These include the Department of Energy’s National Voluntary Reporting of Greenhouse Gases Program, the California Climate Action Registry, the Regional Greenhouse Gas Initiative, and the Georgia Carbon Sequestration Registry; the latter is a program of the Georgia Forestry Commission. In addition, there are several evolving programs focused on development of carbon cap and trade mechanisms, including the Midwestern Regional Greenhouse Gas Accord that involves nine states, the Western Climate Initiative that includes six states and two Canadian provinces, and the Climate Registry—a coalition of 39 states, 9 Canadian provinces, 6 Mexican states, and 3 tribal groups; it is likely that forest carbon will be recognized in these programs as well (Fernholz et al. 2008).

In short, carbon markets are gaining momentum, and forestry is likely to play a role in all of them. It is too early to tell whether carbon storage within long-lived forest products will become widely recognized (see Skog 2008), but the fact that the largest carbon trading program within North America has taken steps in this direction is encouraging. In any event, carbon trading is likely to present a significant opportunity to the forest sector within the relatively near future, and is clearly something that deserves close attention.

Corporate responsibility

Corporate responsibility, a term long used in public relations efforts of business and industry, has recently caught the attention of government and societal leaders in European nations, and has consequently assumed a rather broad, but increasingly specific meaning. Many of the world’s largest corporations are quietly changing the way they do business to align with concepts that underlie the new language.

A key element of the modern concept of corporate responsibility is environmental responsibility, and under the new business model, a starting point is knowledge of current environmental performance in all business operations. Only with a complete understanding of environmental impacts associated with all products and processes does development of a rational and effective plan for competing in the evolving green marketplace become possible. At its heart, the green marketplace is asking manufacturers and distributors to know their products inside and out. This, in turn, translates to awareness of global supply chains: where raw materials come from, how they are extracted and processed, impacts on the local and regional environment, and comparability of environmental standards in the country of origin to standards in the region where goods are consumed.

But corporate responsibility means more than simply environmental awareness and associated action. Only several years ago the term “green,” when applied to a business entity, was used to refer to an organization committed to the highest standards of environmental responsibility. Today, the definition of “green” is rapidly evolving globally to encompass not only environmental responsibility but social responsibility as well.

In the new language of corporate and business leaders, a commitment to corporate responsibility encompasses both environmental and social responsibility, and is sometimes referred to as a commitment to the triple bottom line – economic, environmental, and social (Savitz and Weber 2006). Thus, a responsible corporate citizen is increasingly expected to be aware of environmental impacts and to be proactively working to address problems, and to operate in such a way as to promote human rights, fairness, and decent working conditions in the acquisition, production, and distribution of products throughout global supply chains.

The 14000 series of standards from the International Organization for Standardization (ISO) provide a roadmap for organizing to achieve environmental responsibility. A new series of standards now under development will provide guidance to the private sector, government, and all other segments of society regarding social responsibility. The new set of standards, identified as the ISO 26000 series, is currently in draft form and available for public comment and discussion. Implementation is slated for 2010.

Hansen (2006) recently outlined how new expectations regarding environmental and social responsibility are likely to affect the forest products industry. Given the pace of change in this regard in the retail sector, changing expectations of customers might be expected sooner rather than later.

**Crystal ball gazing**

**A glimpse of the future**

Consideration of the past and current trends helps in visualizing what the future might hold. A few observations in that regard are the following:

— Environmental laws and regulations governing forest management, transportation, and manufacturing practices will continue to tighten.

— Governmental environmental purchasing programs at Federal, state, county, and municipal levels are likely to become greater in number and more encompassing over time.

— The need for alternative energy sources, transportation fuels, and industrial chemicals will only grow, and forests will be looked to as an environmentally preferable source of such materials. From this point forward, the price of wood to be used for any purpose will have to reflect its energy value.

— The carbon storage capacity of forests will become more widely recognized than today and will become a source of revenue for forestland owners and the forest products industry.
The influence of green building programs will expand rapidly throughout the United States and Canada, impacting all aspects of the construction industry, including manufacturers and vendors of building products.

Product durability, low maintenance requirements, and low or no VOC or other emissions from interior use products will become increasingly important to building designers and homeowners focused on green building construction. Design for deconstruction and reuse at the end of building life will also become of greater interest.

Life-cycle assessment will become part of the foundation of green building programs, requiring that manufacturers develop LCA profiles for products and processes. Both manufacturers and distributors will need to become sufficiently familiar with LCA to inform investment decisions and to allow intelligent discussion with customers.

Forest certification is here to stay, and environmental purchasing programs and growing emphasis on green building practices will heighten consumer demand for certified wood.

The newly defined corporate responsibility concept will slowly take hold over the next few years, but will then gain momentum with publication of ISO 26000 series standards, raising expectations of consumers and government regulators alike.

Steadily increasing population and ongoing decline in forest area per capita will mean increased conflicts over land use and forest industry activity, regardless of how well forestlands are managed and harvests are conducted.

Misinformation about forest conditions and management will continue to spread, absent effective efforts to reverse pervasive misperception.

As people become more knowledgeable about environmental life-cycle assessment, and as bioenergy, and carbon storage and mitigation move to the forefront of public discourse, wood could well re-emerge as the environmental material of choice for the 21st century and beyond.

Green building programs

To this point it appears the forest products industry has paid little attention to green building programs. Perhaps this is because many of these programs have provisions unfavorable to wood and/or to wood in solid form, or require that wood be from certified forests, or that they have actually affected the construction of few buildings, and up until 2007 virtually no housing units. The fact remains that distributors of building materials have not for the most part embraced green building programs. In fact, based on personal interaction with wholesale and retail building products distributors nationwide, very few have sales people who can intelligently discuss the various green building programs operating in their sales regions, who know the essential differences between them, who know how to access the documentation that is freely available on the Web, or who can help a customer interested in constructing a certified green structure to assemble a critical mass of required components. It would appear that substantial opportunity awaits those who figure out how to better serve the green building industry and adapt accordingly. A relatively new and Web-based initiative of the LBM Journal—the Certified Green Dealer Program (LBM 2008) – is a great resource for helping distributors to get started.

Certified forest products

With more and more certified forestland in North America, and consequently potentially greater and greater availability of certified product, what has been the reaction of the forest products industries of the United States and Canada? In a word: indifference. As with green building programs, few forest products sales professionals know enough about the details of the industry-favored SFI program to have anything other than the briefest conversations with potential customers. Knowledge of the FSC program ranges from nonexistent to extremely limited. Ditto for ATFS and CSA certification. Moreover, misinformation about all of these programs, and about chain of custody requirements, is rampant.

As noted previously, all green building programs that require or reward wood certification are focused on certification of wood alone. There are no requirements or incentives for certification of steel, aluminum, concrete products, or any other construction material. This is clearly unfair, but does it also present an opportunity? Most definitely! An environmentally conscious customer who wants assurance that the materials he or she is specifying or about to purchase were produced in an environmentally responsible manner can only find that assurance in one line of products: certified wood. That reality should be marketable.

Misperceptions and change

Surveys of student and young adult attitudes, perceptions, and knowledge regarding environmental topics over the past several decades have all pointed to deep and pervasive misinformation among this age group. Responses to a variety of environmentally related questions were (and continue to be) consistently and deeply to the pessimistic side of wrong, with responses regarding forest trends often the farthest from reality (Bowyer 1995). Students were found to consistently underestimate the current extent of forests as compared to original forest cover, to believe that the United States is being rapidly deforested and that annual timber removals exceed growth, to grossly underestimate the extent of paper recycling, and so on. And when asked about which building material can be produced with the least environmental impact (a question with no right or wrong answer in every situation), two-thirds tended to pick a material other than wood (Table 2).

Participants in those first-reported environmental surveys are now in their mid-30s to early 40s. As homeowners, parents, and voters of today, and the business, community, and legislative leaders of tomorrow, attitudes they gained early-on are likely to influence decisions and to guide future behavior. And as teachers of our children, they are likely purposefully or otherwise perpetuating misperceptions among the next generation.

Unfortunately, it has long been the case that perception and not reality is the primary determinant of public
policy, and past surveys suggest that perception regarding forests is far from reality. Without some kind of effective, consistent effort to address perceptions, it is likely that this situation will be perpetuated far into the future.

### Summary

The green movement has had a substantial impact on the forest products industry of North America and there is no reason to expect that this situation will change. Whereas past impacts have come largely from legislation and agency rulemaking, future influence will come as well from nongovernmental initiatives.

At least three major factors will impact the forest products industry in the next few decades, including continued regulatory attention to product safety, green building programs, and forest certification initiatives. Carbon and carbon trading issues are also likely to emerge as important to industry profitability. All of these areas represent opportunities for innovative companies.

Beyond environmental law, society increasingly expects verifiable assurances that neither environmental damage nor human exploitation is linked to their purchases, and in response leading companies are beginning to change the way that they do business. Others, in turn, are beginning to pay attention to the new business language of environmental and social responsibility, seeking to learn more about how a broadening of mission might impact and benefit their enterprises.

A renaissance of wood may lie ahead as society begins to focus on issues related to carbon emissions and other aspects of environmental performance. The forest products industry will play a role in this, whether through ongoing work to overcome misinformation or through benign neglect.

### Literature cited


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