Atlantic Canada Opportunities Agency

Agence de promotion économique du Canada atlantique

Canada

ADDING VALUE TO WOOD PRODUCTS IN ATLANTIC CANADA
A STAKEHOLDER'S VIEW OF THE ISSUES

Report on the Round Table on Value-added Wood Products in Atlantic Canada

February 28 - March 1, 2001
Fredericton, New Brunswick

Hosted by the Wood Science and Technology Centre,
University of New Brunswick
in partnership with the Atlantic Canada Opportunities Agency

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Wood Science and Technology Centre
University of New Brunswick

The Centre and its Mission

The Wood Science and Technology Centre (WSTC) at the University of New Brunswick is committed to helping wood products manufacturers enhance their competitive position in the global market place, through product and process innovation. Using innovative technologies to develop quality products, we have assisted numerous Canadian firms while at the same time providing testing and auditing services accredited by the Standards Council of Canada.

Our research team is comprised of wood technologists, biologists, chemists, timber engineers, and specialists in wood processing and composite panels. Our staff has extensive background in wood science and processing. We also have a network of experts who are available to assist with specific industrial issues such as marketing, market research, plant layout and foreign certification of products.

WSTC has assisted companies in determining the feasibility of incorporating new technologies into their operations and in the implementation of appropriate technologies. Machine Stress Rated (MSR) lumber, finger-joined studs and structural I-joists are a few examples of technologies we have assisted companies in acquiring. Our involvement and assistance has simplified the introduction of new products and technologies for our clients.

Our Facilities

Our modern facility was completed in 1988 and has acquired state-of-the-art equipment on an ongoing basis. It includes wood adhesive, polymer and biotechnology laboratories, a composite panel pilot plant, dry kilns, durability test equipment, facilities for the pressure treatment of wood products, and small-scale and full-scale mechanical testing facilities capable of testing products ranging from components for musical instruments to utility poles.

Being part of UNB enables WSTC to capitalize on many resources not usually found in private sector, government and other non-profit laboratories. These include professors and support staff with expertise in a variety of applicable fields. Specialized laboratory equipment, such as scanning electron microscopes, a plastic extrusion machine and MRI, and excellent library services are readily available. These resources allow WSTC to offer research and development services in a wide range of technical areas and apply a multi-disciplinary approach to solving problems for our clients.

Product Testing

WSTC specializes in wood product testing. We are accredited by the Standards Council of Canada as a test laboratory for numerous tests on wood products. WSTC is recognized by the Canadian Construction Material Centre for new building product evaluation. WSTC's Quality Management System is certified by the Standards Council of Canada to meet ISO 17025 requirements. Products tested include: lumber, finger-joined studs, I-joists, oriented strandboard (OSB), particleboard, treated wood, adhesives, pellet fuels, finishes, fasteners, preservatives, wood poles, structural insulated panels, glulam beams, laminated veneer lumber (LVL) and structural wood systems.

Timber Inspection

WSTC assists engineers in evaluating wood structures. With our experience in non-destructive evaluation of wood we can provide information on the integrity of individual structural members. This allows engineers to quantify the residual strength of the structure. This service is complemented by microbiological evaluation of wood samples through microscopic and culturing evaluations.

Wood Protection

WSTC has a strong biotechnology group which provides technical services on problems related to the longevity of wood products, including preservative treatment, eradication of tree-killing insects in infested wood products and identification of presence of fungal activities. WSTC scientists were part of a national research team that developed a heat treatment regime that ensures eradication of pinewood nematode and its carrier from softwood lumber. WSTC is an approved agency for the evaluation of kilns under Agriculture and Agri-Food Canada's Heat-Treated Lumber Program.

Process Improvement and Product Development

WSTC has assisted companies in troubleshooting processing problems such as excessive delamination in glued wood products and low lumber yield. We have conducted yield study analysis to identify weaknesses in manufacturing operations. Our multi-disciplinary team undertakes proprietary product development projects on behalf of our clients, who may be either individual companies or sector organizations.

Visit our web site at www.unb.ca/forestry/centres/wstc.htm.

Developing kiln schedule
for high-value lumber


Determining strength
of a proprietary stud wall


Wood composite panel research
using state-of-the-art lab press

EXECUTIVE SUMMARY

This report summarizes the key messages and presents a synthesis of the views expressed at the Round Table on Value-added Wood Products in Atlantic Canada, which was held on February 28 and March 1, 2001, in Fredericton, New Brunswick. This round table was hosted by the UNB Wood Science and Technology Centre (WSTC) with support from the Atlantic Canada Opportunities Agency (ACOA).

The goals of the round table were to identify a list of issues affecting Atlantic Canada's ability to undertake more value-added enterprise; and, to enable participants to have a better understanding of the infrastructure and resources in place to assist Atlantic Canadian companies with their innovation needs

Twenty-three participants and twenty-five observers took part in this two-day event. The participants were senior people from industry, R&D and training organizations. The observers were, for the most part, representatives from government departments and Crown corporations. The issues raised by participants are summarized below, along with a synthesis of views on these issues.

The participants started the round table by discussing the various definitions of value-added. An important, economically sensible definition of value-added is any process applied to improve the net profit of a given volume of wood.

Although Figures 1 and 2 of the issues report (see Appendix B) show that there has been an increase in exports of secondary wood products from Atlantic Canada between 1995 and 1999, the rate of growth was lower than other active wood-producing regions, despite the efforts by provincial and federal governments to provide incentive programs for value-added in the wood sector. Major factors identified by the participants are lack of intensive marketing, as reflected by the relatively low number of new inquiries received by companies (see Figure 11 in Appendix B), inaccessible financing and inability to meet customer specifications for new products.

Part of the solution to the marketing issue could be through some form of collaborative marketing efforts by a cluster of individual companies. These companies can be manufacturers of different products supplying to the same group of customers, or manufacturers of the same products networking together to fill larger orders. These collaborative efforts can best be coordinated by industry associations. To solve the second factor, the participants expressed the desire that governments implement a system to assist companies with securing financing from Crown corporations and banks. Inability to meet customer specifications is also a reason why Atlantic Canadian companies do not have a high rate of converting inquiries into sales (Figure 12, Appendix B). This can be due to lack of financing to alter processing equipment and hire external technical

assistance, or lack of in-house process-engineering expertise within companies.

The ability to address process innovation can also lead to more value-added by lowering production costs, according to the definition of value-added explained above. Previous requests by some companies in seeking process-engineering expertise from an engineering group in Quebec suggest that the industries are in need of properly trained process engineers, if the level of value-added is to be increased. However the lack of properly trained workers is not limited to professionals. Companies are experiencing difficulties in hiring shop-floor workers such as machine operators and production workers. It has been pointed out that these workers are usually a good source of innovation.

R&D organizations can also be a major source of innovative ideas, as well as other forms of technical assistance. The low level of use of outside technical assistance services, as identified in the issues report, can be attributed to the lack of government R&D assistance programs in Atlantic Canada in comparison with other provinces. Another reason for the low usage is that the industry is unfamiliar with the capabilities and facilities of the regional R&D organizations. ACOA is of the opinion that more frequent use of the services provided by R&D organizations can be a major factor in pushing up the level of value-added in the wood sector, hence the second goal of this round table. The Atlantic Innovation Fund (AIF) is intended to address the problem related to lack of government funding assistance for R&D and, through this process, help to build the innovation capacity of R&D organizations in Atlantic Canada. Properly applied, AIF has the potential to propel R&D organizations in Atlantic Canada into positions of world leaders in technologies that are economically important to the region.

In conclusion, the two goals stated above are met. Issues raised by stakeholders provided a broad perspective on the problems encountered in trying to increase the value-added component of regional products. A tour of WSTC laboratories allowed many of the participants to realize the innovation capacity and the type of R&D work which can be carried out here in Atlantic Canada. It is hoped that the information contained in this report will provoke further dialogue among all stakeholders in the wood sector in Atlantic Canada, which will ultimately lead to more value-added activities in the region.

1. INTRODUCTION

On February 28 and March 1, 2001 WSTC hosted, with the support of the Atlantic Canada Opportunities Agency (ACOA), a conference focusing on the value-added wood products in Atlantic Canada. The conference started with a tour of WSTC and a banquet on February 28, followed by a round table discussion the next day. Technical presentations on issues which are of interest to the industry were made by invited experts at the banquet and luncheon.

The goals of the Round Table on Value-added Wood Products in Atlantic Canada are to identify a list of issues affecting Atlantic Canada's ability to undertake more value-added; and, to enable participants to have a better understanding of the infrastructure and resources in place to assist Atlantic Canadian companies with their innovation needs

The need to address the relatively low level of value-added in the wood-products sector was raised in a 1998 ACOA report which says, "Atlantic Canada produces 10% of the national Annual Allowable Cut, yet value-added in the region's wood industries account for only 4% of the value-added in all of Canada."

WSTC invited individuals from the value-added wood-products sector in Atlantic Canada and Quebec. Those present were classed as either participants (23) or observers (25). See Appendix A for a list of attendees and contact information. The round table participants, who are senior or executive level representatives from industry, academic institutions and trade associations, discussed issues related to the existing value-added wood products industry in Atlantic Canada. The observers, mostly government and Crown corporation personnel, listened to the round table discussion and provided input as needed.

An issues report, "Value-added Wood Products Industries in Atlantic Canada - An Overview of Issues Affecting their Growth," was provided to all attendees before the conference (see Appendix B). The report was intended to provide background information on various issues, ranging from sales, marketing, financing and technological innovation to staff training. The information was collected from a survey of selected wood products companies in Atlantic Canada. Analysis of the survey data led to the selection of four themes for discussion at the round table. The identified themes were;

What is value-added and how can we add value?
Identifying new markets and market niches.
Strategy for innovation and human resources training.
Financing response to market demand.

2. TOUR OF THE WOOD SCIENCE AND TECHNOLOGY CENTRE

On February 28, 2001, about 30 industry and government personnel toured WSTC at the Hugh John Flemming Forestry Centre. Michael Albright, manager of WSTC, greeted the guests and gave an overview of the mandate, operation and service activities of WSTC. WSTC was established in 1988 by the University of New Brunswick, with start-up funds from ACOA and the Government of New Brunswick. It provides the only in-region research, development and testing service for the wood products sector. Its facilities include a 6,000 square-foot engineering testing laboratory, a 2-foot by 2-foot composite hot press, two dry kilns, pressure-treating equipment, a biotechnology laboratory and a wood adhesive and polymer laboratory. In addition, it has access to specialized equipment such as the lumber-grading machine, the finger-jointing machine and the injection- moulding machine, at the Maritime Forest Ranger School and at some UNB departments.

WSTC is accredited by the Standards Council of Canada for wood-product testing. It has assisted numerous Canadian companies in getting their products accepted and certified in Canada and the United States. These facilities are also used in the training of undergraduate and graduate students, many of whom find employment in the wood products sector.

The participants visited four stations, each hosted by an expert who explained the facilities and projects undertaken there. The themes of these four stations were biotechnology, wood adhesive, wood physics and wood engineering. A number of ongoing projects were demonstrated. These demonstrations included testing for acoustic properties of wood for use in musical instruments, wood extractions, evaluation of adhesive bond quality in laminated products and full-size structural testing of an engineered wood column wall system. WSTC staff explained some of the projects that WSTC has undertaken. These projects range from wood core sample analysis for species identification and presence of decay; to development of gluing technologies for green wood, to full-scale testing of a 26-foot by 50-foot wood-concrete floor. It is encouraging that a few companies and government officials have since either made direct enquiries for specific assistance or provided leads to assist other companies. The attendees also visited the Sir James Dunn Wildlife Research Centre which is located in the same wing of the Forestry Centre.

3. BANQUET PRESENTATIONS

Dr. Y. H. Chui, director of WSTC, introduced the head table and Dr. John McLaughlin, Vice-president of Academic, UNB, gave a welcoming speech on behalf of the university. Dr. McLaughlin's speech focused on UNB's vision for the new millennium and the amount of research presently being conducted at UNB in general and in the Faculty of Forestry and Environmental Management, specifically. UNB's vision includes positioning itself to be the major source of

innovation to assist with the economic growth of Atlantic Canada, and in particular, the province of New Brunswick. He challenged the Faculty to increase its research funding from $2.5 million a year to $10 million a year. Dr. McLaughlin stressed that this target cannot be reached without the participation of the industry. He identified the Wood Science and Technology Centre as a unique example of making university technologies and expertise available to the industry. He said that WSTC is doing a good job to assist with the innovation needs of the wood industry in Atlantic Canada, but that the Centre has the capacity to do more. He said that, given the importance of forestry to the region, the Atlantic region should become an international leader in forestry/wood products technologies, similar to the agriculture centre in the Prairie provinces. The goal for UNB is to be that leading international research institution in forestry and wood research.

David Slade, director general, ACOA, introduced the key-note speaker, Dr. Lloyd Irland, president, The Irland Group. Dr. Irland focused on the use and utilization of our forest resource through innovation. He said that innovative thinking is not limited to products and processes, but also to every aspect of a company's operation. More value-added can be done in the wood products industry, but companies should guard against value-subtraction i.e. a negative change in net profit. He defined value-added as an increase in the company's bottom line, either through getting a higher price or reducing the production cost. He also said that innovation should be an ongoing activity and, "Comfort is the first step to oblivion for a company." See Appendix C for a summary of Dr. Irland's presentation.

4. LUNCHEON PRESENTATION

David Slade introduced Graham Savage, president, GDS Enterprises Inc., who spoke on raw material procurement issues and opportunities. Mr. Savage gave an overview of the wood products industries in Atlantic Canada. He focused on the types of operations and products they produce and problems facing the industries in getting raw material. See Appendix C for a copy of Mr. Savage's presentation.

5. ROUND TABLE DISCUSSION

The round table discussion started with Dr. Chui introducing co-chairs, Mr J. W. (Bud) Bird, a prominent businessman from Fredericton who is also a former New Brunswick Minister of Natural Resources and a Member of Parliament, and David Slade.

Mr. Slade gave a brief talk on the Atlantic Innovation Fund (AIF). He said that $300-million would be made available for innovation projects for Atlantic Canadian companies and academic

institutions. AIF is a five-year funding program with the first call for proposals expected in Spring 2001. Collaboration between Atlantic Canadian academic institutions and industry is a requirement for funding. A major objective of AIF is to utilize and build research and development infrastructure in Atlantic Canada, which is rapidly falling behind the rest of the country. The enhancement of the innovation infrastructure is expected to lead to increased economic benefits for the region.

Mr. Bird reviewed the protocol for the discussion and the goals of the round table. He reviewed the agenda (See Appendix D) and stated the themes to be covered;

- What is value-added and how can we add value?
- Identifying new markets and market niches.
- Strategy for innovation and human resources training.
- Financing response to market demand.

At the start of each theme session, George Jenkins, research scientist at WSTC, gave a short introduction to the topic and reviewed the major issues identified by the survey.

5.1 Theme 1 - What is value-added and how can we add value?

Although a broad range of definitions for the term value-added was given in the issues report, it was no surprise that an even broader range was provided by the round table participants; however, most definitions can be grouped into the broad range of categories defined in the report (see Appendix B). These include reducing production line cost, utilizing waste or downfall and further processing to meet customer needs. There were, however, several other definitions of value-added raised during the discussion. These were:

> *The bar (level of value-added) moves with time. Today a particular activity is value-added, tomorrow it may be a cost of doing business. You must do more than your peers to be considered doing value-added.*
>
> *Increasing the utilization of our forest species. We should examine the possibility of using species which have a low commercial value in the production of existing products. Traditional species should be used in products which have a higher (per unit volume) commercial value.*
>
> *Being specialized and focused on what you produce. Do one thing, but do it well. Have a quality that is second to none and this will add value to your product.*
>
> *Value-added is in the eye of the beholder. The economist calculates that the value of the*

shipments minus the cost of production equals value-added. The primary producer views secondary as an engineering process. A bureaucrat views 11 SIC codes from the value-added sector and watches for growth. The producer perspective is to increase profit and make money.

Value-added is limited by what the customer is willing to pay.

The next issue raised within this section was "How do we add value?" Key points are listed below:

It is better to stay focused on what you are doing well and develop a niche market. Do not waste a lot of time looking at other products that you cannot make money on or you will diversify yourself too much.

If necessary, use external services to keep your company competitive. This can be done by contracting process engineering to make your production line more efficient, or by modifying the process line so it can accept raw material with a wider range of specifications.

Maintain close contact with your customer so you can help with his needs and change, but do not undersell what you produce.

5.2 Theme 2 - Identifying new markets and market niches

The first issue raised under this topic was "Should the region direct efforts in developing more off-shore markets; i.e., European Union and Asia?"

Most of the comments suggested that Atlantic Canada should target Europe as the second export market after the US. Two major points were raised with respect to the European market. First, the Forest Stewardship Council's green certification will be a big issue to customers in Europe in the future. Any company wishing to supply wood products to Europe will be required to be green-certified from the stump. Second, standards and sizes are different in Europe and the demand for high quality workmanship must be addressed.

The next issue was "Is the level of marketing undertaken by companies adequate?"

The participants are of the opinion that Atlantic Canadian companies generally produce high quality products, but that they can do a lot more to identify potential buyers. Unfortunately, most companies have limited in-house resources to undertake any serious marketing. A number of participants expressed concern that they could not find time to respond to an inquiry in time to secure an order.

Again, this is due to lack of resources. It was suggested that a high grade product sells itself and marketing is required for the low end items in a product line. There was a recognition that most companies are able to sell, but generally lack the expertise to market.

It was announced that UNB is starting an MBA program on Forest Products Marketing in October 2001 to train graduates who possess both marketing skills and technical knowledge on forest products. This will be a 12-month, full-time intensive program.

Some participants indicated that government agencies are generally not very helpful in identifying new markets and that government marketing assistance programs are not attractive to companies because of the time it takes to get approval. Others, however, suggested that the role of government agencies is only to help open the door, then it is up to individual companies to take advantage of opportunities once the door is open. To address the lack of marketing resources and expertise, many suggested the possibility of collaborative marketing by several companies. The collaboration might be by a group of companies that produce different products but supply the same customers. It was suggested that an association such as the Wood Products Group could coordinate a collaborative effort and conduct market research for several companies simultaneously. They would facilitate a cooperative venture.

Working together to fill large orders is another form of collaboration between companies. The Kentucky model, where a cluster of small companies producing the same product work together to fulfill a large order, was mentioned. Sub-contracting was also mentioned as a way for one company to fulfill a contract that it cannot undertake on their own. It was also noted that a local network of companies can work together by each processing different components of a finished product. This is a common practice in Sweden.

Overall what emerged was the need for companies to work together in order to enhance the ability of Atlantic Canadian companies to compete for orders which normally are out of the reach of small- and medium-size enterprises (SME).

The last issue covered in this section was, “How can companies develop ideas for new products and evaluate viability of new product ideas?”

It was said that contacting and visiting customers on a regular basis is important to the success of a business. These interactions drive innovation of new products by identifying the needs of the customers. Visits to customer’s site are also important because they provide a personal contact.

5.3 Theme 3 - Strategy for innovation and human resources training

Discussion of the two issues related to the theme seemed to overlap; however each topic is summarized separately.

Human Resources

Several companies noted the lack of trained personnel available in the workforce. Most companies seem to need two types of employees, machine operators and production workers, but have a hard time finding them. The situation is so bad that even students who dropped out of the Woodworking Centre of Excellence in Campbellton, N.B., found employment in the sector despite their minimal training. It was mentioned that the lack of interest in the wood products industry by new recruits is of some concern. Most people looking for a career are not exposed to the wood industry and are likely to be attracted to other, higher profile fields. Programs which offer on-the-job training, such as those offered by the Maritime Forest Ranger School, are welcomed by industry because these programs cause minimal disruption to company operations during the training period.

The issue of trained workers leaving companies for higher paying jobs was also mentioned. Most companies believe that if they train a worker, he or she will likely demand a higher salary or leave for a larger company with better potential for advancement.

Innovation

A major source of innovation is from within a company. Employees often have innovative ideas to improve the efficiency of a process and/or reduce production costs. Some companies implement a reward system whereby rewards are provided to employees who come up with innovative ideas.

Another source of innovation is from outside organizations, such as WSTC, consulting firms and companies such as Forintek Canada Corp. These organizations undertake innovation projects for companies on a fee-for-service basis. However, affordability is the limiting factor for most Atlantic Canadian companies. For small innovation projects, Quebec and New Brunswick (in the past) had government programs which covered the costs for R&D organizations to provide a limited number of days of consulting to local companies. These programs worked very well and were used to deliver to the industry a number of services and the benefits that resulted from them. For large R&D projects, there is a lack of government assistance programs in Atlantic Canada. The AIF will hopefully improve this situation by encouraging more companies to undertake R&D, using the research facilities in Atlantic Canada.

Some participants indicated that they have contacted Centre de recherche industrielle du Québec

(CRIQ) for innovation assistance. However, it was pointed out that CRIQ's service focuses on process-line engineering for high volume production. This priced them out of the running for most companies in Atlantic Canada.

A comment was made with respect to the reason for the high level of value-added in Quebec. The extra duties imposed on softwood lumber as a result of the Softwood Lumber Agreement has forced the industry in Quebec to turn to more innovation and the production of a higher level of processed products to avoid the tariff on commodity products.

5.4 Theme 4 - Financing response to market demand

Although this theme was intended to focus on financing innovation as well as general business operations, most of the discussion centred around financing working capital and facilities. Many industrial participants experience cash flow problems and difficulties in getting financing from chartered banks. Some are unable to take large orders because they cannot finance the required inventory of raw material or finished product. Their view is that the wood sector generally has less success in securing loans than other sectors because of the low profile of the industry, the lack of security and the volatile nature of the business. Although it is acknowledged that government agencies such as ACOA are not in the business of providing loan guarantees, there was a suggestion that a mentoring system could be set up to facilitate the process of accessing financial assistance. ACOA in Newfoundland stated that even a program they offer for 50 per cent of the working capital falls short of putting some projects over the top. The Business Development Bank generally supports capital financing, but does not provide operating funds.

The Wood Products Group is currently assisting with insurance for up to 90 per cent of the value of a shipment. It was identified as an organization that could assist companies by being a clearing house for used equipment and by working as a liaison with financial institutions to develop asset-based financing. There is need, however, to provide the Wood Products Group with resources to undertake these tasks on behalf of its members.

Although there are government programs to assist with equipment upgrade and modernization, a lot of these are tied to job creation. Job creation often goes against the objectives of modernization and profitability. On the subject of financing R&D, the rate of use of government assistance programs is low according to the survey conducted by WSTC. It was pointed out that these programs are not widely advertised, have unclear eligibility rules and are difficult to access. In addition, most companies are not aware of how the R&D tax credit system of Canada Customs and Revenue Agency works.

ACOA representatives have expressed an interest in exploring some of these options.

5.5 Observers' comments

Several observers made brief remarks at the wrap-up session. These are summarized below.

Financing - The New Brunswick Business Development Corp and the Nova Scotia Timber Loan Board are possible sources of financing for working capital and assets. The Industrial Research Assistance Program, administered by the National Research Council, provides R&D assistance.

Forest Certification - The development of the green certification process should be monitored closely and be used to further our aims.

Value-added and wood supply - The New Brunswick model of linking wood supply allocation to the level of value-added in the final product has been shown to be a success in increasing the amount of value-added component in wood products.

Wood Products Group - A number of provincial officials acknowledged the important role that the Wood Products Group has played in stimulating the growth of the secondary wood products industry in Atlantic Canada. They agreed with some participants that its role could be expanded.

5.6 Summary from co-chairs

Theme 1 - What is value-added and how can we add value?

- Profit is the true measure of value-added.
- Atlantic Canada cannot afford to be complacent about the current level of value-added. Comfort is the first step toward oblivion.

Theme 2 - Identifying new markets and market niches

- The US should still be our major market, but there should be serious attempts to access the European market.
- Customers are a source of innovation and product ideas.
- Trade associations such as the Wood Products Group and the Maritime Lumber Bureau can play a major role in promoting and initiating collaborative marketing, which has been identified as a suitable approach for the large number of small- and medium-size entreprises in Atlantic Canada.
- The industry should do more to increase its profile.

- The industry does not seem to be ready to benefit from e-trade and e-commerce.
- Government marketing assistance programs are not attractive to businesses. For the type of operations in Atlantic Canada, companies need to make better use of the marketing assistance provided by government agencies and trade associations.

Theme 3 - Strategy for innovation and human resources training

- UNB's vision of becoming a world leader in forestry research requires the active support of the industry and industry's use of its facilities.
- The tour of the Wood Science and Technology Centre was an eye-opener for some participants. Its industry-focus mandate ensures that project results are relevant to the needs of the industry.
- Networking and collaboration between Atlantic Canadian and out-of-region R&D organizations to maximize available funding, resources and expertise is encouraged. The collaboration element is emphasized in AIF projects.
- The market-place and employees are often overlooked as sources of innovation.

Theme 4 - Financing response to market demand

- Industry should make its needs for driving its agenda on value-added known to governments.
- Working capital is a major problem for some companies and most have problems getting financing for working capital. There is a need to set up a mentoring system to help companies secure loans from crown corporations and banks.

6. SYNTHESIS OF VIEWS ON THE KEY ISSUES

The round table has met both identified goals. The issues identified in relation to the first goal provide a sound basis on which to build government and industry action plans for upgrading the industry. The limited time allowed for the round table precluded a full discussion of innovation and more complete presentation of the research facilities available in the region. The following is a synthesis of the key issues.

What is Value-added? - An important concept for value-added is that value-added is any process undertaken to increase the profit margin of a given volume of wood. It isn't simply about doing more to a piece of wood.

Identifying Markets - Both the survey conducted by WSTC and comments made by participants suggest that there is a relatively low level of pro-active effort to identify new markets or respond to new product inquiries. A possible solution to this is for government departments and agencies, and industrial associations, such as the Wood Products Group and Maritime Lumber Bureau, to work

together to create a system or mechanism for collaborative marketing by a number of companies selling to similar customers. Despite the opportunities presented elsewhere, the general view is that the United States should remain our major focus as an export market. However there should be continued close monitoring of the market potential in Europe.

Human Resources - There is a general shortage of skilled production workers and machine operators. It seems that training institutions such as the Maritime Forest Ranger School and the Woodworking Centre of Excellence in Campellton can play a major role in addressing this problem, and companies should consider on-going training of workers as an essential element to stay competitive and for future growth. There was, however, little discussion of potential demand for professionals such as marketers, product designers and process engineers. In general the proportion of university-trained workers employed by the wood products industries is low compared with other higher profile industries. The question is whether this could be a major factor in affecting the realization and adoption of innovative technologies by the wood products industries, thereby explaining the relatively low level of value-added in Atlantic Canada. The fact that there was discussion during the innovation theme on the demand for process engineering expertise from CRIQ points to the need for companies to hire engineers with specific training in machine design, plant layout, process control, wood technology and wood processing. Currently there is no accredited undergraduate engineering programs in Canada that produce graduates with this unique skill set. On the issue of marketing, it seems that professional marketing expertise is badly needed within the secondary wood industries.

Innovation - A major factor for the low level of value-added in Atlantic Canada could be the slow rate of absorption of innovation by the industry. Another factor could be the lack of impetus, such as the recently expired Softwood Lumber Agreement with the United States, which was thought to the a prime reason for the increased value-added activities in other provinces that were affected by the Agreement. The WSTC survey shows that there is a lack of use of external technical assistance by companies to meet their innovation needs. The reasons are: unfamiliarity with R&D organizations such as WSTC or Forintek; costs and, in some cases, not recognizing the benefits of seeking outside technical assistance. This round table has provided a forum for industry and government participants to be exposed to the expertise and facilities at WSTC. With the announced increased R&D expenditures both by the federal government through Atlantic Innovation Fund (AIF) and some provincial governments, we can expect to see an improvement in the innovation infrastructure in Atlantic Canada, which will better serve the needs of the industries. As pointed out by its Vice-president of Academic, Dr. John McLaughlin, UNB is striving to be a world leader in forestry and wood products research, but it can only achieve this status with the continued support and use of its facilities, such as WSTC, by the industries.

Financing working capital - The wood sector generally has less success compared with other

high profile industries in securing financing from bank and other financial institutions. The message here is similar to that for marketing where government departments and agencies can create a mentoring system to help secure loans for companies from Crown corporations and banks.

Financing innovation - There are existing government assistance programs available to companies to assist with equipment upgrade and modernization. In the Atlantic provinces, government funding programs for R&D projects have been lacking in comparison with other provinces. In the region the major source of support has been the Industry Research Assistance Program (IRAP) administered by the National Research Council, but the general view is that this program is under-funded in the Atlantic region. Even when provincial government programs are available, the utilization rate is low as they generally have low upper limit for funding and are not widely advertised. It is encouraging to note that the AIF program will make special provisions for applications by individual small- and medium-size enterprises, even though it is targeted toward large consortium proposals.

APPENDIX A - List of participants and observers

Name	Co-ordinates

Round table Participants

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APPENDIX B - Issues report

Value-added Wood Products Industries in Atlantic Canada - An overview of issues affecting their growth

Prepared

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for

Roundtable on Value-added Wood Products in Atlantic Canada
Fredericton
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Hosted by the Wood Science and Technology Centre
in partnership with the Atlantic Canada Opportunities Agency

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INTRODUCTION

The influence of the wood products and related industries on the economic health of Atlantic Canada cannot be over-stated. Adding value to wood products is of perpetual interest to these industries, government departments and research organizations in Atlantic Canada. This interest has intensified in the recent past due to the increased need to maximize monetary return from our wood resource, reduce mill residue, be less vulnerable to price fluctuations in commodity products, and be less susceptible to trade barriers such as tariffs and plant health regulations.

It is generally acknowledged that the level of value-added activities in the wood industries has grown in the past decade, largely through the diligent efforts of companies and the support of government departments. Figures 1 and 2 show shipments of kitchen/bath cabinetry and millwork from Atlantic Canada to its four major export markets. As with most wood products in Atlantic Canada, exports to the USA dominate.

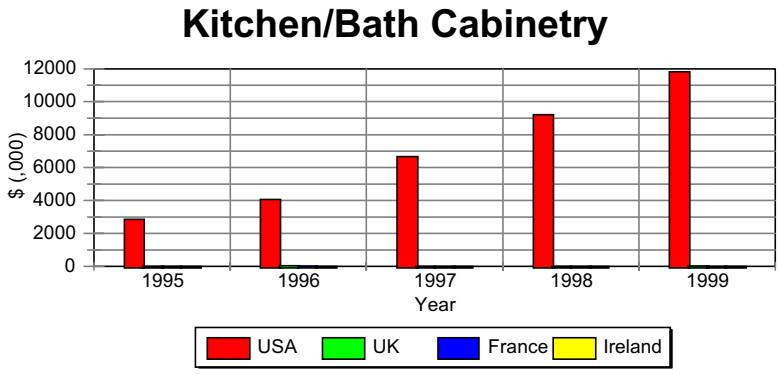

Figure 1 - Export of kitchen/bath cabinetry from Atlantic Canada. (Source: Statistics Canada)

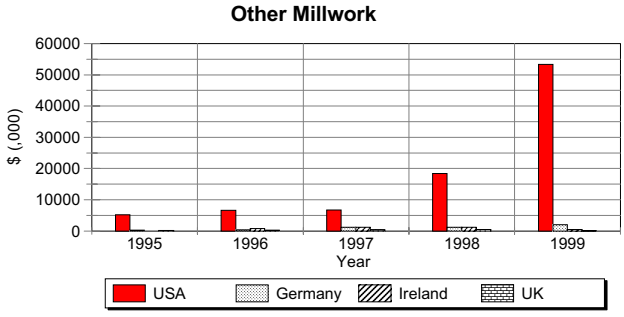

Figure 2 - Export of other millwork from Atlantic Canada. (Source : Statistics Canada)

Despite the encouraging growth in value-added wood production, a 1998 study by ACOA [1] reveals that Atlantic Canada still lags behind the national level. That report concluded that 'Atlantic Canada produces 10% of the national Annual Allowable Cut, yet value-added in the region's wood industries accounts for only 4% of value-added in all of Canada'. It should be pointed out that this finding was based on 1995 data. The current statistics may be different, given the growth illustrated in Figures 1 and 2.

The ACOA report further states that 'this relatively low level of value-added is a concern for the Atlantic region particularly since it accounts for 12% of establishments and 6% of employees'. ACOA has supported and co-hosted a number of Roundtables to investigate different aspects of regional development in the Atlantic Canada, and has found them to be an effective avenue to identify issues that affect regional growth and development. The Roundtable on *Value-added Wood Products in Atlantic Canada,* to be held on March 1, 2001, is hosted by the University of New Brunswick's Wood Science and Technology Centre (UNB-WSTC) in partnership with ACOA, and is intended to provide various stakeholders from the industries, academic institutions and research organizations an opportunity to share their thoughts on issues that hinder or could facilitate the expansion of the value-added wood industries in Atlantic Canada.

This report has been prepared from the results of a recent survey of selected value-added wood products manufacturers in Atlantic Canada. It was conducted by UNB-WSTC to provide background information for discussions at the March 1, 2001 Roundtable.

What is value-added?

The term 'value-added wood product' is a widely used, yet poorly understood, label used to describe certain categories of wood products. It is the subject of a number of economic studies by government departments and private consultants ([1], [2], [3] and [4]). Despite the frequent use of this term, a uniform definition of value-added wood products has not yet been accepted.

Value-added can be defined simply as "any process that leads to an increase in the net profit from the sale of a product". In the forestry/wood products industry this may be accomplished in one or more of the following ways;

- harvesting, bucking and sorting of roundwood from a forest.
- processing roundwood into dimension lumber.
- drying, surfacing, grading, sorting and preserving of lumber.
- process engineering (eg. thin-kerf saws, curve-saws, optimizer).

- processing into dimension stock (eg. furniture components, veneer, flooring billets, finger-jointing blanks).
- product engineering (eg. wood I-joist)
- profiling (eg. mouldings, flooring, trim).
- assembly and finish work.
- installation of product.
- locating new and aggressive markets (this applies to all levels of the flow).

This list suggests that every company in the industry is engaged in some sort of value-added operation. Indeed if this were not so they would be out of business. Furthermore the type of value added operation will be related to the company's location in the processing chain and therefore each, individual or corporation, will likely define value-added wood products differently. In the Roundtable we will devote a session to discuss this situation. Obviously it is necessary that some level of common understanding be achieved before subsequent themes can be sensibly discussed. We will attempt to arrive at a working definition of value-added, by considering processes leading to the manufacturing of a product.

The starting point of any wood product is a round log. The processes involved in going from a log to a final finished product may, or may not, be performed by the same company. Any process performed on an unfinished product is designed to lead to a higher monetary return per unit volume of wood. From each company's perspective therefore this processing leads to a value-added product, even if the product may be in a relatively unfinished state.

In general, there are more value-added opportunities for companies that manufacture unfinished products than for those that make the finished products. ***Following from this, a simple strategy to enhance the level of value-added output in Atlantic Canada is one that maximizes the number of processes performed in the region.***

The 1998 ACOA report [1] states that there are two ways of adding value to wood products; conventional and recovery. ***Conventional operations include gluing boards into panels, preservative treatment of decking boards and turning strips into flooring. Some common examples of recovery operations are the manufacture of boards from slabs and finger-joining shorts.***

Although not discussed in that ACOA report, it seems that there are at least two other kinds of operations that can lead to a better return on our resources. These involve product engineering and process engineering. ***Product engineering is used to design a product in which a number of smaller components are combined in a strategic manner to meet consumer expectations. Examples of engineered wood products are engineered wood flooring and wood I-joists.***

Process engineering is used to modify an existing process. It can lead to reduced production cost, improved product quality and or more efficient material use. Examples are thin-kerf sawing and curve-sawing.

For the purpose of this report and for the survey of value-added wood products companies in Atlantic Canada, value-added wood products have been considered to be secondary, non-commodity products. These include both finished and unfinished products, as described below.

Survey and Database

A survey was conducted within the value-added wood products sector in Atlantic Canada. A copy of the questionnaire used is given in the Appendix. The survey focused on markets and marketing, raw material supply, research and development, personnel and general company information.

A total of 33 companies were surveyed by telephone interviews. The breakdown between provinces was Newfoundland - 6, Prince Edward Island - 6, Nova Scotia - 10 and New Brunswick - 11. The data presented in the report have been combined to provide a consolidated view of Atlantic Canada, unless otherwise stated. The time frame for the answers to questions was over the last 1.5 years. It should be noted that the results are discussed on an establishment basis (i.e., number or percent of companies) only.

The companies surveyed covered a range of products, time in operation and size of operation. The types of items being produced ranged from finished to not-yet-finished. About half of these companies (52%) produce only products which are completely finished. These companies produce flooring, molding & millwork, indoor furniture, outdoor furniture, cabinetry, kitchenware and fencing/garden items. The other 48% produce items which are later processed into a finished product. These companies produce; plywood, veneer and components for indoor/outdoor furniture, doors, windows and fencing. The time in operation of all companies surveyed ranged from 1 to over 25 years (Table 1). The size of the companies, determined by number of employees, ranged from 1 to a few hundred (Table 2).

Table 1. Number of years companies have been in operation.

Years in operation	Percent of total
0-3	13%
4 - 10	45%
10+	42%

Table 2. Size of companies - by number of employees.

No. of employees	Percent of total
1 - 10	27%
11 - 50	45%
50+	28%

Raw Material

The quantity and quality of products offered by a company to its customers is directly related to its raw material supply. Figure 3 shows that about one-quarter of the companies buy at least 75% of their raw material from outside of Atlantic Canada (AC). It is of interest to look at the differences in delivery times for local (AC) and non-local sources of raw material. This comparison is shown in Figure 4. It seems logical that delivery time from local suppliers is in general shorter than that from non-local. While some companies (12%) have experienced long delivery time (> 4 weeks) from local suppliers, all companies that have purchased from outside of AC were able to have the materials delivered within 4 weeks. ***This may suggest that the reason companies buy from suppliers outside of AC is not necessarily due to lack of appropriate materials locally, but rather due to delivery time and inability of local suppliers to supply sufficient quantity within an acceptable period of time.***

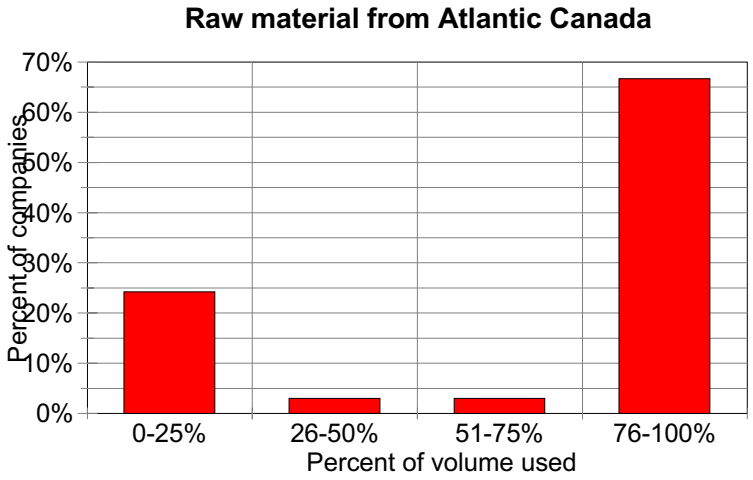

Figure 3 - Raw material supply from AC.

Figure 4 - Delivery time from AC.

Most companies seem to buy, exclusively, either round or sized wood, but not both, as is illustrated in Figure 5. About three-quarter of the companies buy at least 75% of their raw material in processed form, ready to be used.

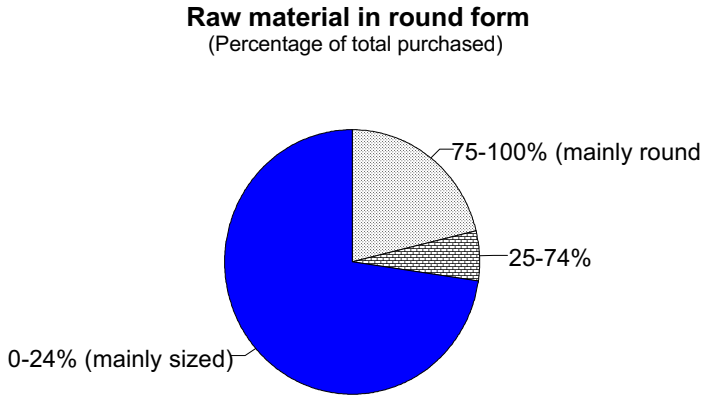

Figure 5 - Percent of total purchased material in round form.

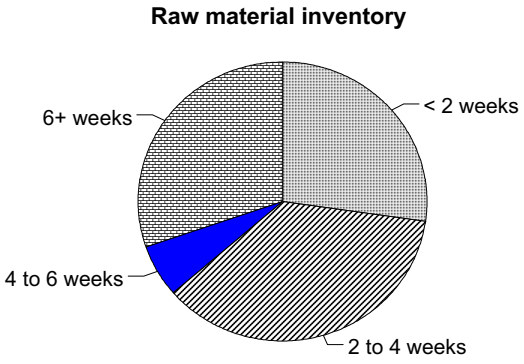

Figure 6 - Weeks of raw material in inventory.

Figure 6 shows the number of weeks companies hold raw material in their processing facilities. As can be observed in Figure 6, there is no dominant raw material inventory time. However, about one-third of the companies have less than 2 weeks of raw material in inventory. This may reflect the confidence companies have in acquiring raw material on short notice (see Figure 4). ***It is postulated that the inventory time for raw material is also related to the size of the operation. Large companies are able to buy in large quantity and presumably at a lower price***

than when buying in small quantities. Small companies may not have the financial resources to build up a large, longer term inventory, which gives them a guaranteed raw material supply to meet their customers' needs.

Using a species that has certain processing (eg surface smoothness) and performance (eg shrinkage) characteristics is essential to producing a wood product that profitably meets customers' specifications. Figure 7 presents a breakdown of the species groups used by the value-added wood products companies in the survey. The majority of these companies use hardwood and/or pine, either exclusively or in combination. About a quarter of the companies use other softwoods, mainly cedar, spruce, fir and larch.

Figure 8 shows a breakdown of the species types in the four Atlantic provinces. It is clear that although hardwoods are the major group used in manufacturing of value-added wood products, this usage does not correspond to the availability of raw material. In NB and NS about one-third of the trees are hardwoods. Volumes of hardwoods in PEI and NF are significantly lower (48% and 12% respectively). While the overall percentage of hardwood in Atlantic Canada is higher than the national average, these hardwood trees often do not occur in quantities sufficient for economical harvesting and transportation [1]. Pines account for about 4 - 5% of the trees in NB and NS, but are almost non-existent in PEI and NF, yet they represent a large portion of the raw material used. ***This points to a need to investigate the use of other softwoods such as spruce and fir that are available in much larger quantities and are currently processed into lower value products such as dimension lumber. Substitutions for hardwood and pine in making value-added wood products would lead to a greater return for the wood resource in the region. This may require a change in processing techniques, as well as intensive marketing.***

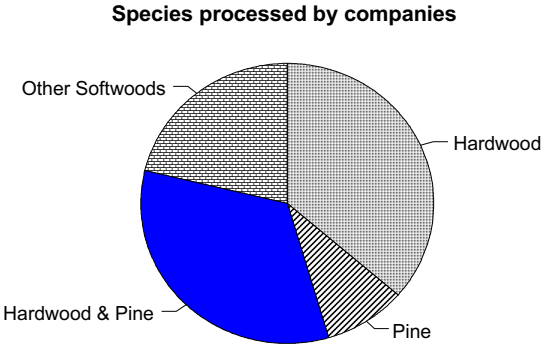

Figure 7 - Breakdown of species used by companies covered by the survey.

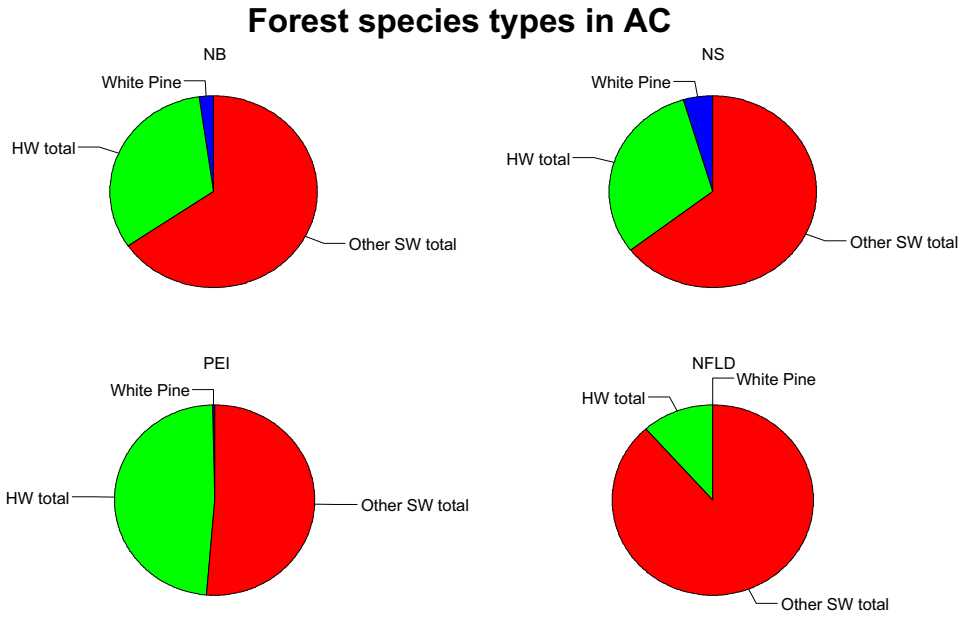

Figure 8 - Forest cover type within each province.

Markets and Products

All companies surveyed sell their products in Canada, and as indicated in Figure 9 just over half of them have exports to the USA. About 20% and 10% of the companies sell products to Europe and Asia, respectively, of the companies surveyed. This shows the strong dependence of local companies on the US market, but it also shows, that despite the long distance, there has been some success in penetrating the Asian market. ***The question is ; should the industry do more to access off-shore markets and be less dependent on one dominant export market?***

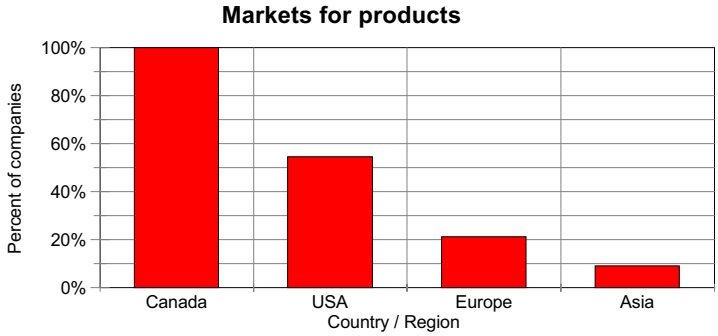

Figure 9 - Percent of companies selling to specific markets.

The observation that over half of the companies sell retail is surprising, Figure 10. About half of the companies sell directly to retailers and wholesalers/distributors.

Figure 10 - Percent of companies selling to different types of customers.

Finding new customers is important for business expansion and increasing sales. This is of course heavily linked to marketing.

Inquiries by customers and non-customers may also generate ideas for new products, but companies need resource (people, time, money) to exploit new product opportunities.

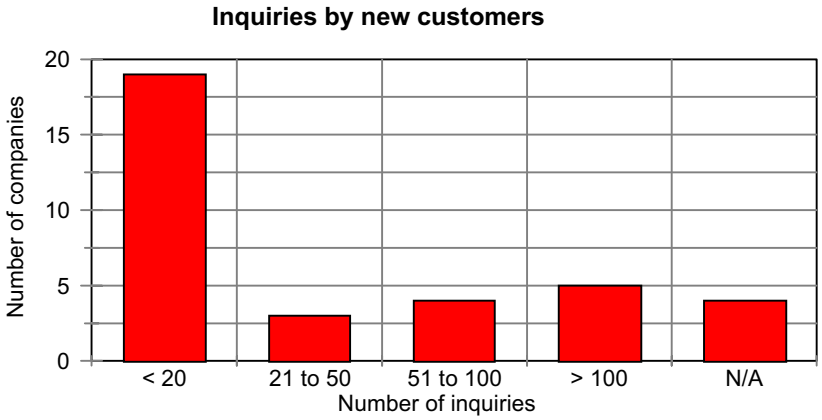

Figure 11 - Number of companies by inquiries over the last 18 months

The survey provides some statistics on the new customer inquiries received over the last year and a half (Figure 11), and on the percent of these inquiries which actually turned into sales (Figure 12).

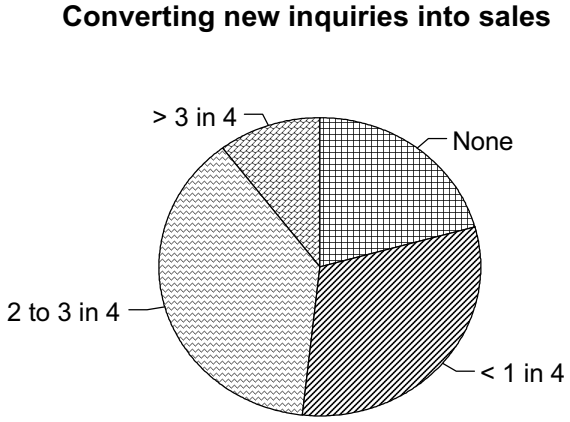

Figure 12 - Companies by success rate in converting new inquiries into sale over the last 18 months.

Figure 11 reveals that in the last 18 months, while 14% of the companies received more than 100 inquiries, over half of the companies received less than 20 new inquiries in the same period. ***The cause of the low number of new inquiries for the majority of companies should be examined. Is it due to a lack of marketing, poor performance or current orders, or are there other contributing factors?*** Figure 12 reveals that only about 10% of the companies are able to achieve 3 sales out of 4 new inquiries (>76%). The overall success rate appears low. ***Why do so few opportunities turn into sales?***

The survey attempted to find out the extent to which information technology is used in the marketing and sale of products (Figure 13) and the familiarity of survey participants with government programs that assist marketing activities (Figure 14).

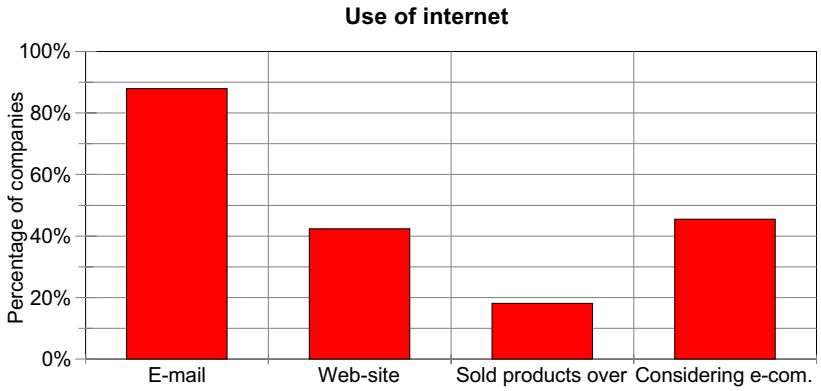

Figure 13 - The type of presence and percent of companies using the internet.

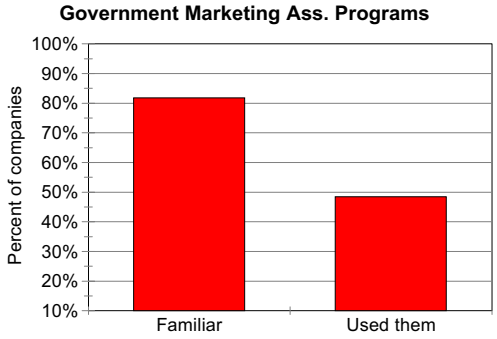

Figure 14 - Company's relationship with government related to marketing programs.

Figure 13 shows that 90% use e-mail regularly. Although only 42% of the companies have their own web sites, an equal number of companies are considering getting into e-commerce. ***These numbers seem low considering the apparently high benefit to cost ratio of these marketing and business practices.***

Government agencies provide assistance to companies to undertake marketing. Over 80% of companies are aware of these programs, but less than half of the companies surveyed have taken advantage of these programs. ***The low number of inquiries suggests that the majority of firms need additional marketing effort, and the low success rate in converting inquiries suggests a need for increased marketing and sales.***

International trade barriers, either imposed by government or customers, are market access issues that have attracted a lot of attention in Canada in the past decade. Two questions related to import/export regulations and green certification of products were posed to the survey participants. Responses are summarized in Figure 15. ***It appears that import/export regulations such as tariffs and plant health issues are not of concern to the majority of value-added companies in Atlantic Canada.*** About one-quarter of the companies indicated that they received inquiries about green certified products in the past year and a half. ***These companies however do not feel that green certification will be a major issue. Is this a reasonable position to assume?***

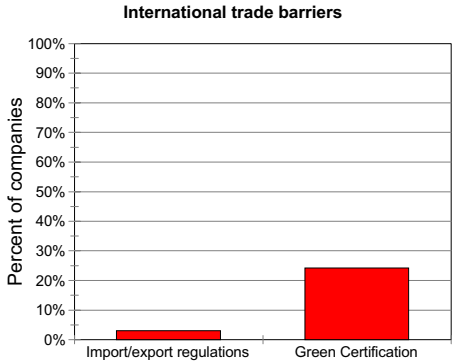

Figure 15 - Percent of companies having issues with certain regulations.

The companies surveyed appear to have served their customers well, with over two-third of the companies lost no customers while the balance lost less than 10% (Figure 16). Only 3% of the companies reported that none of their customers wanted increased production (Figure 17). The

other 97% reported that their customers have requested an increase in the amount of product they are being supplied. Of those companies who were asked for an increase in the level of supplied product, 35% were unable to supply the increase. About 10 companies stated that production was the reason they were unable to meet the demand, only 1 company gave raw material as the reason. In other words 30% of the companies in the survey could have sold more product but were unable because their plant capacity could not meet the demand.

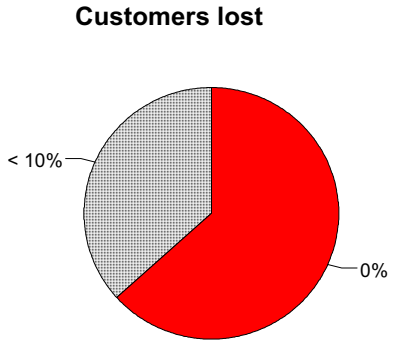

Figure 16 - Percent of customers lost in the past 18 months.

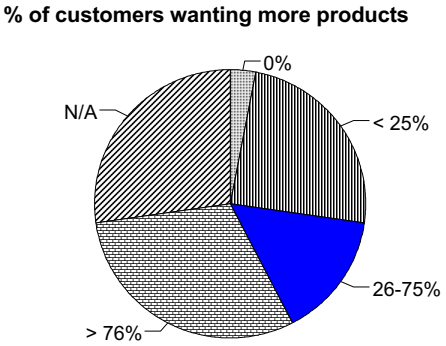

Figure 17 - Percent of customers wanting an increase on the regular amount the are supplied.

The USA was the preferred destination of future trade missions for 60% of the companies. One-third were interested in the European market. Only 7% wish to attend trade missions to Asia. ***This points to a lack of interest in the Asian market. Is it due to a cautious attitude towards new markets or concern about the economy.***

Innovation

Innovation covers improvements in processes, and the development and manufacturing of new products. It is an essential element for the growth and viability of any business. ***How can companies sustain innovation? A prominent speaker at a recent workshop on 'From ideas to marketplace' at UNB stated that 'your customers have your next product idea'.***

The participants in the survey were asked to indicate the number of new products inquiries received and how many of those inquiries ended up with the manufacturing of a new product. Responses to these two questions are summarized in Figures 18 and 19 respectively.

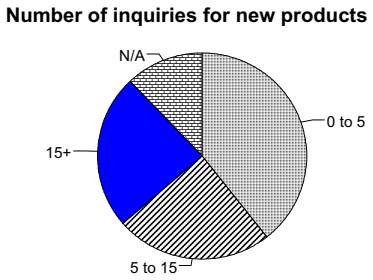

Figure 18 - Number of inquiries for new products in the last 18 months

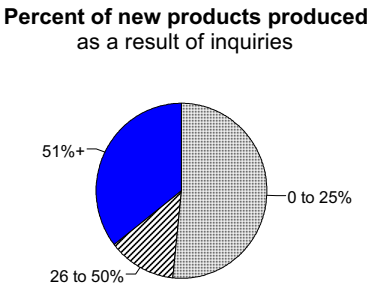

Figure 19 - Percent of products produced from Figure 18.

Figure 18 shows that only 25% of companies had more than 15 inquiries in the last 18 months. Figure 19 indicates that half of the companies were able to produce no more than one in four of the new products requested. There are a number of possible reasons for this low rate. ***Among those could be a lack of appropriate processing facilities or machinery, and inadequate in-house technical know-how.*** In an attempt to address the last factor, the respondents were asked questions relating to acquiring external technical assistance. A few indicated that they are aware of R&D organizations such as the UNB Wood Science and Technology Centre and Forintek

Canada Corp, and technical assistance offered by government agencies such as IRAP. Under 20% of them have engaged the services of external consultants, government officers, and R&D organizations. ***It is not known if this is related to costs, lack of confidence in external R&D organizations and consultants, quality of service, concern about proprietary information or other factors.*** With regards to costs, over 90% of companies are aware of government R&D assistance programs, but only one-third have used these programs. ***Is this low percentage of use due to low funding level, cumbersome bureaucratic application procedures, poor response from the funding agencies, or some other problems?***

About 60% of the companies indicated further processing could be used to enhance their products and almost all of them were considering adding these processes. ***The major reason for not doing it so far is lack of resources, primarily finances.***

Personnel Training and Skill Levels

The industry has long recognized the need to have a skilled labour force in order to meet new challenges when moving towards producing more specialty, value-added wood products. It was recognized that graduates from other engineering programs would not meet the needs of the industry. The undergraduate degree program on 'Advanced Wood Processing' offered by the University of British Columbia is an attempt by industry and government to address this problem of skilled labour shortage.

The survey attempted to provide information on staffing and training issues. Comparing the data in Figure 20, it can be seen that overall the industry experienced a net gain in staff, reflecting the increase in shipment of value-added wood products in the past few years. Over half of the companies hired more than 31% of their work force in the last year and a half.

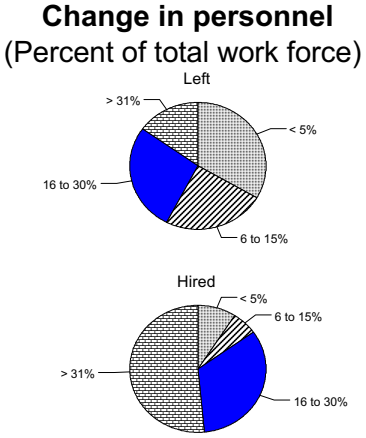

Figure 20 - Percent of companies with personnel change over the last 18 months.

Most companies experienced some problems in hiring new staff with the required skill levels. About half the companies indicated that the new staff members hired did not have any relevant training. ***Obviously, companies are having difficulties in hiring staff with the required skills, and as a result are willing to hire inexperience staff and train them.*** Only about 18% of the companies were able to find experienced people. About 48% of the companies have provided formal in-house training to staff members, and 27% of the companies have sent 10% of their work force to attend outside training courses. All companies responded by saying that they have not experienced any difficulties in acquiring appropriate training programs when needed. ***Among the skills identified as critical are machine/computer operation, critical thinking abilities and grading knowledge (presumably knowledge on wood as a material).***

Close to 60% of the companies surveyed are familiar with government assistance programs for staff training, and about 78% of these companies have used these programs - ***a percentage higher than those for R&D and marketing assistance programs***.

Finally, on the issue of education and training, the 1998 ACOA report [1] concluded that the majority of university forestry graduates from UNB did not find employment in Atlantic Canada. In the past few years however, we have noted an increase in our forestry graduates finding employment in Atlantic Canada (see Figure 21). Although actual statistics are not available, it is the author's observation that more forestry students are finding employment with the wood products divisions of forestry companies and wood products manufacturers than in the past.

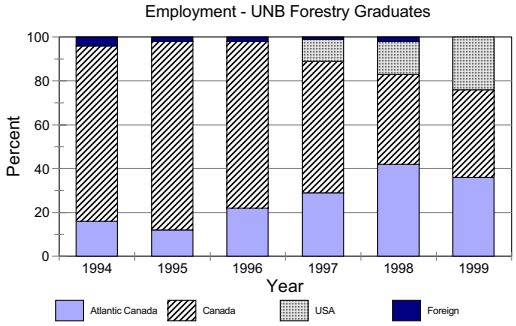

Figure 21 - UNB forestry graduates employment locations. (Source : Faculty of Forestry and Environmental Management, UNB)

Discussion Themes and Issues

Theme 1 - What is value-added and how can we add value?

Where do you see yourself in the chain of value-added?
What level of increase must be achieved to be considered value-added?
Have we exhausted conventional and recovery processes?
Should more efforts be directed towards 'product engineering' and 'process engineering'?

Theme 2 - Identifying new markets and market niches.

Should the region direct efforts in developing more off-shore markets, i.e. EU and Asia?
Is the level of marketing undertaken by companies adequate?
How can companies develop ideas for new products and evaluate viability of new product ideas?
Is sourcing raw material a barrier?

Theme 3 - Strategy for innovation and human resources training.

How can companies improve the rate of converting new inquiries/ideas into viable products?
What are the critical factors (eg. R&D infrastructure and internal technical knowledge) affecting a company's capacity to undertake new product development and process improvement?
What education and training programs should be put in place by academic institutions to produce graduates with skills to meet the innovation needs of companies?

Theme 4 - Financing response to market demand.

Why isn't more additional processing done to existing products? ➛➛ Financial.
What are the critical needs for financing development of new products, purchasing of new equipment and expansion of infrastructure?
Is there a role for government to play in helping companies to raise financial resources?

References

[1]. ACOA. 1998. The wood industry in Atlantic Canada : a focus on value-added. Atlantic Canada Opportunities Agency, Moncton, NB.

[2]. Forintek Canada Corp. and Jim McWilliams. 1993. Structure and significance of the value-added wood products industry in British Columbia. FRDA report, ISSN 0835-0752, B.C. Ministry of Forests, Victoria, BC.

[3]. ISTC. 1991. Industry profile 1990-1991 : value-added wood products. Industry, Science and Technology Canada, Ottawa, ON.

[4]. Mukumoto Associates. 1996. Opportunities for Canadian exporters of value-added wood products in the southwestern United States. Working paper ; 96.13, Canadian Forest Service, Victoria, B.C.

Appendix

Questionnaire used to conduct survey of value-added wood products industry in Atlantic Canada

Questionnaire

Date:

Company:

General

1. How many years have you been in operation? _____

2. How many employees (full/part-time) do you have? _____

3. Is your product line finished or semi-finished?

4 What is your specific product? _____

Raw Material Supply

1. How much do you purchase from companies in Atlantic Canada? _____

2. On average how long do you have to wait for raw materials from local supplier? _____

3. On average how long do you have to wait for raw materials from non-local supplier? _____

4. Is your raw material in the form of _____ round or _____sized wood.

5. How many weeks of raw material do you have in inventory? _____

6. Which specific species do you use? _____

7. Which species are greatest in demand by your customers? _____

Markets

1. What market(s) do you supply? ____Can. _____ USA _____ Eur. ____ Asia

2. In the 1.5 years, how many different customers did you sell to? _____

3. What percent of your regular customers have wanted increased production? _____

4. Were you able to supply them? _____

5. If No, why not? _____

6. What percent of your regular customers have stopped buying from you in the last 1.5 years? ___ _____

7. What was the main reason? _____

8. How many inquiries have you had by new customers in the last 1.5 years? _____

9. How many new customers have you sold to? _____

10. What was the main reason you did not sell to the remainder? _____

13. How many weeks of finished product do you have in inventory? _____

14. Who do you sell to? ____OEM _____Wholesale _____ Dir. To Retail _____Retail

16. Have you ever been on or represented on a Team Canada Trade Mission? _____

17. Would you be interested in going on Trade Mission? _____

18. Which markets would you be interested in? _____

19. Have you had any trouble with export/import regulations? _____

22. Have any of your customers inquired about green certified products? _____

23. How much more are they will to pay, if any? _____

24. Which markets where they? _____

25. Which of the certifications are your customers looking for? _____

26. Do you have a web/internet presence? No E-mail Web-site

27. Have you sold any of your products over the internet? _____

28. Are you looking into e-commerce for your business? _____

29. Are you familiar with government programs, past or present, to help with marketing? _____

30. Which ones are they? _____

31. Did you use any government programs to help with marketing? _____

32. Which ones did you use? _____

Personnel

1. How many people have left your company in the 1.5 years? _____

2. How many people have you hired in the 1.5 years? _____

3. What method did you use to advertise your job opening? _____

4. What percent of the people you hire where trained for the job they were filling in the last 1.5 years? _____

5. How many people did you send outside for training in the last 1.5 years? _____

6. Did you give any formal training courses in-house in the 1.5 years? _____

7. Is there any training your workers need but can not get? _____

8. What skill sets are important for your company if you were to undertake more value-added? _____

9. Are you familiar with government programs, past or present, to help with training? _____

10. Which ones are they? _____

11. Did you use any government programs to help with training? _____

12. Which ones did you use? _____

Research & Development

1. How many new products have you been asked to produce in the last 1.5 years? _____

2. How many new products have you seriously look at producing in the last 1.5 years? _____

3. How many did you actually produce? _____

4. Where did you get the idea for new product(s)? _____

5. Did you use any technical expertise to assist in the R&D of the product? _____

6. Where did you find it? _____

7. Are you familiar with organizations which provide technical expertise to your industry? _____

8. Which ones have you used? _____

9. Is there further processing that can add value to your products? _____

10. Are you considering doing this? _____

11. What factors may prevent you from achieving this? _____

12. Is there a benefit to you to up-grade your machinery? _____

13. What is the benefit? _____

14. When was the last time you up-graded any of your machinery? _____

15. Are you planing to up-grade any piece of machinery? _____

16. If yes, when? _____

17. Are you familiar with government programs, past or present, to help with R&D? _____

18. Which ones are they? _____

19. Did you use any government programs to help with R&D? _____

20. Which ones did you use? _____

APPENDIX C - Banquet and luncheon presentations

Outline of Dr. Lloyd Irland Banquet Speech on February 28, 2001

What is Value-added?

- doing something to a 2x4 that makes it more valuable to a customer, and doing it at a profit.
    - without a profit, it is value subtraction!
    - plus it's less fun...
    - and not sustainable

-this might include a spectrum of things from simple to complex

Supergrades or sorting to customer needs
Basic processes such as cutting to sizes or F-J
Complex fabrications, trusses
Dimension, Parts, Components
Finished consumer products, e.g. furniture

-Key is marketing not production
-New product, new customers = new business
-It's easy to make VA products — not easy to make money making them.
Smart, experienced people have lost their shirts because they did not understand this.

Challenges

1. Principal VA concentrations are not in shade of the trees
    N. Italy
    China
    N. Europe
    LA Basin

    - many that happens to be in shade of trees are really there for cheap labor.

Example: most furniture or flooring plants don't saw any lumber!

2. Overseas competitors are struggling to move up the VA chain
Much of log production of Chile, NZ export raw now.
Rubberwood furniture, Wal-Mart

3. There are tens of millions of acres of pulp or other plantations around the world - many of these will shift to slightly longer rotations to do solid products. Some predict that in time these will shove natural tropical forests right out of the market.

4, Offshore competitors have cheaper wood and labor than you do
- wood and labor - what percent of your FOB plant mill level cost?

Example: fall 2000 six panel bi-fold closet door @ the Depot

Trad. Ponderosa solid door	$240
Premdor composite	$80 or $90
Radiata import - thinner	$70 on sale

5. Within North America, timber short regions switching to VA
Blackmail VA programs - deep pockets biggies vulnerable - must expand VA regardless of profitability to retain licenses.

6. Big guys usually not very good at value-added.

7. Most VA markets are not growing all that fast.

8. Recruitment/retention of reliable, skilled workers very difficult
traditionally labor intensive methods allow only low wages, no fringes
true across NE USA as well.
shrinking paper mill employment - a social problem but paper towns are not favorable locations for lower wage VA plants of startups.

9. Growth tough to finance

growing firm eats capital, doesn't throw it off
fixed asset financing available;
working capital not.

10. Entry generally easy - so new ideas get co-modified quickly.

Opportunities

1. Market niches
   Probably not the Wal-Marts.
   Plastics are cheaper in huge production runs
   Importers and biggies have the advantage on high-volume items

2. Serve larger users as parts/components suppliers ...without becoming too dependent on any one.
   Example: about a dozen of the FDM 300 are in reach of Atlantic Canada

3. Certified products markets
   will be niche products marketed in targeted ways to demanding consumers (opposite of the Home Depot strategy)

4. Decide to grow profitably
   at one time LL Bean had no Maine suppliers (for mail) because none would grow to meet their needs.

5. Product focus - not a job shop

6. Compete on quality and service, not on price
   Firms with dimension quality spec with 32 criteria (!)

7. You'd be surprised how many producers have never visited customer locations!

8. Learn your sources of help & use them

Role of Innovation

1. Constantly re-invent products, channels, business

2. Know your costs
   - sounds a LOT easier than it is

3. Improve your customer list

4. Incremental equipment improvements on planned basis -
   "Problem with the industry is that equipment lasts too long"
   stage the equipment, management/worker skill upgrade/marketing in sound sequences
   Mange the firm as a system ... few VA products involve only buying a machine.

5. Material handling is a key labor user - cut it out

6. Getting the ideas from customers

7. Work smarter
   Street smart, not necessarily techno-smart

8. Never lose your edge
   ... comfort is the first step towards oblivion

9. Do something that's fun and challenging
   ...and you won't lose your edge...

Outline of Mr. Graham Savage Luncheon Presentation

Value-added Wood Product Manufacturing in Atlantic Canada:
Raw Material Procurement Issues and Opportunities
ACOA/UNB Round Table
March 1, 2001

Introduction

•Wood Products Manufacturing is dynamic and fast growing in the region
- In NB, jobs are estimated at 5,800 and sales of over $750 million
- PEI has seen rapid growth from a handful to 40 companies in the last decade
- NS has seen some big firms established recently with more promise ahead
- NF is working on it, some good things there

Types of Operations

•3 Main Categories of companies
- –Re-Man
  - cutstock, flooring blanks, moulding blanks, truss components, fingerjointed & PT lumber
- –Engineered Wood Products
  - trusses, wood-I's, laminated beams
- –Appearance Products
  - cabinets, flooring, moulding, furniture, etc.

Characteristics of Operations

•Re-Man
- Many are sawmills which reman part of output
- Fewer bring materials from a sawmill
- high-volume, low-margin end of the value-added sector
- relatively high capital costs of entering the business

- very high sensitivity to raw material cost and availability
- markets for remanufactured products usually follow commodity trading patterns, and tend to be vulnerable to economic cycles
- on average create 2 to 2.5 times more jobs per unit ofwood harvested than the primary sawmill sector

Characteristics of Operations

•Engineered Wood Products

- Not many are attached to sawmills, but may be divisions of sawmill owning companies (Fraser example exception)
- Growth in demand has been tied to declining availability of high quality structural timber
- Need high strength raw materials, panels
- high (often very high) capital costs of entering the business, particularly for I-joists
- testing and certification for building code approvals are lengthy and costly
- the sub-sector creates 2.5 to 3 times more jobs per unit of wood harvested than the primary sawmill sector.
- Knowledge requirements are high; wages are above average
- scope for expansion in structural and engineered products is good so long as US housing and construction markets remain strong

Characteristics of Operations

•Appearance Products

- Not many are attached to sawmills
- Largest and most dynamic segment of the value-added sector
- Capital costs of entering the business range from low to moderate
- Even very small companies (ie. three or four employees) can be completely viable
- The sub-sector creates 4.7 times more jobs per unit of wood harvested than the primary sawmill sector, and 6 times more revenue
- Product design and marketing are extremely important
- Products are sold in niche markets, price is often a secondary factor
- Employee knowledge and skill requirements are high; wages are average

Raw Material Procurement Issues

•Needs are different based on whether you operate a sawmill or not:

–operate a sawmill
- buy roundwood or rights to cut
- competing for logs, supply is tight for quality hardwoods, pine
- have to be knowledgeable of log market
- many use roundwood brokers (key players)
- raw material costs can be cheaper if used as feedstock for value added

Procurement Issues Cont'd

•Operate a sawmill
–Pitfall if end product pricing dependent on logs as raw material
– Access to Crown wood
- License vs sub-license vs permit
- Quality of logs & appropriateness of materials to purpose
- Allocation issues & Historical draw

Procurement Issues Cont'd

•Operate a sawmill
–Integration
- more vertical integration makes competition for logs more intense
- In NB example, Licensee competing with sub for wood

–Un-utilized allocation
- can be an issue if licensee doesn't use AAC and chooses not to sell

Procurement Issues Cont'd

•Operate a sawmill
–Private Woodlot wood
- only truly unallocated free wood in the region
- Key to exemption from US trade remedies
- Can be tough to buy logs in strong markets
- Supplier loyalty
- Cash to buy logs
- Exports of unprocessed logs

Procurement Issues Cont'd

- Don't Operate a Sawmill
  - Wholesaler
    - Most buy from wholesaler
    - Don't know where the wood comes from
    - Only care about quality and on-time delivery
    - Pay top dollar for wood
  - Local Mills
    - very difficult to buy from local mills
    - large mills use all best wood for own purposes (make products or sell grade lumber)

Procurement Issues Cont'd

- Don't Operate a Sawmill
  - Local Mills
    - many smaller local mills for hardwood sell all grade lumber mill run to a broker or wholesaler
    - wood is dried, graded, shipped to wholesaler
    - value-added guys buy wood from wholesaler at top price
    - could be buying NB wood from Montreal wholesaler
    - adds lots of cost as mark-ups apply, transportation costs

Procurement Issues Cont'd

- Don't Operate a Sawmill
  - Backward Integration
    - current gov't policies make backward integration difficult
    - many companies feel this may be the only way to get raw materials more cheaply and solidify supply

Procurement Issues Cont'd

- Don't Operate a Sawmill
  - Operating facility
    - don't have enough cash to take advantage of procurement ops when they present
    - Financing growth is a problem (new orders often take 90 days before receipt of payment, need more raw materials to make the product now)

Procurement Opportunities

- Roundwood
  - Closer alignment with woodlots
  - Log yards
  - Priority of Crown allocation to value added companies
  - Contract sawing for value added

Procurement Opportunities

- Lumber
  - Buyer groups
  - Closer alignment with woodlots
  - Sorting yards
  - Backward integration to sawmills
  - Alignment with sawmills
  - Species substitution opportunities
  - Certified wood

Procurement Opportunities

- Panels
  - Buyer groups
  - Closer alignment with manufacturers to buy direct
  - Certified wood

Procurement Opportunities

- General
  - Need better access to operating cash
    - revolving line of credit
    - auction receivables
    - factoring
  - Investment
    - equity
    - preferred shares
    - venture capital

APPENDIX D - Agenda for round table

ROUNDTABLE ON VALUE-ADDED WOOD PRODUCTS IN ATLANTIC CANADA
Details of Activities

February 28, 2001 - Wednesday

1:45pm	Meet in lobby of Fredericton Inn for pick up to WSTC
2:00 - 4:00 pm	Tour of WSTC
5:30 - 6:30 pm	Registration - Fredericton Inn, Bi-centennial Room
6:00 - 7:00pm	Reception - Fredericton Inn, Bi-centennial Room
7:00pm	Opening remarks - Dr. Y. H. Chui (Director, UNB-WSTC)
7:05 pm	Welcoming speech - Dr. John McLaughlin (Vice-president, Academic, UNB)
7:20 pm	Banquet - Fredericton Inn, Bi-centennial Room
8:00 pm	Keynote presentation - Dr. Lloyd Irland (President, The Irland Group) - "Challenges for Atlantic Canadian Value-added Wood Producers"
9:00 pm	Closing remarks - Mr. David Slade (Director General, ACOA)

March 1, 2001 - Thursday

7:30 - 8:30am	Registration	
8:30 - 9:00	Introduction and opening	
	8:30 am	Introduction of Co-chairs - Dr. Y. H. Chui
	8:33 am	Purpose and background of Roundtable, Status of Atlantic Innovation Fund - David Slade (Co-Chairman)
	8:40 am	Opening remarks, goal of this Roundtable, protocol for conducting the meeting, review of agenda and schedule - Bud Bird (Co-Chairman)
	8:50 am	Introduction of participants and observers - All
9:00 - 10:00	Theme 1 - **What is value-added and how can we add value?**	
10:00 - 10:15	Coffee break	
10:15 - 11:00	Theme 2 - **Identifying new markets and market niches.**	
11:00 - 12:00	Theme 3 - **Strategy for innovation and human resources training.**	
12:00 - 1:30	Lunch break	
	12:00 pm	Lunch
	12:30 pm	Presentation - Graham Savage (President, GDS Enterprises Inc.) - "Value-added wood products manufacturing in Atlantic Canada: Raw Material Procurement Issues and Opportunities"
	1:30 pm	Closing and appreciation - David Slade
1:30 - 2:45	Theme 4 - **Financing response to market demand.**	
2:45 - 3:00	Coffee break	
3:00 - 4:00	Wrap-up	
	3:00 pm	Summarizing key discussion points - Bud Bird
	3:10 pm	Thoughts from observers - Observers
	3:30 pm	Final thoughts from participants - All