Agenda 2020
http://www.agenda2020.org/default.htm

"The Agenda 2020 technology vision builds on the forest products industry's strategic advantage as stewards of an abundant, renewable and sustainable raw biomaterial: forests. The industry also includes owners of the fundamental infrastructure for converting these biomaterials. Thus, the industry is uniquely positioned to produce new "green" bio-based products -- fiber, fuels, chemicals -- without increasing its current consumption of forest materials or disrupting production of the traditional line of forest products. Advanced technology will endow these new bio-products with "smart" properties and high performance characteristics. Agenda 2020's technology platforms are designed to use emerging technologies, such as biotechnology and nanotechnology, coupled with breakthrough advances in process and conversion technologies, to create and capture value from both new and existing product streams efficiently, cleanly, and economically."

Leadership: "The Agenda 2020 Technology Alliance is an industry-led partnership with government and academia that holds the promise of reinventing the forest products industry through innovation in processes, materials and markets. The collaborative, pre-competitive research, development, and deployment supported through Agenda 2020 provide the foundation for new technology-driven business models that will enable our industry to meet competitive challenges, while also contributing solutions to strategic national needs."

Knowledge: "The Forest Products Industry Technology Roadmap, updated in early 2006, captures this vision and translates it into a set of focus areas and R&D priorities for each Agenda 2020 technology platform. The purpose of the Roadmap is to provide the research community, and their funding organizations, with information on the technical challenges and research needs that are considered priorities by the U.S. forest products industry. The goal is to stimulate collaborative, precompetitive research, development, and deployment that will provide the foundation for new technology driven business models that enable the industry to meet competitive challenges, while also contributing solutions to strategic national needs."


ORWIC
Oregon Wood Innovation Center http://owic.oregonstate.edu/index.php

Investment: brokering and market connections

Knowledge: publications; technical assistance by phone or visit; short courses and workshops

Innovation: new product development and testing; short- and long-term research

TimberTech

Fiber Tech Polymers

"All of our board products are made from 100% recycled materials, of which a minimum of 65% is post consumer....These high performance boards are not only superior in aesthetics and performance to plastic, fiber, wood, and other composite products, but are also the environmentally responsible alternative to harvested wood."

Wood Company

"The Woods Company maintains a 90,000sf manufacturing facility under roof on over 4 acres and the entire production process is controlled by us at one location. Salvaged lumber is brought to our facility, either by our own dismantling crew, or from the many other salvagers that we deal with, to be sorted, tallied, and inventoried. As our production schedule dictates, the lumber is denailed, metal detected, graded, and kiln dried."

Leadership in Forestry
FPInnovations brings together FERIC, Forintek, Paprican, and the Canadian Wood Fibre Centre of Natural Resources Canada, to create the world's largest private, not-for-profit forest research institute. With over 600 employees spread across Canada, FPInnovations unites the individual strengths of each of these internationally
recognized forest research and development institutes into a single, greater force.

**Leadership:** "As a powerful, united voice for forest sector research in Canada, FPInnovations is quickly establishing itself as the key element in the sector's transition to a stronger, more sustainable future. From genetics and harvesting operations to wood and paper products and beyond, FPInnovations is positioned to provide a sector-wide voice on issues of global importance to the Canadian forest industry and its customers."

**Innovation:** Bioeconomy; forest productivity, fibre delivery, usage, and value; forestry operation and management processes; suppress and manage wildland fires; environmental sustainability; production costs and manufacturing processes; quality and variety of specialty, wood-based products; wood construction products and system solutions; building codes and standards; pulp and paper processes and traditional and revolutionary paper products; extracting chemicals and energy from forest biomass; cellulose-based nanomaterials to produce high-performance paper and packaging; and environmentally sustainable mill practices

**Forestry Innovation Investment**  
Forestry Innovation Investment Ltd.  
http://www.bcfii.ca/about_fii/overview.htm  
Educates international markets about BC's forest management practices; promotes BC wood products in major markets like the United States, Japan, China, and Europe; introduces BC wood products to growing markets like Korea, Taiwan and Australia; develops new products and uses for wood; researches better ways of milling and manufacturing wood products; helps the forest sector deal with major issues like the Mountain Pine Beetle outbreak."

**Leadership:** "FII works in partnership with the Government of Canada, Government of British Columbia, and the forestry sector."

**Investment:** "FII funds international marketing, market access and product development programs to maintain BC's position as the world's largest exporter of softwood lumber. FII also runs specific programs for China and the domestic Canadian market."

**Knowledge:** "Trend Analysis in Export Markets reports are issued quarterly and annually. Each report provides the latest data on major international markets for wood products and BC's relative position in major markets around the world. Reports provide an overview of supply and demand, consumption, imports and exports, (where such information is available) as well as BC's market share, economic indicators, and competition trends."

**Innovation:** "The Business Innovation Partnership is a new program that officially launched in December 2007 that provides business development services to the Value Added wood products industry in British Columbia.....a partnership between BC Wood and FP Innovations (Forintek)......funded through Forestry Innovation Investment." (http://www.iforwood.com/)

**Kisis Tech**  
Kisis Technologies Inc  
www.kisistechnologies.com

**Innovation:** "The technological process used is non-polluting and does not release any pollutants in to the environment. The materials remain entirely natural since no chemical additives are used."

**Advanced Biorefinery**  
Advanced BioRefinery Inc.  
http://www.advbiorefineryinc.ca/home/  
"Much of our focus has been on the production of Bio Oil, an energy dense liquid derived from biomass through the process of pyrolysis. We are able to provide solutions for virtually any type or amount of feedstock and are flexible to suit many different applications. Some of our previous projects have included 50 tones per day production systems for wood waste and 1/2 tone per day systems for small applications and research."

**FTP**  
Forest-Based Sector Technology Platform Ð FTP  
http://www.forestplatform.org/  
"In 2004, the European Confederation of Woodworking Industries (CEI-Bois), the Confederation of European Forest Owners (CEPF) and the Confederation of European Paper Industries (CEPI) took the initiative to set up a Technology Platform for the forest-based sector. This platform aims at defining and implementing the sector's R&D roadmap for the future and is supported by a wide range of stakeholders. The Forest-Based Sector Technology Platform is an industry-driven process, embedded in industry reality, and supporting the sector's strategy."

**Leadership:** "The High-Level Group (HLG) is the decision body of the project and steers the activities of the platform."
At present, the HLG comprises six high-level persons from companies and the three confederations plus the chairman of the Advisory Committee and the chairman of the Scientific Council. The European Commission (DG Research and DG Enterprise and Industry) is involved in the HLG as an observer.

**Knowledge:** The FTP's Communication group has as major tasks to promote awareness of and involvement in the platform and to undertake day-to-day activities concerning the FTP's communication. The group deals both with internal and external communications. It brings together communication officers of the NSGs, confederations and the three major international research organisations within the sector, i.e. EFI (for forest research), EFPRO (for pulp and paper) and Innovawood (for wood products).

**Innovation:** During February 2006, after nearly one year of thinking, writing and debate involving an estimated investment of 3.4 million EUR, over 700 proposals were condensed into a Strategic Research Agenda (SRA) for the Forest-based Sector Technology Platform (FTP). The SRA is based on proposals from across Europe, encompassing the full range of complexity and variety the sector represents, from paper to packaging, from building with wood to bio-energy from wood, from trees to new trends. Through joint innovative R&D activities, the FTP will strengthen the competitiveness of the sector and contribute to the improvement in the quality of life of European citizens.

**EFORWOOD**

EFORWOOD [http://87.192.2.62/eforwood/default.aspx](http://87.192.2.62/eforwood/default.aspx)

"EFORWOOD is a four-years (November 2005-October 2009) integrated project, funded under the EU 'Global change and ecosystems' research activity of the Sixth Framework Programme. Project includes 38 organisations in 21 countries, with total estimated budget of €20 million - of which the European Commission contribution is approximately €13 million."

**Leadership:** "The aim of the project is to provide methods and tools that will, for the first time, integrate Sustainability Impact Assessment of the whole European Forestry-Wood Chain (FWC), by quantifying performance of FWC, using indicators for all three pillars of sustainability; environmental, economic and societal."

**Knowledge:** "The Decision Support Tool ToSIA (Tool for Sustainability Impact Assessment) is the predominant product of EFORWOOD. It represents a dynamic sustainability impact assessment model that is analysing environmental, economic, and social impacts of changes in forestry-wood production chains, using a consistent and harmonised framework from the forest to the end-of-life of final products."

**Finish Fors. Industries**


"In 2008 the Finnish Forest Industries Federation will focus special attention on resource issues - wood and energy. Another key objective is the renewal of paper industry working life practices through collective agreements. Strengthening the forest industries' innovation capabilities and long-term competitiveness is also a priority."

**Leadership:** "The Finnish Forest Industries Federation works to improve the competitiveness and profitability of the forest-based sector by strengthening its operating conditions and building its positive image in Finland and abroad."

**Knowledge:** "Paper & Wood Insights" (website: [http://www.forestindustries.fi/Pages/default.aspx](http://www.forestindustries.fi/Pages/default.aspx)) is a wide-ranging source of information about the Finnish forestry & forest-products sector.


**BEOLOGIC**


"Some advantages of WPC: no deformation, does not crack or slit, & does not rot; machinable with traditional wood-tools; anti-bacterial & anti-fungal; water & moisture-resistant; available in several colors; painting, gluing & varnishing possible in some formulations; reduced weathering; feels like wood; higher stiffness; anti-slip; recyclable; low maintenance; adjustable technical properties; hollow & complex profiles possible; some formulations screwable & nailable."

**Välinge Innovation**

Välinge Innovation AB [http://www.valinge.se/company.lasso](http://www.valinge.se/company.lasso)

"Välinge's business is completely based on R&D. In spite of deep and extensive knowledge within the flooring field, the company is not involved in flooring production and will not compete against its licensees. The license income is
used to develop new technology in order to further support the licensees."

Innovation: "Välinge’s licensees have successfully introduced a wide range of products based on the company’s technology, starting in 1996 with the revolutionary Alloc® Flooring. Since then, Välinge has focused on the work to increase the patent activities, expand the patent portfolio, develop new technologies and form strategic partnerships."

Coed
Coed Derwen Joinery (Abergavenny) LLP http://www.coedderwen.co.uk/index.shtml
"Based on an original idea by Coed Cymru, Coed Derwen Windows and Doors are made by laminating a small section of prime quality Welsh Oak or Welsh Sweet Chestnut converted from sustainable FSC approved timber, supplied by Coed Cymru at Wentwood Forest The Wye Valley, Monmouthshire. The manufacturing process produces strong stable sections with minimal machining and waste, therefore enabling high levels of labour and material optimisation."

WW Technology
WW Technology AG http://www.woodwelding.com
"WoodWelding" technology is an innovative fixation technique that uses ultrasonic energy to form a bond in porous materials. To achieve this, thermoplastic elements in the form of e.g. a nail, dowel or seal are used as joining or connection elements. The technology offers a substitute to traditional fixation solutions such as nails, screws, adhesives etc."

Knowledge: "The WW Technology team works closely with clients to test the process on various materials and develop applications. Our main assets are several years of experience, developed skills and know-how in the context of the WoodWelding® technology as well as an established global network of industry partners."

Business Development & Innovation
"However, Lenzing does more for its customers. We commission fashion experts and trend researchers worldwide to identify the fashion trends of future seasons and to present them to you as quickly as possible. After all, Lenzing does not only provide the necessary lead over competitors when it comes to producing fibers."

LC Energy
LC ENERGY
Our solutions have been built using long established wood fuel technology which has been proven throughout Europe over 40 years. We have a detailed knowledge & understanding of the wood fuel sector offering our clients bespoke solutions to their heat energy requirements. In partnership with the L& W Group, we aim to deliver: 10% reduction in fuel costs (compared with natural gas); 40% reduction in fuel costs (compared with heating oil); 50% of your energy use as carbon neutral; and 100% use of sustainable wood fuel.'

CRC for Wood
"Our technologies offer processing efficiencies and economic benefits in the areas of wood drying, wood preservation, and shaping wood components. We also research modified wood materials that add value to low value timbers, improved adhesives and surface coatings for wood products, and new engineering and design concepts for furniture."

Investment: "CRC Wood Innovations has ground floor opportunities for investment in technologies with commercial potential in several different markets. We invite interested companies with appropriate experience in product development and market understanding to connect with us in developing these products."

Knowledge: "Postgraduate training research opportunities are available with Masters and PhD scholarship placements in all our research programs. CRC staff provide an Advanced Diploma in Wood Management course, offered through The University of Melbourne, providing professional development for timber industry employees."

Innovation: "Our technologies are protected by international patents, and available to industry via our commercialisation program."
EU-China

Leadership: "The Community Development (CD) component plays a very important role in the NFMP because it deals with the human side of natural forest policy and management. This component aims at enabling villagers in the project townships and villages to improve their livelihood base and to develop land use practices more compatible with sustainable development while achieving environmental stability."

Knowledge: "EU-China Natural Forest Management Project (NFMP) is a kind of technical assistance project in support of the ongoing Natural Forest Protection Program (NFPP)."...the "ITD component provides professional support services on "training and communication to the other three components."

Innovation: "The Natural Forest Management (NFM) component of the NFMP deals with two main aspects of work: planning and practical management related to natural forests."

Maine Building Supply
Middleton Building Supply/Diprizo Pine

Investment: long history of investment for mill improvements; utilized $460,943 renewable energy grant from the USDA Rural Development; Funds to install wood boiler and steam turbines to cogenerate heat and electricity

Innovation: new 600 hp wood-fired boiler system to power the dry kilns plus a 600kW steam turbine to produce electricity

New England Wood Pellet
New England Wood Pellet www.pelletheat.com

Investment: Recent reorganization of private company to include several new investors. Partnership to construct wood-fueled direct-fired gas turbine cogeneration plant to provide power to the Jaffrey plant.

Innovation: New (second) facility in Schuyler New York producing 100,000 tons of wood pellets per year.

Forest Certification Initiative
The Maine Forest Service Certification Initiative www.forestcertification.maine.gov

Leadership: The State of Maine is committed to being a leader in the certification of forest lands, both nationally and internationally. At present, Maine is second in the nation with 7.2 million acres of certified land. The State is currently working to attain 50% certification of the state's forest land.

Knowledge: The first recommendation of the Advisory Committee was to "Create a Maine Forest Certification Information System" - the MFS is currently developing strategies to simply certification and to make it less costly. The MFS has also developed a brochure, targeted to landowners, which describes certification, the realities of the marketplace for certified land, and current certification systems available.

Red Shield - Old Town
Red Shield Environmental LLC

Leadership: State of Maine from Governor Baldacci down was integrally involved in the early stages to get this project off the ground. State support has continued.

Investment: The Red Shield/University of Maine partnership just received a $30 million grant from the U.S. Dept of Energy. In Feb 2008 the company had received a $ 500,000.00 grant from the Maine Technology Institute. The total investment by Red Shield is expected to be $100 million.

Innovation: Development of a state-of-the-art Energy Park on the former Georgia Pacific pulp mill site: will include Pilot plant for ethanol production utilizing van Heiningen process to cook hardwood to yield an extract of complex sugars for fermentation into ethanol.
Pride/Softspikes

*Investment:* This merger/acquisition required private investment on the part of Pride Manufacturing.

*Innovation:* Merger of world's leading golf tee manufacturer with world's leading golf cleat producer into one company. Turned a wood turning company that made golfing products into a golf products company that made wood-turned golf products. This transformation saved the wood-turning part of the company.

LP in Houlton
Louisiana Pacific

*Leadership:* Louisiana Pacific received the Maine Investor Award for growth of their company and contributions to state economy from the State Chamber of Commerce in Oct 2007

*Investment:* Louisiana Pacific invested $100 million to convert Houlton plant from oriented strand board production to oriented strand lumber.

*Innovation:* Oriented strand lumber is a relatively new product, an engineered wood product used in various home construction applications.

Robbins Lumber, Searsmont
Robbins Lumber [www.rlco.com](http://www.rlco.com)

*Leadership:* Robbins Lumber has been in existence since 1881 in Searsmont Maine.

*Investment:* Good example of continuous investments in technology and innovations in both its mill and on its forest lands. In 1996 Robbins became fully compliant with ISO 9001 requirements for quality in manufacturing and in 2002 became SFI certified for their forest lands and procurement system. In 2006-07 completed yet another upgrade in the mill with computer optimizing equipment to maximize utilization and additional investment to increase production.

*Innovation:* Innovations in labeling, packaging, inventory and shipping allow Robbins to maintain its strong market presence.

AWEC at UMO
Advanced Engineered Wood Composite Center [www.aewc.umaine.edu](http://www.aewc.umaine.edu)

*Leadership:* AEWC is a globally recognized leader in composites research and development.

*Investment:* since 2001 has received over $17 million in research funding from govt agencies; has done R & D work for 150 private companies, formed multiple partnerships for pilot projects

*Knowledge:* publication of 400 articles and reports, demonstration projects, host 1,000 visitors each year

*Innovation:* AEWC conducts research leading to commercial development of the next generation of cost-effective, high-performance, wood-nonwood composite materials. The center also house two pilot plants: a Wood Plastic Composites Pilot Plant and an OSB/OSL Pilot Plant. The center has been awarded 8 patents to date.

Correct Deck
Correct Building Products [correctdeck.com](http://correctdeck.com)

*Leadership:* Correct Building Products considers itself a leader in conserving Natural Resources as a participant in State of Maine’s Governors Carbon Challenge, two time winner of the Governor's Waste Reduction Award, supporter of goals of USGBC and LEED program, and member of multiple green organizations.

*Innovation:* Development of ultra-low maintenance Correct Deck CX decking Incorporation of recycled polypropylene into CBP products Tremendous growth in exports
Greenville Steam
Greenville Steam Company newenergycapital.com

**Investment:** New Energy Capital makes strategic investments and acquisitions in 1. Renewable Energy Assets, and 2. Distributed Generating Assets

Pine Tree Zone
Pine Tree Zones www.mainebiz.org/pine_tree

**Investment:** Pine Tree Development Zone program offers eligible businesses the chance to greatly reduce or virtually eliminate state taxes for up to ten years. Goal is to create quality jobs in targeted industries in targeted geographic areas with high unemployment and low wages; Almost 200 companies are certified to date representing an investment of $17,500,000.

VFF - Flooring
Vermont Family Forests www.familyforests.org

**Innovation:** coordination of multiple levels of wood production to sell flooring from local certified forests to local consumers

VFF - Community Firewood
Vermont Family Forests www.familyforests.org

**Innovation:** Community Supported Forestry Firewood Program: connecting customers who care about forest health and want to act upon that concern by using firewood from landowners who are practicing exemplary forest management (certified by FSC through VFF) -- customers include both residential and local wood energy projects (ex. schools)

VWMA - Resource Manual
Vermont Wood Manufacturers Association www.vermontwood.com

VWMA is a membership organization with 120 primary and secondary processors and related businesses, these members combined employ 6,000 people.

**Knowledge:** Vermont Wood Products - A Resource Manual - Connecting Architects, Designers and Purchasers with Vermont Producers and Craftspeople: this provides information on manufacturers of architectural millwork, furniture, plywood lumber and doors/windows that are capable of producing at institutional and commercial quality and volumes.

**Innovation:** connecting manufacturers with institutional construction projects opened up new markets and also created foundation for expanding into other sectors

VWMA - Furniture Festival
Vermont Fine Furniture and Woodworking Festival www.vermontwoodfestival.org

VWMA is a membership organization with 120 primary and secondary processors and related businesses, these members combined employ 6,000 people.

**Investment:** festival supported by Vermont Wood Manufacturing Association, Vermont Council on Rural Development, and Marsh Billings Rockefeller National Park

**Innovation:** Vermont Fine Furniture and Woodworking Festival: an annual festival held in Woodstock Vermont featuring over 40 wood artisans and typically hosting over 2,000 visitors from 20 states

VWMA - Forest Tours
Vermont Wood Manufacturers Association www.vermontwood.com

VWMA is a membership organization with 120 primary and secondary processors and related businesses, these members combined employ 6,000 people.
Knowledge: Vermont Woodshop & Forest Tours: The Vermont Forest Heritage Trail: a regionally-themed itinerary and driving tour that unifies and connects diverse forest-product-related experiences; brochures and websites guide visitors through showrooms and woodworking studios, tour factories and sawmills, or walk through working forests

Exclusively Vermont
www.exclusivelyvermont.com

Innovation: Exclusively Vermont Wood Products is a retail outlet specializing in local Vermont wood products available directly to the consumer.

Vermont Hardwood Pens
Vermont Hardwood Pens www.moosemaple.com
small one-person craftman operation, utilizing unique wood sources; easily replicable throughout the nation
Innovation: small specialized craftman designing and making pens from Vermont hardwood; specialty is making pens from a consumer's "favorite tree" or other unique source of wood (example: reclaimed antique wormy chestnut)

Burlington Electric
www.burlingtonelectric.com
VT's largest municipally owned electric utility serving more than 19,600 customers
Leadership: Leader in locally produced power, investment in wood-burning, and promotion of energy conservation.
Investment: BED owns 50% of the McNeil Generating Station (there are three other owners).

McNeil Generating Station
Burlington Electric Department www.burlingtonelectric.com
Leadership: Leader in wood-burning generation and commitment to maintaining environmental quality.
Innovation: Test plot of 5,000 planted hybrid willow trees Burlington. The quick-growing trees are harvested every three years. The first harvest was conducted in Nov 2000, with a yield of 35 tons per acres (five times native forest stands).

Biomass Energy Resource Center
Biomass Energy Resource Center (BERC) www.biomasscenter.org
BERC is an independent, non-profit organization that assists in the development of biomass energy projects. As an unbiased, experienced partner, help communities, schools and colleges, state and local governments, businesses, utilities, and others make the most of their local energy resources.
Leadership: Leader in promoting sustainable biomass energy systems at the community scale.
Investment: Initiates and facilitates partnerships for community biomass projects.
Knowledge: Facilitates education and training programs in community based biomass; participate in conferences and national speaking engagements, creation of replicable manuals and studies.
Innovation: Local and regional research to support potential biomass projects.

VSJF - The Cornerstone Project
Vermont Sustainable Jobs Fund www.vsjf.org
Vermont Sustainable Jobs Fund is a quasi-governmental nonprofit organization that has access to Vermont's General Fund for support. Since 1997, the VSJF has made grants of over $2.7 million to 150 recipients, these funds were used to leverage an additional $11.8 million to implement projects. These funds have benefitted 8,800 businesses and created or retained 800 jobs.
Leadership: Connecting regional institutions, colleges, with local suppliers of wood products and services.
Knowledge: Creation of lists and manuals to facilitate local green building projects.
**Innovation:** The Cornerstone Project: aims to marshal the purchasing power of Vermont's major institutions to buy local forest products. This project has brought together institutions (colleges) and wood suppliers for green building projects, and created manuals for future projects.

**NY Forests Forever**
Empire State Forest Products Association [www.esfpa.org](http://www.esfpa.org)
ESFPA has 400 members, many of whom own or manage a combined 1.2 million acres of NY forestland.

**Knowledge:** educational program aimed at providing info regarding NY forests, forest products, and the ways that professional resource managers work to balance the needs for quality wood products while managing our forests for the environment; program includes teacher training, partnership with Project Learning Tree, distribution of CD to teachers (looks at NY forests and products), and links to other resources for teachers

**Mascoma & Genencor**

**Investment:** The New York State Dept of Agriculture and Markets and the New York State Energy Research and Development Authority granted 14.8 million dollars to build and operate the biomass-to-ethanol demonstration plant. Additionally the U.S. Dept of Energy granted $ 16 million to the project. Mascoma has raised approximately $ 100 million in equity investment.

**Innovation:** Mascoma is working to identify, patent, and deploy a new generation of microbes and low-cost processes for developing advanced biochemistry technologies to produce ethanol and other biofuels. Mascoma has developed a single step cellulose-to-ethanol method. New plant in Rome NY will move the technology into demonstration and prepare for commercial application.